

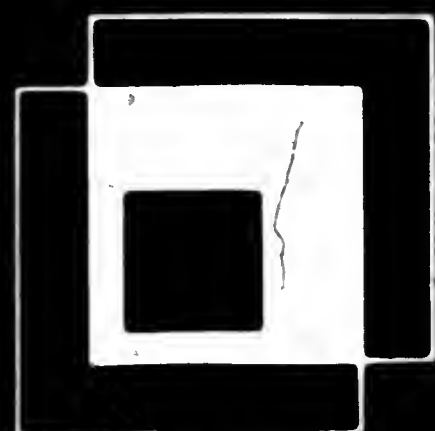
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UNITED STATES  
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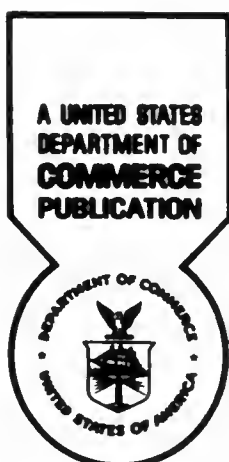
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# U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

July 7, 1970

Volume 876

Number 1

## PATENTS NOTICES

### Board of Appeals Decisions Rendered in the Month of May 1970

Examiner affirmed .....	115
Examiner affirmed in part .....	17
Examiner reversed .....	37
Total .....	169

### Disclaimers

3,261,797.—*Maurice J. McDowell*, Media, and *Ervin R. Werner, Jr.*, Levittown, Pa. PROCESS FOR IMINATING POLYMERIC LATICES. Patent dated July 19, 1966. Disclaimer filed Mar. 24, 1970, by the assignee, *E. I. du Pont de Nemours and Company*.

Hereby enters this disclaimer to claims 1, 2, 3, 5-9, and 11 of said patent.

3,367,196.—*Marvin A. Packett*, Detroit, and *Otto J. Langmesser, Jr.*, Mount Clemens, Mich. WINDOW REGULATOR MECHANISM. Patent dated Feb. 6, 1968. Disclaimer filed Mar. 2, 1970, by the assignee, *General Motors Corporation*.

Hereby enters this disclaimer to claim 1 of said patent.

### Disclaimers and Dedications

3,292,380.—*Robert W. Bucklin*, Houston, Tex. METHOD AND EQUIPMENT FOR TREATING HYDROCARBON GASES FOR PRESSURE REDUCTION AND CONDENSATE RECOVERY. Patent dated Dec. 20, 1966. Disclaimer and dedication filed Apr. 20, 1970, by the assignees, *Garrett Tucker, Sidney Johnson*, and *Melvin Fincke*.

Hereby disclaim and dedicate said patent to the Public.

3,292,381.—*Joseph E. Bludworth*, Corpus Christi, Tex. SEPARATION OF NATURAL GAS BY LIQUEFACTION WITH AN INJECTED HYDRATE INHIBITOR. Patent dated Dec. 20, 1966. Disclaimer and dedication filed May 1, 1970, by the assignees, *Garrett Tucker, Sidney Johnson* and *Melvin Fincke*.

Hereby disclaim and dedicate said patent to the Public.

### Dedications

2,958,345.—*Robert M. Noller*, San Pablo, Calif. STREAKING PIPETTE. Patent dated Nov. 1, 1960. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

3,127,062.—*Thomas V. Feichtmeir*, San Francisco, *Kenneth D. Jenkins*, Berkeley, Calif. SEMI-AUTOMATIC SAMPLING AND DILUTING APPARATUS. Patent dated Mar. 31, 1964. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

3,155,109.—*Erik W. Anthon*, Kensington, Calif. LIQUID SUPPLY APPARATUS. Patent dated Nov. 3, 1964. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

3,192,968.—*Hans Baruch*, Berkeley, and *Dalny Travaglio*, Kensington, Calif. APPARATUS FOR PERFORMING ANALYTICAL PROCEDURES. Patent dated July 6, 1965. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

3,193,148.—*Erik W. Anthon*, Kensington, Calif. SAMPLE HANDLING APPARATUS. Patent dated July 6, 1965. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

3,193,358.—*Hans Baruch*, Berkeley, Calif. AUTOMATED ANALYTICAL APPARATUS. Patent dated July 6, 1965. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

### New Applications Received During April 1970

Patents .....	9009
Designs .....	599
Plant Patents .....	6
Reissues .....	49
Total .....	9663

### Issue—July 7, 1970

Patents .....	1300—No. 3,518,701 to No. 3,520,000, incl.
Designs .....	55—No. 217,948 to No. 218,002, incl.
Plant Patents .....	4—No. 2,977 to No. 2,980, incl.
Reissues .....	3—No. 26,930 to No. 26,932, incl.
Total .....	1362

3,193,359.—*Hans Baruch*, Berkeley, and *Dainy Travaglio*, Kensington, Calif. APPARATUS FOR CONDUCTING ANALYTICAL PROCEDURAL STEPS. Patent dated July 6, 1965. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

3,225,628.—*Erik W. Anthon*, Kensington, Calif. TURNTABLE DRIVE. Patent dated Dec. 28, 1965. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

3,263,553.—*Hans Baruch*, Berkeley, Calif. PHOTOELECTRIC IMMERSSION PROBE. Patent dated Aug. 2, 1966. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

3,364,811.—*Hans Baruch*, Berkeley, and *Erik W. Anthon*, Kensington, Calif. AUTOMATED SPECTROPHOTOMETRIC SYSTEM. Patent dated Jan. 23, 1968. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation*.

Hereby dedicates the remaining term of said patent to the Public.

#### Examination

Pursuant to the provisions of Rule 341(c), an examination for persons seeking registration before the United States Patent Office as patent attorneys or agents will be held on Tuesday, September 15, 1970.

With the exception of those former patent examiners for whom the examination is waived, all persons recognized for practice before the Patent Office in patent cases must, pursuant to the noted rule, pass the examination. Those passing the examination do not thereby qualify for recognition for practice before the Patent Office in trademark cases. Recognition for practice in trademark cases is governed by Rule 2.12 of the Trademark Rules of Practice, which does not require the passing of an examination.

This examination will be given under the supervision of the Civil Service Commission, and may be taken in any of the cities in which the Civil Service Commission regularly conducts examinations. Applications to take the examination must be filed in the Patent Office together with a \$35 fee not later than August 10, 1970.

Application blanks may be obtained from the Clerk of the Patent Office Committee on Enrollment, Bldg. 3, 11th Floor, Room C16, Crystal Plaza, Arlington, Va., or by mail addressed to the Commissioner of Patents, Washington, D.C. 200281, and directed to the attention of the Clerk of the Committee on Enrollment.

S. WM. COCHRAN,  
Acting Chairman, Committee on Enrollment.

#### Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 3,083,335, N. A. Schuster, MAGNETIC RESONANCE METHODS AND APPARATUS, decided Jan. 29, 1970, Interference No. 93,939, claim 8.

Patent No. 3,220,511, E. E. Holkeavick, LIQUID-COOLED DESCENT CONTROL DEVICE, decided Dec. 18, 1969, Interference No. 95,643, claims 1, 2, 5, 6, 7, 9 and 10.

Patent No. 3,221,556, W. G. Campbell, W. V. A. Clark, Jr. and C. B. Converse, BATHYTHERMOGRAPH SYSTEM, decided Jan. 14, 1970, Interference No. 95,688, claims 3, 5 and 10.

Patent No. 3,270,759, E. R. Phillips, FLUID DEVICE, decided Nov. 24, 1969, Interference No. 95,915, claim 1.

Patent No. 3,279,360, E. K. Smith, J. D. Alexander, C. F. Brundage and R. Foster, MACHINE FOR PRINTING ON CYLINDRICAL ARTICLES, decided Feb. 26, 1970, Interference No. 96,085, claim 1.

Patent No. 3,298,239, K. Miyoshi, AGRICULTURAL TRACTORS CONTROLLED BY HYDRAULIC SYSTEMS, decided Jan. 29, 1970, Interference No. 96,310, claim 1.

#### Certificates of Correction for the Week of July 7, 1970

3,255,410	3,468,917	3,487,442	3,493,385
3,333,688	3,468,921	3,488,075	3,493,389
3,377,711	3,469,084	3,488,131	3,493,458
3,401,309	3,469,404	3,488,256	3,493,551
3,406,345	3,471,386	3,488,562	3,493,570
3,408,362	3,472,498	3,488,662	3,493,588
3,422,143	3,472,718	3,488,733	3,493,688
3,423,898	3,473,760	3,488,786	3,493,843
3,427,304	3,475,464	3,489,017	3,493,877
3,433,871	3,475,838	3,489,282	3,493,911
3,435,858	3,476,093	3,489,345	3,494,151
3,438,319	3,476,859	3,489,749	3,494,334
3,438,320	3,476,863	3,489,842	3,494,426
3,439,580	3,478,349	3,489,984	3,494,779
3,441,232	3,478,854	3,490,096	3,494,914
3,441,238	3,479,081	3,490,894	3,494,939
3,441,719	3,479,724	3,490,927	3,494,985
3,446,159	3,480,178	3,491,111	3,494,997
3,446,775	3,480,334	3,491,112	3,495,034
3,452,800	3,480,371	3,491,116	3,495,053
3,453,328	3,481,821	3,491,303	3,495,169
3,453,549	3,482,396	3,491,471	3,495,492
3,455,639	3,482,430	3,491,495	3,495,596
3,456,148	3,483,315	3,491,993	3,496,028
3,456,942	3,484,373	3,492,233	3,496,089
3,457,273	3,485,013	3,492,234	3,496,128
3,459,031	3,485,255	3,492,250	3,496,156
3,459,634	3,485,335	3,492,642	3,496,228
3,461,153	3,485,452	3,492,661	3,496,351
3,462,055	3,485,651	3,492,682	3,496,652
3,463,735	3,485,827	3,492,787	3,496,880
3,465,788	3,486,221	3,493,048	3,496,987
3,465,865	3,486,381	3,493,096	3,497,498
3,467,859	3,487,104	3,493,332	3,498,307
3,468,382	3,487,181	3,493,386	3,499,071

#### PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner  
F. H. BRONAUGH, Deputy Assistant Commissioner

#### CONDITION OF PATENT APPLICATIONS AS OF JUNE 16, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
<b>CHEMICAL EXAMINING GROUPS</b>	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	7-05-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	2-19-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	8-08-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	6-20-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	3-04-68
<b>ELECTRICAL EXAMINING GROUPS</b>	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	4-01-69
SECURITY, GROUP 220—S. BOYD, Director..... Ordinance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	8-07-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	8-29-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	11-21-68
PHYSICS, GROUP 260—R. L. EVANS, Director..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	6-07-68
DESIGNS, GROUP 290—S. BOYD, Director..... Industrial Arts; Household, Personal and Fine Arts.	9-05-69
<b>MECHANICAL EXAMINING GROUPS</b>	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	1-15-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	8-06-68
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	12-06-68
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	6-02-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	2-11-69

Total number of pending applications (excluding Designs)..... 184,056  
Total number of Design applications pending..... 2,781

Expiration of patents: The patents within the range of numbers indicated below expire during June 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 86th Congress, approved August 23, 1944 (58 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents..... Numbers 2,640,195 to 2,644,158, inclusive  
Plant Patents..... Numbers 1,191 to 1,200, inclusive



# DECISIONS IN PATENT AND TRADEMARK CASES

## U.S. Court of Customs and Patent Appeals

IN RE ALBERT BEZOMBES, IVAN PEYCHES AND PIERRE TISSIER

Nos. 8226 and 8244. Decided February 5, 1970

[57 CCPA —; 420 F.2d 1070; 164 USPQ 387]

### 1. PATENTABILITY—PROCESS—OBVIOUSNESS—SUPPORTING GLASS SHEETS ON MOLTEN METAL.

"The limitation in claim 1 that the support of molten metal is 'not larger than the glass sheet' seems significant in distinguishing over Hitchcock where the glass sheet floats on the molten metal and, as shown in FIG. 1 of the patent \* \* \* the lateral edges of the glass sheet are spaced inwardly a substantial distance from the lateral edges of the bath. The Board's dismissal of the feature as 'an obvious matter of choice' is not convincing in the absence of some reason why a person skilled in the art would find it obvious to depart from the flotation type of support of Hitchcock as well as from his dimensional disclosures. The rejection of claim 1, and claim 22 which is dependent thereon, will not be sustained."

### 2. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—REMAND—DOUBLE PATENTING—CONSOLIDATION OF METHOD AND APPARATUS CLAIMS IN SINGLE PATENT.

"The double patenting rejection of the method claims in this appeal was grounded on the statement that these claims 'are not patentably distinct from the inventive concept claimed in' application Serial No. 261,098, involved in companion Appeal No. 8244. However, the Board has commented in response to an inquiry by appellants that it sees no reason why the allowable method and apparatus claims in the two applications cannot issue in a single patent; appellants state they have no objection to such procedure; and the Solicitor states there is no need to consider the double patenting rejection. Under these circumstances, we will remand this case for implementation of the procedures proposed above."

### 3. PATENTABILITY—PARTICULAR SUBJECT MATTER—"PROCESS FOR THE SHAPING AND SUPPORTING OF GLASS" AND "APPARATUS FOR THE SUPPORT AND TRANSPORTATION OF GLASS."

The decision of the Board of Appeals refusing certain claims in applications entitled "Process for the Shaping and Supporting of Glass" and "Apparatus for the Support and Transportation of Glass," as unpatentable over the prior art, is reversed as to certain claims and affirmed as to the remaining claims in each application.

APPEAL from Patent Office. Serial Nos. 261,034 and 261,098.

#### MODIFIED AND REMANDED.

John L. Seymour, Bauer and Seymour, for appellants.

Joseph Schimmel (Fred W. Sherling, R. V. Lupo, of counsel) for the Commissioner of Patents.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and RAO, Chief Judge, sitting by designation

RICH, Acting Chief Judge, delivered the opinion of the court.

These two appeals are from decisions of the Patent Office Board of Appeals affirming the rejections of claims in appellants' applications Serial Nos. 261,034 (Appeal No. 8226) and 261,098 (Appeal No. 8244). The applications, both filed on February 26, 1963, are entitled, respectively, "Process for the Shaping and Supporting of Glass" and "Apparatus for the Support and Transportation of Glass." Although only method claims are involved in Appeal No. 8226 and only apparatus claims in Appeal No. 8244, the disclosures in the two ap-

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U. S. PATENT OFFICE

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plications are apparently identical and the two appeals were argued as one and are dealt with in this single opinion.

The inventions relate to the manufacture of "flat glass," which term is said to include all sheet glass products, whether flat or curved. Applicants state that it was known to deposit glass, either in the molten state or already formed into a sheet but in the plastic state, over a support in the form of a bath of liquid having a greater density than the glass, molten metal for example, whereby the glass was maintained at the surface of the bath by hydrostatic forces. That process, which is known as the "flotation process," is stated to have certain disadvantages, including the requirement for greater quantities of liquid metal to fill the bath-containing tanks. Among the stated objects of appellants' invention are:

\* \* \* to support flat glass in the plastic state on capillary films of molten metal, on flowing sheets of molten metal, on thin, immobile sheets of molten metal, and on a plurality of bodies of molten metal of no great thickness.

Illustrative of the specific disclosure of the applications are FIGS. 1, 2 and 3 thereof.

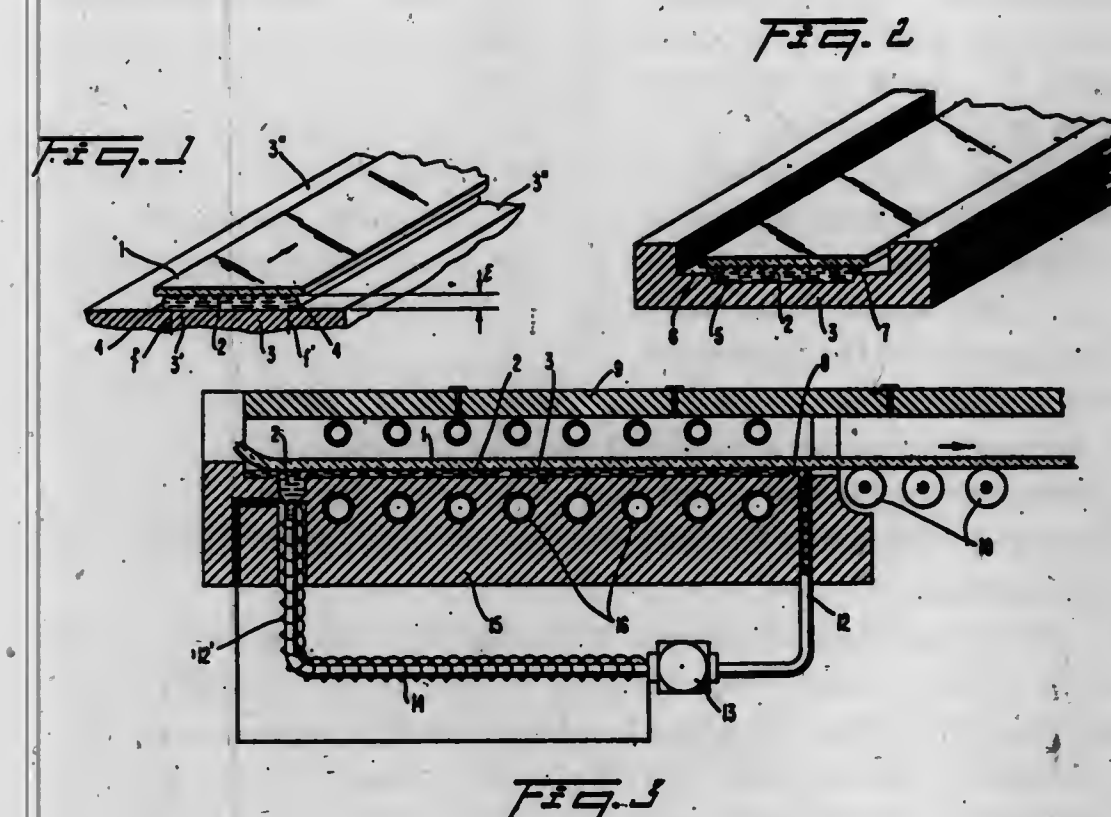


FIG. 1 shows a sheet of glass 1 supported above the flat surface of a floor 3 by what is described as a "capillary" layer of molten metal 2. The entire floor 3 may be of a material which is not wetted by the molten metal, as carbon, preferably in the form of graphite. If desired, a central section 3' of the floor may be made of a material which is wetted by the molten metal, only the outer portions 3'' being made of a material which is not wetted by the metal. It is stated that in either case the capillary sheet of molten metal assumes a form having rounded edges 4 and supports the glass sheet out of contact with the floor.

FIG. 2 differs from FIG. 1 in that the floor 3 is provided with a central trough 5 which receives a thin sheet of metal 2, present in sufficient quantity to project above the level of the floor and form "capillary curves 7." The trough is of material not wetted by the metal.



In FIG. 3, a refractory block 15 has, on its upper surface, a shallow central trough providing a floor 3 on which is disposed a film or layer 2 of molten metal such as tin for supporting a glass sheet 1. The trough has raised edges which contain the molten metal on three sides and a weir 8 on the downstream side (glass flow is from left to right). The weir stabilizes the thickness of the film or layer of molten metal, such metal as flows over it passing through conduit 12, pump 13, and conduit 12' to the upstream side of the trough. A sheet of glass 1 coming from rollers on the left (not shown) is laid on the molten metal and progresses through a temperature-reducing lehr from which it is drawn off onto rollers 10. The temperature of the floor is controlled at different parts of its length by "thermal pipes" 16. By maintaining an even flow of molten metal over the weir, the under surface of the glass is kept out of contact with solid objects until it has been cooled to a viscosity at which it is not marred by contact with ordinary handling means such as metal rollers.

In addition to disclosing molten metal in the form of a continuous sheet, as shown in FIGS. 1 and 3, the applications reveal a number of modifications. Thus, a series of pits or grooves spaced over the surface of the floor may be overfilled with molten metal in sufficient amount to extend slightly above the level of the floor to sustain the weight of the glass sheet. It is stated that such construction provides "what is in effect a plurality of liquid bearings which support the sheet out of contact with the floor \* \* \*." Another embodiment provides spaced shallow "trays" or cavities in the floor along the path for the glass sheet, which trays are overfilled with molten metal to form supports for the glass sheet.

Additionally, it is disclosed that "gases such as hydrogen" or "argon and nitrogen" may be introduced beneath the glass sheet to prevent oxidation of the molten metal and protect the surface of the glass. Reference is also made to "introduction of inert, antioxidant or ion inhibiting gases."

In comparing their inventions with the prior art, appellants state that, in systems using deep flotation baths, the glass sheet must be lifted from the horizontal plane to a higher level to avoid contact with the borders of the tank as it leaves the bath, requiring sharp chilling of the sheet at that point to prevent the change in direction from introducing surface deformations. They further state:

That disadvantage of the prior art is overcome in the present invention by the use of the surface tension to sustain the glass sheet on a solid floor. Substantially speaking, it is the force of surface tension which support[s] the glass in some phases of this invention. In the present invention, the glass may be drawn horizontally from the surface of the liquid support, thus avoiding the internal and surface displacements which occur when the glass is bent to raise it to the level of a higher conveyor \* \* \*.

#### APPEAL No. 8226

In this appeal, claims 1-3, 5-14, 16, 22, and 27 stand rejected on prior art. These claims also were rejected, along with claims 23 and 26, the only other claims in the application, for double patenting.

Claims 1, 2, 11, 12, 16 and 27 are representative:

1. In a method of making flat glass wherein a sheet of flat glass is formed from molten glass and is deposited on and moved over the receiving floor of a solid bed, the step which comprises interposing between the sheet and the floor

a support of molten metal of thickness measured above the floor not substantially greater than that of the glass sheet, not larger than the glass sheet, and so disposed as to separate the sheet from the floor, cooling the sheet progressively as it advances over the floor until it can be handled without damage by other handling means, and transferring the glass to other handling means.

2. In a method of handling flat glass wherein a sheet of flat glass is deposited on and moved over a receiving floor forming part of a solid bed, the step which comprises interposing between the sheet and the floor a support of molten metal of thickness measured above the floor not substantially greater than that of the glass sheet, and so disposed as to separate the sheet from the floor, cooling the sheet and transferring the glass to other handling means.

11. In a method of supporting a sheet of glass at high temperature on a plurality of oxidizable molten metal bearings ["the step"?] which comprises introducing a protecting gas, of the type comprising neutral and reducing gases, between the bearings.

12. The method of casting flat glass which comprises forming a sheet from molten glass, forming a sufficient quantity of molten noncapillary metal in a state of equilibrium between the forces of surface tension and the forces of gravity to receive and support the glass sheet, laying the glass sheet upon the molten metal and moving it thereover, cooling the glass sheet in contact with the molten metal, and transferring the sheet to other supporting means.

18. A method of transporting a glass sheet in a plastic state in which the glass sheet is deposited on a solid surface which comprises interposing between said solid surface and the glass sheet a liquid film acting as lubricant for facilitating the gliding of the glass sheet on said support.

27. A method of supporting a surface of an object out of contact with a floor which comprises establishing a thin support of molten metal, which does not wet the said surface and does not wet the floor, between the surface and the floor to a depth which just lifts the surface clear of the floor.

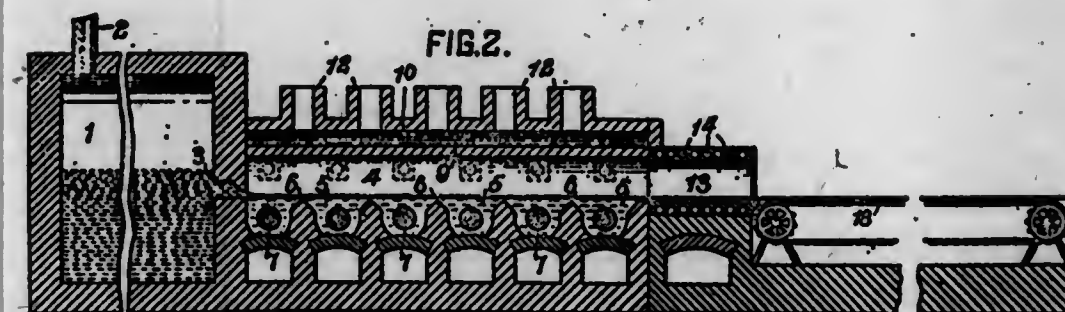
The references relied on by the Board are:

Hitchcock, 789,911, May 16, 1905:

Coxe, 2,298,348, Oct. 13, 1942.

British patent, 874,534, Aug. 10, 1961.

Hitchcock discloses a method of manufacturing glass best described with reference to FIG. 2, a cross-sectional elevation of his apparatus.



In the figure, plastic glass in chamber 1 flows through a slot 3 into chamber 4 in which it is hardened and annealed. In that chamber, the sheet of glass is supported on "a practically continuous" bed 5, formed of liquid metal having a melting point lower than the temperature of the glass sheet and a specific gravity greater than that of the glass, so that the sheet will float on the surface of the molten metal. The tank holding the molten metal bath 5 is divided into a series of compartments by the partitions 6 which "extend nearly to the surface of the liquid bed and have their upper edges reduced to nearly knife-edges \* \* \*." These partitions substantially prevent movement of metal from one compartment to another and the compartments can be maintained at progressively lower temperatures to gradually cool the glass. Electric resistance heaters are shown at 7.



Arranged downstream of the chamber 4 is an auxiliary chamber 13 in which the annealing of the sheet is completed. The auxiliary chamber 13 is provided with a liquid bed which "is preferably formed of mercury." The bottom or "floor" of chamber 13 is provided with ribs or ridges, which prevent "any such movement of the liquid bed as would tend to produce uniformity of temperature at the ends of the bed."

Coxe discloses an arrangement for forming sheet metal, aluminum for example, on the top of a molten bath of a metal, such as lead, having a lower melting point and a higher specific gravity than the metal being so formed. To prevent the molten metal of the bath from attaining a higher temperature than desired, it may be drawn off at the downstream end and passed through a pipe and cooler back to the upstream end.

The British patent discloses a method of producing glass sheet wherein the sheet is supported on a bed of carbonaceous material or on rollers of such material. The supporting material or rollers may be protected from deterioration by a nonoxidizing atmosphere of a gas such as pure nitrogen "which does not react with heated carbon at the temperatures involved \* \* \*"

The Board sustained the rejection of claims 1-3, 5-8, 12-14, 16, 22, and 27 on Hitchcock in view of Coxe, relying principally on Hitchcock. It reversed a similar rejection of claims 23 and 26. It also sustained the rejection of claims 9, 10, and 11, stated by the Examiner to be on Hitchcock in view of Coxe further in view of two other patents and the British patent, the Board relying only on the British patent.

Appellants emphasize that the Hitchcock process is a flotation process wherein the glass sheets actually float on the molten metal of the bath. They urge that their method is fundamentally different and involves supporting the glass "in a state of equilibrium between the forces of surface tension and gravity." The Board, they state, erred in assuming that Hitchcock's flotation bath is in a state of equilibrium between the forces of surface tension and gravity. They urge that the Board also erred in assuming that mercury, proposed by Hitchcock for the bath in his auxiliary chamber 13 could be used, contending to the contrary that mercury vaporizes at 357° C. and would have become a gas before the hot sheet actually touched it."

Turning to claim 1, quoted above, appellants urge that Hitchcock does not show an organization in which a sheet is deposited on a solid floor and moved over it or in which there is interposed between the sheet and the floor a support of molten metal "of thickness measured above the floor not substantially greater than that of the glass sheet" and "not larger than the glass sheet." They further contend that a flotation bath must be larger than the sheet it supports and that the molten metal support recited in the claim therefore cannot be a flotation bath. Concerning this claim, the Board said:

\* \* \* we read the bottoms of beds 5 and the bottom of the mercury bed in chamber 13 of the reference as being floors. In fact, Hitchcock describes the latter as "floor" in line 16 on page 2. We note also with respect to the floor of beds 5 of the reference, which are slightly curved, that the term "floor" as used in the claims before us need not be a flat horizontal surface or any other particular configuration unless the claims so specify. This is in accord with applicants' terminology, as exemplified in claim 22 which recites that "the floor is curved."

Claim 1 recites that the support of "molten metal is of a thickness measured above the floor not substantially greater than that of the glass sheet, [not] larger than the glass sheet." Limiting the support of molten metal to the size of the sheet to be supported in Hitchcock is an obvious matter of choice. The relative thickness of the molten metal to the glass sheet, as broadly recited in this claim, need not transcend the flotation principle of Hitchcock. Using just enough molten metal or mercury in this reference to just float the glass sheet, which would be but an obvious expedient, would substantially meet the claimed relationship.

[1] The limitation in claim 1 that the support of molten metal is "not larger than the glass sheet" seems significant in distinguishing over Hitchcock where the glass sheet floats on the molten metal and, as shown in FIG. 1 of the patent (not reproduced herein), the lateral edges of the glass sheet are spaced inwardly a substantial distance from the lateral edges of the bath. The Board's dismissal of the feature as "an obvious matter of choice" is not convincing in the absence of some reason why a person skilled in the art would find it obvious to depart from the flotation type of support of Hitchcock as well as from his dimensional disclosures. The rejection of claim 1, and claim 22 which is dependent thereon, will not be sustained.

Claim 2, supra, differs from claim 1, as may be seen, in referring merely to a "sheet of flat glass" without requiring that it be molten or otherwise specifying its temperature, and in not specifying that the molten metal support is not larger than the sheet. We think the Board was correct in upholding the rejection of that claim. A "floor" need be no more than "The lower inside surface of any hollow structure"<sup>1</sup> and we think that term is applicable to the bottom of Hitchcock's chamber 13. Mere selection of a "thickness measured above the floor not substantially greater than that of the glass sheet" would not by itself preclude the use of a bath deep enough to support the sheet by flotation or limit the method to one in which the molten metal provides the principal support for the sheet through surface tension. While appellants' argument that mercury vaporizes at a relatively low temperature indicates that the mercury in chamber 13 of Hitchcock would not be suitable for supporting glass in molten or plastic condition, the Solicitor points out that in Hitchcock's process the glass sheet is cooled before it reaches the mercury bed. It cannot be concluded, on the present record and arguments, that the temperatures of the bath in Hitchcock's chamber 13 would be such as to make it inoperative for its disclosed purpose of completing the annealing of the glass sheet. Accordingly, the rejection of claim 2 will be sustained.

Claim 6 depends from and adds to claim 2 the limitation of "flowing a continuous sheet of molten metal beneath the glass sheet between the sheet and the floor," such flowing of the metal support being disclosed in connection with appellants' FIG. 3 as described above. The mercury bed in chamber 13 of Hitchcock, relied on with respect to claim 2, does not satisfy this limitation since it is clear that the mercury is placed in its chamber before the glass sheet is deposited and there is no "flowing" of it as a "continuous sheet" between the glass sheet and the floor during the movement of the glass sheet. Rather, the mercury acts as a substantially stationary flotation bed in which the ribs or ridges in the floor "prevent any such movement \* \* \* as would tend to produce uniformity of temperature at the ends of the bed." It also seems apparent that Coxe would not

<sup>1</sup> Webster's New International Dictionary, second edition, unabridged, 1954.



lead one skilled in the art to act contrary to this express teaching by flowing the mercury along the bed. The rejection of claim 6 is reversed.

Claim 3 also depends from claim 2, adding the limitation that the molten metal support "is noncapillary and supports the glass by surface tension." The Board stated that the mercury employed for the "floating liquid" in Hitchcock "will inherently form a convex meniscus with the edges of the compartment since the liquid must fill the latter \* \* \*." It also commented that the claim "does not exclude buoyant force in addition." However, the claim sets forth the feature of support by surface tension emphasized in appellants' specification and the Board's comments are not supported by any evidence that surface tension is a substantial factor in the flotation type of supporting beds of Hitchcock. The rejection of claim 3, and claim 5, dependent therefrom, will not be sustained.

Claim 7 depends from and adds to claim 2 the provision that "the metal support comprises a plurality of molten metal bearings." The Board regarded the two molten metal baths of Hitchcock as a plurality of metal "bearings" while appellants seem to consider the term "liquid bearings" limited by their disclosure to an arrangement offering "meniscus supports" for the glass sheet. The Board's position cannot be sustained, for one reason, because the claim requires that the plurality of metal bearings, however that term is construed, which make up the support be interposed between "a" receiving floor and the sheet whereas the molten baths 5 and 13 of Hitchcock are each on a separate "floor." Moreover, the Patent Office does not suggest that it would be obvious to modify the reference structure to meet the requirements of the claim. The rejection of claim 7 is reversed.

Claim 8 is independent and includes steps of *flowing a thin sheet* of molten metal over a supporting solid surface and laying a sheet formed from *molten glass* on "the flowing molten metal." The Board held that claim readable on Hitchcock "wherein the mercury bed in chamber 13 is 'a thin sheet of molten metal,' which has been flowed into the chamber." However, Hitchcock does not disclose that glass in a molten condition is received in chamber 13 and appellants' contention that mercury would vaporize upon contact with glass at high temperature stands un rebutted with respect to glass at a temperature high enough to be molten. Also, for reasons apparent from our discussion of claim 6, the recitation of laying the glass sheet on the *flowing* molten metal is not only unsatisfied by the reference but is also contrary to its teaching. We therefore cannot sustain the rejection of claim 8 on the basis of Hitchcock's chamber 13, with its mercury bath. As to chamber 4 of Hitchcock which receives the molten glass, the Solicitor commented at oral argument that he would not call the molten bath therein a "thin sheet," and we agree. The Board did not suggest any reason why it would be obvious to modify the bath in chamber 4 to support molten glass on a thin sheet. In addition, the bed in chamber 4, like the mercury in 13, is restrained from flowing movement. The rejection of claim 8 will not be sustained.

Claim 12, *supra*, requires casting a sheet from molten glass and laying the sheet on molten metal "in a state of equilibrium between the

<sup>1</sup> Hack's Chemical Dictionary (3d ed.), contains these definitions:  
*Capillarity*.—The attractive force between two unlike molecules as shown by the wetting of a solid surface by a liquid, or by meniscus formation.  
*Meniscus*.—The crescent-shaped surface of a liquid in a tube, either concave (when the liquid wets the material of the container, as water and glass), or convex (when liquid does not wet, as mercury and glass).

forces of surface tension and the forces of gravity to receive and support the glass sheet \* \* \*." Claim 13 is similarly limited. While the Board states that the "mercury in the reference," which mercury is in Hitchcock's chamber 13, is in the defined state of equilibrium, it does not explain how it reaches that conclusion. Appellants urge that the Board erred in assuming that such equilibrium exists in the Hitchcock flotation bath and further state:

Our invention deals with "casting" flat glass by forming a sheet from molten glass and depositing it upon molten metal in a state of equilibrium between the forces of surface tension and gravity.

Because the mercury bath would vaporize if a molten sheet of glass were cast thereon, it plainly could not be used as the supporting means of these claims. Further, the record does not satisfy us that the recited condition of equilibrium would be attained when glass is floated on a metal bath as disclosed in Hitchcock. The rejection of claims 12 and 13 will not be sustained.

Claim 14 includes the requirement that molten flat glass be cast onto the upper surface of "an elongated bed of molten metal, which does not wet the glass, in a shallow trough which is not wetted by the molten metal, to a depth which lifts the surface of the metal above the upper level of the trough \* \* \*." In Hitchcock, only the molten metal in tank 4 is disclosed as suitable for receiving molten glass and there is no disclosure that the tank is not wetted by it. Neither is it disclosed that the metal there is in a shallow trough to a depth which lifts the surface of the metal above the upper level of the trough which, as appellants disclose, permits the glass sheet to pass over the edge of the trough without being bent upwardly from the horizontal plane. The Board decision affirming the rejection of claim 14 will not be sustained.

The essence of claim 16, *supra*, lies in interposing between a *solid* supporting surface and a glass sheet "*in a plastic state*" (our emphasis) a "liquid film" acting as a "lubricant" for the sheet. While Hitchcock floats a glass sheet in what is apparently a plastic state on the molten metal bath in chamber 4 and points out that there is "practically no frictional resistance to the movement of the sheet," the patent makes no suggestion of the use of a "film," which would obviously be too thin to *float* the sheet in accordance with its disclosure. Consequently, the record does not warrant sustaining the rejection of claim 16.

Claim 27, *supra*, is conceded by appellants to be "very broad." The surface of "an object," which need not be heated, is supported by establishing a "thin support of molten metal" between the surface and the floor "to a depth which just lifts the surface clear of the floor." The Board took the position that using just enough mercury in Hitchcock's chamber 13 to float the glass sheet is "a desideratum obvious even to the uninitiated." We take it that the Board considered such modification obvious to a person of ordinary skill in the art and we agree. While appellants state that mercury "might well wet the tank in which it reposes depending on what the tank is made of," we do not think the person skilled in the art would find it unobvious to use mercury as a supporting bath under conditions where it wets neither the surface of the object nor the chamber in which it is disposed. We will sustain the Board as to this claim.

Claims 9, 10, and 11 define methods of protection or support of glass on molten metal bearings and differ principally in their definition of the gas used to protect the glass or molten metal bearings. In



claim 11, the gas is designated "a protecting gas, of the type comprising neutral and reducing gases." We think the British patent's disclosure of protecting heated bearings from oxidation by means of a nonoxidizing atmosphere such as nitrogen gas would make it obvious to employ such a gas with other heated bearings in the art, e.g., the molten metal baths of Hitchcock which in our opinion meet the expression "molten metal bearings" broadly.\* Noting that the claims in this group do not require that there be a plurality of bearings on a single floor, we agree with the board that claim 11 is unpatentable over the prior art. On the basis of this record, we further agree with the Solicitor that hydrogen, although a reducing rather than simply a nonoxidizing gas, would obviously be suitable for preventing oxidation. We therefore think that claim 9, which is directed to the use of hydrogen, was also properly rejected.

On the other hand, claim 10 calls for protecting glass in contact with "molten ionizable metal bearings" by suffusing the area of contact with "a gaseous inhibitor of ionization." We do not see how the use of a gas as an inhibitor of ionization would be obvious from the British patent and will not sustain the rejection of claim 10.

[2] The double patenting rejection of the method claims in this appeal was grounded on the statement that these claims "are not patentably distinct from the inventive concept claimed in" application Serial No. 261,098, involved in companion Appeal No. 8244. However, the Board has commented in response to an inquiry by appellants that it sees no reason why the allowable method and apparatus claims in the two applications cannot issue *in a single patent*; appellants state they have no objection to such procedure; and the Solicitor states there is no need to consider the double patenting rejection. Under these circumstances, we will remand this case for implementation of the procedures proposed above.

#### APPEAL No. 8244

Involved in this appeal are apparatus claims 12, 13, 22, and 28, of which claims 12, 22, and 28 are the independent claims. They are:

12. Apparatus for the support and transportation of flat glass in a plastic state which comprises supporting means having a floor adapted to carry a sheet of glass, molten metal on the floor disposed in a thin sheet to furnish support to a glass sheet substantially throughout the length and breadth of the part thereof which is to be supported out of contact with the floor, means to lay a sheet of plastic glass on the molten metal, and means to move the sheet over the floor.

22. Apparatus for handling moving flat sheet material which comprises a floor and liquid bearings thereon mounted in depressions in the floor and projecting above the level of the floor in a state of balance between the forces of surface tension and gravity.

28. Apparatus for handling flat glass which comprises a substantially continuous, solid floor adapted to carry a sheet of glass, and a substantially continuous liquid bearing layer interposed between the solid floor and the glass, said layer consisting essentially of molten metal in sheet form having lateral dimensions which furnish support substantially throughout the main body of the glass sheet and vertical dimensions which provide lateral boundaries above the floor level.

The Board regarded the Examiner's position to be that claims 12, 22, and 28 are unpatentable over Hitchcock under 35 U.S.C. 103 and

\* A "bearing" is defined as "An object, surface or point that supports." Webster's New International Dictionary, second edition, unabridged, 1954.

that claim 13 is unpatentable over Hitchcock in view of Coxe under 35 U.S.C. 103. Hitchcock and Coxe are the same patents applied in Appeal No. 8226.

The Board was of the view that a "thin sheet" of molten metal as defined in claim 12 "does not have any definite thickness as to distinguish over the thickness of Hitchcock, particularly from the mercury bed in chamber 13" of that patent. However, the mercury bed in Hitchcock is not disclosed as receiving the glass in a plastic state as required by claim 12 and, as already discussed, mercury appears to vaporize at too low a temperature to support plastic glass if it were laid on the bed. It is true that the molten metal bath in chamber 4 of Hitchcock does receive glass in the plastic state. But, as pointed out in our consideration of claim 8 in Appeal No. 8226, that bath is not a "thin sheet" and the Board has not pointed out any reason why it would be obvious to substitute a thin sheet of molten metal for the bath. The rejection of claim 12, and claim 13 dependent thereon, will not be sustained.

In treating claim 22, the Board considered the molten metal in chambers 4 and 13 as the liquid "bearings" and stated that, "particularly when the liquid is mercury, the 'bearings' would inherently form a meniscus with the rims of the depressions and extend centrally above the level of the rims." However, the claim recites "a" floor and the "bearings" are defined as "mounted in depressions in the floor and projecting above the level of the floor in a state of balance between the forces of surface tension and gravity." Not only must the two metal baths in chambers 4 and 14 in Hitchcock be regarded as mounted in separate "floors" but we also are not satisfied from the present record and arguments that they meet the requirements of the last quoted expression regarding the relationship of surface tension and gravity. The Board's affirmation of the rejection of claim 22 on the prior art of record will not be sustained.

As to claim 28, appellants urge that the Hitchcock apparatus "has no floor which could carry a sheet of glass" and that the molten metal of Hitchcock cannot be called a layer. We do not agree. The chambers for both metal baths have "floors" and carry sheet glass through the medium of the metals. The mercury bed is shown as relatively thin and flat and, in our opinion, may be considered a layer of metal in sheet form. In any event, it would appear to be obvious to make that bath as thin as practical while still floating the glass. While the claim also includes express references to the dimensions of the layer, appellants have not demonstrated how the terminology employed distinguishes over Hitchcock. The Board's action in affirming the rejection of claim 28 will be sustained.

#### SUMMARY

In Appeal No. 8226, only the rejection on prior art is considered and as to that rejection, the decision of the Board is affirmed as to claims 2, 9, 11, and 27 and reversed as to claims 1, 3, 5-8, 10, 12-14, 16, and 22. The decision in this appeal is modified and the case remanded for further proceedings consistent with this opinion.

In Appeal No. 8244, the decision of the Board is affirmed as to claim 28 and reversed as to claims 12, 13, and 22.

[3] MODIFIED AND REMANDED.



## U.S. Court of Customs and Patent Appeals

IN RE ALFRED C. WHITON

No. 8219. Decided February 12, 1970

[57 CCPA —; 420 F.2d 1082; 164 USPQ 455]

## 1. PATENTABILITY—EVIDENCE—OBVIOUSNESS.

"We find no substantial evidence of record to support the \* \* \* finding of the Examiner [that there is 'no reason whatsoever to believe that a plasticizer for one polymer would not be expected to plasticize another polymer']. What evidence there is of record tends rather to the opposite conclusion. Appellant submitted an affidavit augmenting the data in his specification which establishes that some 44 or so well known plasticizers for PVC are not satisfactorily compatible with PVDF because they yielded compositions that were, inter alia, hazy, streaky, bubbly, discolored or opaque in appearance. Appellant's argument that, in view of that evidence, compatibility of the polyesters with PVDF was unpredictable and unexpected seems plausible, at least in absence of evidence showing that compatibility would be obvious to those in the art. \* \* \* While obviousness does not require absolute predictability \* \* \* at least some predictability is required \* \* \*. We find nothing in the references relied on which would afford one of ordinary skill reason to anticipate that a trial of the polyester plasticizers disclosed by Hill or Australian with the PVDF of Ford would be successful in producing a plasticized composition fulfilling the criterion that the resin and plasticizer be 'compatible.'"

## 2. SAME—COMPOSITION—OBVIOUSNESS.

"Insofar as the Examiner's finding of 'analogy' is concerned, he sought to support that finding by noting that PVC [polyvinyl chloride] and PVDF [polyvinylidene fluoride] are 'used for the same purposes'—films, sheets, rods and the like. However true that may be, it is not clear to appellant, nor is it to us, how that observation establishes such an analogy or community of properties between amorphous PVC and crystalline PVDF on a molecular or microstructure level as would suggest to one of ordinary skill in the art that what compatibly plasticizers PVC will also compatibly plasticize PVDF."

## 3. SAME—PARTICULAR SUBJECT MATTER—COMPOSITION COMPRISING POLYVINYLIDENE FLUORIDE AND A LINEAR SATURATED POLYESTER.

The decision of the Board of Appeals, refusing certain claims to composition comprising polyvinylidene fluoride and a linear saturated polyester as unpatentable over the prior art, is reversed.

APPEAL from Patent Office. Serial No. 219,742.

REVERSED.

Stanley Litz, William M. Epes, for appellant.

Joseph Schimmel. (Raymond E. Martin, of counsel) for the Commissioner of Patents.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and RAO, Chief Judge, United States Customs Court, sitting by designation

BALDWIN, J. delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals affirming the Examiner's rejection under 35 U.S.C. 103 of claims 1-9 appearing in appellant's application<sup>1</sup> as unpatentable over Ford<sup>2</sup> or Ford et al.<sup>3</sup> in view of an Australian patent<sup>4</sup> and a publication by Hill.<sup>5</sup>

## THE INVENTION

It appears from the record that polyvinylidene fluoride polymers (hereafter PVDF) containing at least 95% vinylidene fluoride have

<sup>1</sup> Serial No. 219,742, filed Aug. 27, 1962, for "Chemical Composition."

<sup>2</sup> U.S. Patent 2,468,054, issued April 28, 1949.

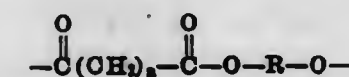
<sup>3</sup> U.S. Patent 2,436,537, issued February 3, 1948.

<sup>4</sup> Australian Patent 150,608, issued June 14, 1951.

<sup>5</sup> Hill, "High Molecular Weight Plasticizers for P.V.C." British Plastics, vol. 32 pages 74-77 and 86 (February 1959).

found use in the manufacture of various extruded and molded plastic articles which possess the desirable property of being serviceable at temperatures up to 300° F. in the presence of acids, alkalies or strong oxidizing agents. In the past, such articles have been relatively rigid, due to the crystalline nature of the above vinylidene fluoride polymer. To provide a more flexible, easily worked form of PVDF and thereby extend its usefulness to other areas, appellant "plasticizes" PVDF with certain low molecular weight, linear saturated polyesters, as reflected in representative claim 1:

1. A composition comprising a mixture consisting of a major proportion of polymeric vinylidene fluoride having a crystalline structure and containing more than 95 mol percent of vinylidene fluoride with a minor proportion of a linear saturated polymeric polyester consisting essentially of recurring units of the formula



in which  $n$  is an integer from 4 to 8 inclusively and R is an alkylene group having from 4 to 7 carbon atoms inclusively, said polyester having a molecular weight of from about 1100 to about 5000 and a boiling point above about 400° C.

Articles prepared from the above composition, appellant states, possess "high flexibility," particularly at low temperatures, "good heat stability," and "absence of properties evidencing incompatibility of plasticizer with polymer, such as exudation, opaqueness, bubbles, and surface imperfections," as well as low loss of plasticizer resulting from volatilization.

## THE REJECTION

The Examiner rejected the claims as unpatentable over Ford or Ford et al. in view of Hill and the Australian patent. Both Ford patents, which relate in general to processes of preparing homopolymers and copolymers of vinylidene fluoride, disclose that those polymers can be mixed with other ingredients, such as plasticizers. Ford '537 states, for example:

The polymers of vinylidene fluoride described herein are adapted to a wide variety of uses because of their excellent combination of toughness and high thermal stability. For example, they can be shaped into films, fibers, foils, sheets, ribbons, bands, or rods, tubing and massive articles under elevated temperatures and pressures, or they can be applied as coatings to fabrics, leather, cellulose derivative products, etc. In the form of films polyvinylidene fluoride is useful as a photofilm. Polyvinylidene fluoride can be used alone, or it can be mixed with, or it can be prepared in the presence of other ingredients such as cellulose derivatives, resins, plasticizers, modifiers pigments, filling materials,

## \* Appellant's specification explains:

It is well known in the art that some polymers can be modified to increase flexibility or to reduce stiffness by adding to the polymer a material known in the art as a plasticizer. An exact definition of the term plasticizer which would include all materials which may find use as plasticizers is not available. In general, however, a satisfactory plasticizer for a particular polymer is a material which shows the properties of compatibility, permanence, stability to heat and hydrolysis and efficiency in producing flexibility when mixed with the polymer. \* \* \*

The specification further points out that the search for a suitable plasticizer for PVDF has been complicated by its crystalline nature which precludes compatibility of the polymers with many known plasticizers for other vinyl polymers. In that respect, PVDF is said to resemble its chlorine analog, polyvinylidene chloride (PVDC), also a crystalline material which, according to appellant's specification, is well known to be incompatible with usual plasticizer materials. Moreover, says appellant, another factor which has restricted materials usable as plasticizers for PVDF is the polymer's high fabrication temperature—upwards of 500° F. As a consequence, appellant states, plasticizers suitable for use with other vinyl polymers, such as PVDC or polyvinyl chloride (PVC) which are fabricated at lower temperatures below 400° F., may not be suitable for use with PVDF because they lack requisite heat stability and are highly volatile at PVDF fabrication temperatures.

We should note at this point that appellant's statement in his specification that "temperatures above about 500° F. are required" in the fabrication of PVDF appears to be contradicted by examples appearing later in his specification, where temperatures of 350° F. and 392° F. were used in the formation of films. It also appeared to be contradicted by the Ford et al. '537 patent, which discloses the softening temperature of PVDF to be 145-160° C. (293-320° F.), and film pressing temperatures of presumably unplasticized PVDF to be 160-190° C. (320-374° F.) or 200° C. (392° F.).



dyes, etc. For certain electrical applications the polymer is well suited for the bonding of mica flakes into tough, coherent shapes. In some of these uses the polyvinylidene fluoride is advantageously combined with or prepared in the presence of plasticizers, modifiers softeners, dyes, pigments, fillers, and natural resins, etc.

Recognizing that neither Ford reference mentions any specific plasticizers suitable for use with PVDF, the Examiner turned to Australian and Hill for their disclosure that polyesters of the type recited in the claims are advantageous for plasticizing *polyvinyl chloride* (PVC). Australian's polyester, for example, provides a plasticized composition in which the plasticizer is non-migratory, substantially non-volatile, and readily compatible with PVC. Said plasticized composition "remains flexible at lower temperatures than known compositions." Hill similarly discloses that certain polyesters commonly used in the plasticization of PVC, some of which are within the scope of the instant claims, are, in general, migration-resistant and of low volatility.<sup>7</sup>

Provided the necessary requirements associated with compounding and compatibility are fulfilled, the introduction of high molecular weight plasticizers into PVC systems shows two advantages compared with the simple low molecular weight ester systems. These are: (1) reduced volatility of plasticizer from the compound; and (2) reduced loss of plasticizer into other media, whether solid or liquid, in certain specific instances. [Emphasis quoted.]

The Examiner thought the principal issue to be "whether it is patentable to plasticize a known polymer with a known class of plasticizers," and saw "no reason whatsoever to believe that a plasticizer for one polymer would not be expected to plasticize another polymer." Contrary to appellant's arguments, he did not view the Ford references to present an unsolved problem in merely disclosing that PVDF can be mixed or combined with plasticizers. Rather, he thought that, in view of the disclosure he found in the secondary references that polyester plasticizers of the type recited in the claims process at high temperatures<sup>8</sup> and are of low volatility and migration, it would be obvious to select those plasticizers conventionally used with PVC for use with "analogous" PVDF when it is known that the plasticizer should possess those properties to be of optimum usefulness in PVDF.

The Board agreed, finding "sufficient teaching \* \* \* [in Hill and Australian] of those desirable properties which would suggest to one skilled in the art the application of these [polyester] plasticizers with other polymeric materials."

#### OPINION

Here, as below, appellant urges that the Ford disclosures of mixing PVDF with a plasticizer are mere invitations to the polymer chemist to experiment in a vast field of polymer technology and that those disclosures in fact teach nothing to one skilled in the art. There is no suggestion in any of the references, appellant says, that any of the known plasticizers for PVC would necessarily be suitable as plasticizers for PVDF, much less that the particular polyesters recited in the physical structure between predominantly crystalline PVDF and predominantly amorphous PVC, appellant submits that it would not be obvious to one of ordinary skill in the art which, if any, of the

<sup>7</sup> The polyesters disclosed by Hill are not of universal compatibility with PVC, however, the reference noting that PPA (a polyester of propylene glycol and adipic acid, not within the scope of the present claims) is of "distinctly limited compatibility."  
<sup>8</sup> Apparently the Examiner here was relying on Hill's disclosure that the PVC and polyester composition was processed at 170° C. (338° F.).

present claims would be so suitable. In view of the basic differences in many known plasticizers for PVC would be compatible with PVDF.

The Solicitor responds by pointing out:

Bearing in mind that each secondary reference discloses the instantly claimed polyester plasticizers, albeit for use with PVC rather than with PVDF, it would appear reasonable for one of ordinary skill in the art to conclude that the properties which those plasticizers manifest in the presence of PVC, such as low volatility and migratory rate and processing at higher temperatures \* \* \*, would be manifested in the presence of PVDF, although possibly not to the same extent. \* \* \*

No doubt those enumerated factors would be persuasive evidence of obviousness (appellant does not appear to seriously contend otherwise) if appellant had not convinced us that there still exists one critical defect in the reasoning employed by the Patent Office. Neither the Examiner nor the Board has given any reason, or pointed to any of the references on which they rely, to justify concluding that one of ordinary skill in the art would recognize the instant polyesters to be compatible with PVDF. Indeed, appellant's statements in his specification, and argument based thereon, to the effect that one would not expect a compatible plasticizer for PVC to necessarily compatibly plasticize PVDF because of differences in micro structure and crystallinity between those two polymers, has not really been controverted by the Patent Office, save perhaps for the Examiner's sweeping, conclusory findings that (1) there is "no reason whatsoever to believe that a plasticizer for one polymer would not be expected to plasticize another polymer" and that (2) PVC and PVDF are somehow "analogous."

[1] We find no substantial evidence of record to support the first finding of the Examiner. What evidence there is of record tends rather to the opposite conclusion. Appellant submitted an affidavit augmenting the data in his specification which establishes that some 44 or so well known plasticizers for PVC are not satisfactorily compatible with PVDF because they yielded compositions that were, inter alia, hazy, streaky, bubbly, discolored or opaque in appearance. Appellant's argument that, in view of that evidence, compatibility of the polyesters with PVDF was unpredictable and unexpected<sup>9</sup> seems plausible, at least in absence of evidence showing that compatibility would be obvious to those in the art. See *In re Cormany*, 56 CCPA 992, 407 F.2d 900, 160 USPQ 801 (1969); *In re Tomlinson*, 53 CCPA 1421, 363 F.2d 928, 150 USPQ 623 (1966). While obviousness does not require absolute predictability, *In re Pantzer*, 52 CCPA 1135, 341 F.2d 121, 144 USPQ 415 (1964), at least some predictability is required. *In re Naylor*, 54 CCPA 902, 369 F.2d 765, 152 USPQ 106 (1966). We find nothing in the references relied on which would afford one of ordinary skill reason to anticipate that a trial of the polyester plasticizers disclosed by Hill or Australian with the PVDF of Ford would be successful in producing a plasticized composition fulfilling the criterion that the resin and plasticizer be "compatible."

<sup>9</sup> The Examiner and Solicitor criticize appellant's affidavit for its failure to include data on polyesters outside the scope of polyesters recited in the claims. As we noted earlier, Hill makes it clear that at least one polyester outside the scope of the claims is incompatible even with PVC. In view of that, it is not clear to us why one of ordinary skill in the art would necessarily regard other polyesters than those claimed to be suitably compatible with PVDF. Proof that other polyester plasticizers for PVC would not compatibly plasticize PVDF might have been stronger evidence that the compatibility of the claimed polyesters was unexpected. We feel, however, that the evidence which was shown sufficiently rebutted the broad allegation by the Examiner as stated above. Of course, there is no requirement that the applicant prove that only his claimed plasticizers were compatible.



[2] Insofar as the Examiner's finding of "analogy" is concerned, he sought to support that finding by noting that PVC and PVDF are "used for the same purposes"—films, sheets, rods and the like. However true that may be, it is not clear to appellant, nor is it to us, how that observation establishes such an analogy or community of properties between amorphous PVC and crystalline PVDF on a molecular or microstructure level as would suggest to one of ordinary skill in the art that what compatibly plasticizes PVC will also compatibly plasticize PVDF.

Considering all the matters raised below and by the Solicitor, we do not think that the Patent Office has established that the subject matter as a whole was obvious to one of ordinary skill in the art. [3] The decision is reversed.

REVERSED.

## PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,064,162, Howard, McGowen, Jr. and Moore, Jr., MEANS FOR INSTALLING AND REMOVING FLOW VALVES; 2,679,903, McGowen, Jr. and Moore, Jr., MEANS FOR INSTALLING AND REMOVING FLOW VALVES OR THE LIKE, filed Apr. 28, 1970, D.C., W.D. La. (Shreveport), Doc. 15620-L, *Camco, Inc. et al. v. Production Specialties, Inc. et al.*

2,066,455, V. Gravitt, PICKER CHECK STRAP; 2,796,890, Plante and Roy, SLIDE ROD CHECK STRAP; 2,884,961, same, CHECK STRAP ASSEMBLIES FOR LOOMS; 3,114,397, C. R. Messer, PICKER STICK CONTROL STRAP; 3,126,922, Randlett and Messer, CHECK STRAP ASSEMBLY; 3,228,429, C. R. Messer, same; 3,282,302, same, MOLDED CHECK STRAP, filed Apr. 23, 1970, D.C., M.D.N.C. (Greensboro), Doc. C-82-G-70, *Page Belting Company, Inc. v. The Ellison Company, Inc.*

2,679,903. (See 2,064,162.)

2,685,536, Starkey and Ransburg, METHOD FOR ELECTROSTATICALLY COATING ARTICLES; 2,794,417, same, APPARATUS FOR ELECTROSTATICALLY COATING ARTICLES; 2,898,893, W. W. Crouse, METHOD AND APPARATUS FOR ELECTROSTATIC COATING; 2,898,894, E. M. Ransburg, same, filed Apr. 24, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c991, *Ransburg Electro-Coating Corp. v. King Industries Enameling Division*.

2,720,461, A. Voet, PRINTING INK AND VARNISH THEREFOR, filed Aug. 5, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1442, *J. M. Huber Corporation v. Lawter Chemicals, Inc.* Stipulation cause dismissed without prejudice, Apr. 6, 1970.

2,736,889, J. W. Forrester, MULTI-COORDINATE DIGITAL INFORMATION STORAGE DEVICE, filed Apr. 16, 1970, D.C. Mass. (Boston), Doc. 70-238-F, *Massachusetts Institute of Technology v. Fabri-Tek Incorporated*.

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2,773,359. (See 3,177,677.)

2,794,417. (See 2,685,536.)

2,796,890. (See 2,066,455.)

2,882,243, R. M. Milton, MOLECULAR SIEVE ADSORBENTS; 2,882,244, same, filed Mar. 23, 1970, D.C., S.D.N.Y., Doc. 70-C-1174, *W. R. Grace & Co. v. Union Carbide Corp.*

2,882,244. (See 2,882,243.)

2,884,961. (See 2,066,455.)

2,898,893. (See 2,685,536.)

2,898,894. (See 2,685,536.)

2,979,062, Umbricht and Evans, POWER WASHING APPARATUS, filed July 6, 1965, U.S. Ct. of App., Sixth Circuit, Ohio (Cincinnati), Doc. 19643, *Ajem Laboratories, Inc. and Centri-Spray Corporation v. C. M. Ladd Co., Inc. and Charles*

*M. Ladd*. The District Court held the patent invalid because the device had been "on sale" for more than one year before the patent was applied for. The judgment of the District Court is affirmed, decided and filed Apr. 29, 1970.

2,992,651. (See 3,298,190.)

2,993,535, E. F. Taylor, WINDOW BLIND CONSTRUCTION; 3,028,910, Bopp and Taylor, SHAFT HOOK AND MOUNTING FOR VERTICAL BLINDS; 3,061,005, same, LOUVER TYPE WINDOW BLIND, filed Feb. 23, 1966, D.C., S.D.N.Y., Doc. 66-508, *Edgar K. Orr v. Verticals, Inc.* Stipulation and order, complaints and counterclaims 62-3274, 65-2733, and 66-508 dismissed with prejudice, Feb. 11, 1970.

2,996,789, W. B. Pridy, APPARATUS FOR STRAIGHTENING ELONGATE METAL MEMBERS, filed Mar. 16, 1970, D.C. N. Mex. (Albuquerque), Doc. 8427, *Whetstone B. Pridy and Charles H. Colvin v. William E. Justice*.

3,020,005, Gould and Richter, TREE SHAKING DEVICE, filed Apr. 28, 1970, D.C., N.D. Calif. (San Francisco), Doc. 70-896, *AGMAC, Inc. v. Sutter Tire Service, Inc. and Jack L. Martin*. Same, filed Apr. 28, 1970, D.C., N.D. Calif. (San Francisco), Doc. 70-897, *AGMAC, Inc. v. E. D. Kirby Mfg. & Farming Co. et al.*

3,028,910. (See 2,993,535.)

3,031,169, Robinson and Kimmell, APPARATUS FOR AUTOMATICALLY CONTROLLING DRILLING, filed July 18, 1969, D.C., N.D. Tex. (Fort Worth), Doc. 4-1271, *Bear Manufacturing Corporation v. Pat & Chuck Oil Well Equipment, Inc. et al.* Final judgment, plaintiff is owner of patent and is valid in law. Defendants have infringed and are hereby permanently enjoined, May 1, 1970.

3,061,005. (See 2,993,535.)

3,072,582, C. B. Frost, POLYETHER-URETHANE FOAMS AND METHOD OF MAKING SAME, filed Mar. 26, 1970, D.C. Del. (Wilmington), Doc. 3868, *The General Tire & Rubber Company v. Diamond Shamrock Corporation*. Same, filed Mar. 26, 1970, D.C. Del. (Wilmington), Doc. 3867, *The General Tire & Rubber Company v. Reichhold Chemicals, Inc.* Same, filed Mar. 26, 1970, D.C. Del. (Wilmington), Doc. 3866, *The General Tire & Rubber Company v. The Upjohn Company*. Same, filed Mar. 26, 1970, D.C. Va. (Roanoke), Doc. 70-C-29-A, *The General Tire & Rubber Company v. Olin Corporation*.

3,114,397. (See 2,066,455.)

3,126,922. (See 2,066,455.)

3,177,677, Boren and Cronelid, ABSORPTION REFRIGERATION; 2,773,359, Kogel, Boren and Ostergren, ABSORPTION REFRIGERATION APPARATUS, filed Apr. 28, 1970, D.C., N.D. Ind. (South Bend), Doc. 70-8-49, *Aktiebolaget Electrolux v. Instamatic Corporation and Leon Shahnasarian, doing business as Instamatic Sales Company*.

3,228,429. (See 2,066,455.)

3,282,302. (See 2,066,455.)

3,298,190, C. B. Harker, FREEZING CONDITION CONTROL; 2,992,651, M. Krofta, STOCK CONSISTENCY INDICATOR, filed July 10, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c221, *The Corneliuss Company, Milos Krofta v. Beatrice Foods Co., C.T. Corporation System*. (Amendment to complaint 3-11-68, 69c358.) Stipulation of dismissal pursuant to Rule 41. 3,298,190, C. B. Harker, FREEZING CONDITION CONTROL, filed Dec. 26, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c2208

and 69c358 (Consolidated), *Taylor Freezer Division of Beatrice Foods v. Coca-Cola Bottling Company; The Corneliuss Company v. Beatrice Foods Co.* Stipulation of dismissal with prejudice, Dec. 1, 1969.

D. 212,882, P. R. Anstin, ULTRA-CLEAN AIR ENVIRONMENT WORK STATION, filed Dec. 16, 1968, D.C.N.J. (Newark), Doc. C-1307-68, *Intertech Enterprises, Ltd. v. Atmos-Tech Corporation*. Consent judgment for permanent injunction; defendant's patent valid and infringed, Dec. 11, 1968.



**JULY 7, 1970**

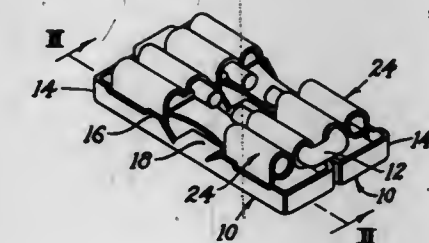
**26,932**

## WRIST BAND LINKAGE

U.S. Cl. 59—79

**Int. Cl. F16g 13/24**

## 6 Claims



21

**26,930**

## BITERNARY PULSE CODE SYSTEM

Original No. 3,230,310, dated Jan. 18, 1966, Ser. No. 236,461, Nov. 8, 1962, which is a continuation-in-part of application Ser. No. 12,481, Mar. 2, 1960. Application for reissue Dec. 14, 1966, Ser. No. 615,874

Int. Cl. H04I 15/00

U.S. Cl. 178-68

## 9 Claims



**26.931**

## AEROBIC WASTE TREATMENT SYSTEM

Original No. 3,311,239, dated Mar. 28, 1967, Ser. No. 567,188, July 22, 1966. Application for reissue Mar. 27, 1969, Ser. No. 830,162

Int. Cl. C02c 5/06

U.S. Cl. 210—195

## 14 Claims

U.S. Cl. 210-155 14 Claims

An aerobic waste treatment system includes a disintegrator tank with a comminutor for comminuting incoming waste, the disintegrator tank being connected to discharge into an airtight vacuum aeration tank which in turn discharges into a settling tank. Aeration is accomplished in the vacuum aeration tank by a venturi aspirator with forced recirculation, and the settled solids in the settling tank are aerated in the vacuum aeration tank after being forced through the same venturi aspirator. Vacuum in the aeration tank is attained through another venturi aspirator connected into another fluid recirculation path outside the disintegration tank. This latter vacuum aspirator



## PLANT PATENTS

GRANTED JULY 7, 1970

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

### 2,977 ROSE PLANT

Marie Louise Meilland, Cap d'Antibes, Alpes-Maritimes, France, assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania  
Filed July 12, 1968, Ser. No. 744,593  
Claims priority, application France, Aug. 7, 1967, 49,024  
Int. Cl. A01h 5/00

#### U.S. Cl. Plt.—17

1 Claim  
A new and distinct variety of hybrid tea rose plant originated from crossing two unnamed varieties, one produced from crossing Baccara with White Knight, which was crossed on a variety obtained by crossing Baccara with Meibrem 172 F (Jolie Madame), and the other variety used as parent was obtained from crossing the variety Baccara with the variety Meibis 137 F (Paris-Match).

### 2,978 ROSE PLANT

Roy L. Byrum, Richmond, Ind., assignor to Joseph H. Hill Company, Richmond, Ind., a corporation of Indiana  
Filed Aug. 16, 1968, Ser. No. 753,324  
Int. Cl. A01h 5/00

#### U.S. Cl. Plt.—11

1 Claim  
1. A new and distinct variety of rose plant of the hybrid-tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a free and vigorous plant habit, long flower stems, a medium-large flower size, a distinctive, attractive and iridescent bi-color flower effect of pink and yellow colors, and good keeping qualities.

22

### 2,979 ROSE PLANT

Eugene S. Boerner, deceased, late of Benton, N.Y., by Lincoln Rochester Trust Co., New York, N.Y., and Roger L. Boerner, Milwaukee, Wis., executors, assignors to Jackson & Perkins Company, Newark, N.Y., a corporation of New York  
Filed Sept. 6, 1968, Ser. No. 759,808  
Int. Cl. A01h 5/00

#### U.S. Cl. Plt.—15

1 Claim  
1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of continuous growth throughout the year, but somewhat slower growth during the winter months, relatively long flower stems, broadly elliptical, nearly round leaflets, distinctive and attractive yellow flowers, excellent suitability for greenhouse cut flower production, and relatively high resistance to mildew.

### 2,980 ROSE PLANT

Eugene S. Boerner, deceased, late of Benton, N.Y., by Lincoln Rochester Trust Company, New York, N.Y., and Roger L. Boerner, Milwaukee, Wis., executors, assignors to Jackson & Perkins Company, Newark, N.Y., a corporation of New York  
Filed Sept. 23, 1968, Ser. No. 763,990  
Int. Cl. A01h 5/00

#### U.S. Cl. Plt.—11

1 Claim  
1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of an upright and vigorous plant habit, above average freedom of bloom, and a distinctive, attractive and unique pink flower color.

## PATENTS

GRANTED JULY 7, 1970

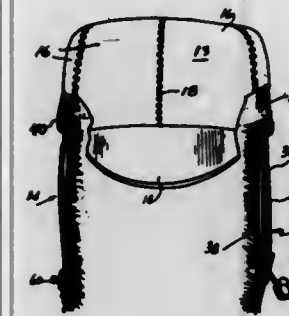
## GENERAL AND MECHANICAL

### 3,518,701 CAP WITH EAR PROTECTORS CONNECTED BY ELASTIC

Joseph Fekete, 501 N. 17th St., Richmond, Va. 23219  
Filed Nov. 22, 1968, Ser. No. 778,122  
Int. Cl. A42b 1/06

#### U.S. Cl. 2—172

2 Claims



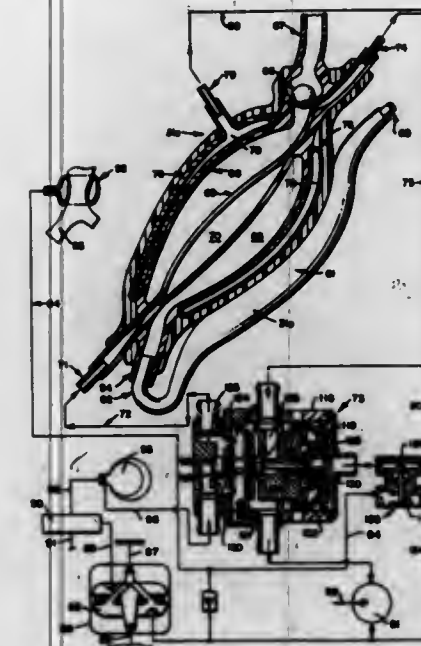
A cap for men and boys having fur ear protectors or flaps with elastic fastening means whereby the flaps are effectively secured to each other and provide a fine adjustment of their length for permitting the cap to snugly fit different sized heads. The ear flaps have elastic means in the form of an elastic band for fastening the ear flaps to each other. In a modified form, the peak is hinged to the crown and has fastening element adapted to coact with a fastening element in the crown. The bottom surface of the peak is covered with fur.

### 3,518,702 IMPLANTABLE BODY ACTUATED ARTIFICIAL HEART SYSTEM

Joseph A. La Russa, Crestwood, N.Y., assignor to Farrand Optical Co., Inc.  
Filed Jan. 23, 1967, Ser. No. 611,090  
Int. Cl. A61f 1/24

#### U.S. Cl. 3—1

20 Claims



An artificial heart system for maintaining a normal blood circulation within a living, breathing body which is totally implantable within the thoracic and pericardial cavities of the recipient body and which is adapted to

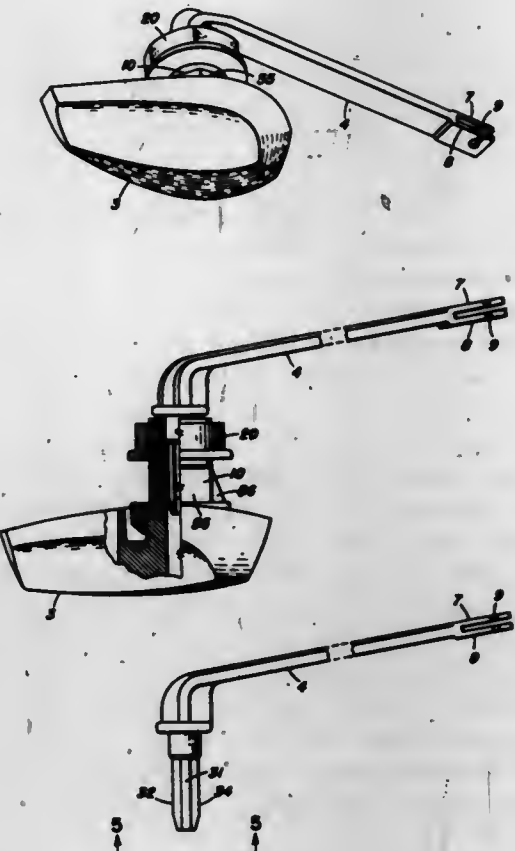
be fully powered and regulated by the body's chest and breathing muscles. The components of the artificial heart system comprise a reciprocating pneumatic or fluid pump, an artificial heart, and a control means. The reciprocating pump is adapted to be operably connected to the body chest and breathing muscles to produce pneumatic or fluid pressure in response to the reciprocatory action of the body breathing. The artificial heart is a pneumatic or fluid pressure actuated blood pump which is connected to the reciprocating pump and is adapted to circulate blood in the circulatory system under pneumatic or fluid power supplied by the reciprocating pump. The control means is operably connected between the reciprocating pump and the artificial heart for maintaining a proportion between the body breathing rate and the rate of circulation powered by the artificial heart thereby maintaining a normal blood circulation at a variable rate according to the requirement of the body.

### 3,518,703 PLASTIC TRIP LEVER FOR WATER CLOSETS

Ioakim Haldopoulos, Louisville, Ky., and Sherwood Young, Monson, Mass., assignors to American Standard, Inc., New York, N.Y., a corporation of Delaware

#### U.S. Cl. 4—67

5 Claims



This application discloses a manually controllable forked trip lever mechanism for a flush tank such as is used with a toilet bowl. The trip lever mechanism includes an externally mounted handle and an internally mounted trip lever both integrally coupled to each other so as to be moveable in unison. The handle is manually controlled from the outside of the flush tank and the trip lever will suspend a chain from its forked segment to control the

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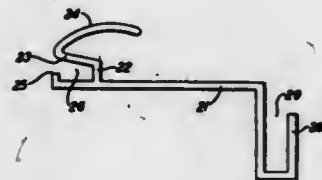
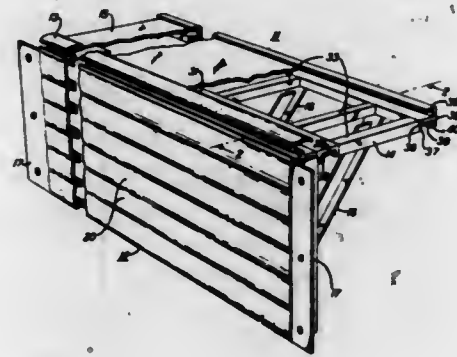


position of a flush valve for releasing water from the flush tank into the toilet bowl. The mechanism includes a stud and nut combination for holding the handle at a small fixed spacing from the front of the flush tank. The handle has a pair of ribs which fit into a butterfly opening in the spud for enabling limited rotary motion of the handle. Except for the chain, all of the parts are made of plastic and they can be readily assembled, and as assembled, they may replace the normal trip lever mechanism installed on conventional flush tanks.

**3,518,704**  
**ABOVE-GROUND SWIMMING POOL ASSEMBLY**  
Vincent Shami, Scotch Plains, N.J., assignor, by mesne assignments, to Anthony Pools, Inc., South Gate, Calif., a corporation of Delaware

Filed Dec. 4, 1967, Ser. No. 687,578  
Int. Cl. E04h 3/16, 3/18  
U.S. Cl. 4—172.21

8 Claims



A swimming pool assembly comprises a vertical wall section with a coping section welded to the top surface, a deck section comprising parallel inner and outer members interconnected by cross members, and a plurality of brace members extending from a lower part of the wall section to the outer member of the deck section. The coping section includes a generally arcuate member one side of which forms a rocket for receiving a swimming pool liner and the other side of which forms a channel for receiving and securing one side of a decking member upon which people may walk. The outer member of the deck section includes a channel for receiving the other side of the decking member and a channel for receiving the brace members. The swimming pool can be constructed by fitting together the wall section, deck section and braces to form a swimming pool assembly, bolting together four swimming pool assemblies in the shape of a rectangle, and inserting a swimming pool liner in the continuous socket formed by the coping sections.

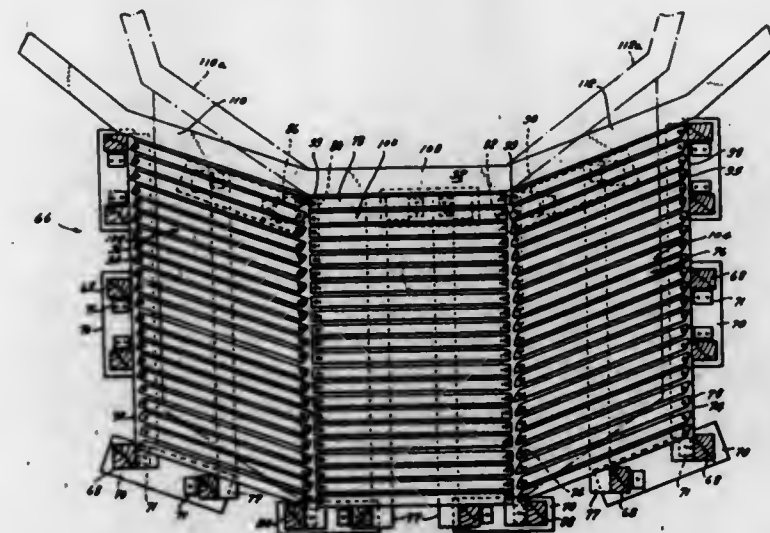
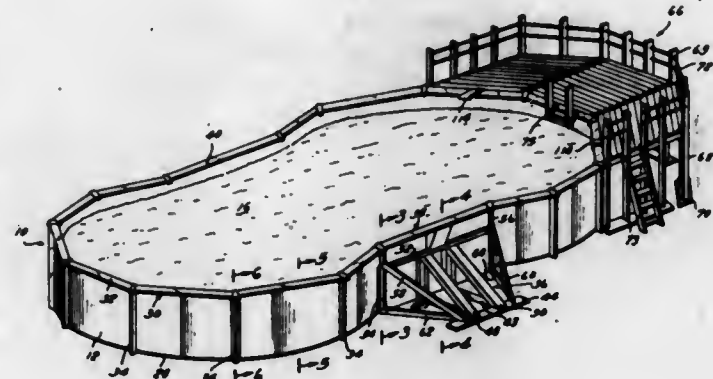
**3,518,705**  
**ABOVE GROUND SWIMMING POOLS**  
Richard Cudney, New York, N.Y., assignor to URB Products Corporation, Farmingdale, N.Y., a corporation of New York

Filed Apr. 4, 1968, Ser. No. 726,632  
Int. Cl. E04h 3/16  
U.S. Cl. 4—172.21

6 Claims

An above ground swimming pool comprising a flexible plastic liner disposed within a rigid frame and having a planar cross-sectional configuration which includes at least one generally arcuate section and having coupled

thereto a pool deck. The deck is disposed at a height substantially equal to the top of the liner and includes an elongated center member which is fixed with respect to the pool and tangent to and abutting against a first portion of the pool periphery and at least one flap member

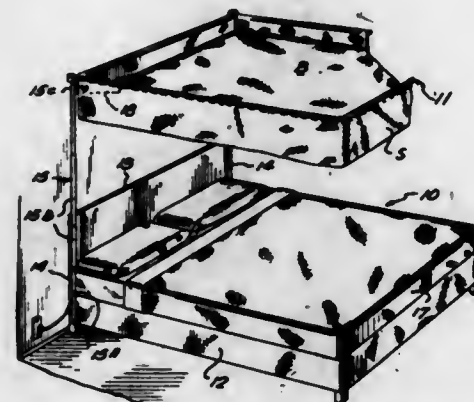


pivotaly coupled to one end of the elongated member and adapted to be brought in abutting relationship with other, adjacent portions of the pool periphery, thereby forming a continuous non-straight deck about said pool periphery portions.

**3,518,706**  
**BEDSPREAD SUPPORT**  
Herbert O. Crippen and Ruby L. Crippen, both of 3156 W. Belle Plaine, Chicago, Ill. 60618  
Filed Sept. 16, 1968, Ser. No. 762,217  
Int. Cl. A47c 21/00

U.S. Cl. 5—321

7 Claims



A bedspread support having a generally rectangular support frame slightly longer and wider than the mattress to accommodate a bedspread with its main portion spanning the support frame and with its skirt portion overhanging the support frame, extensible support means at the head of the bed frame and connected in cantilever

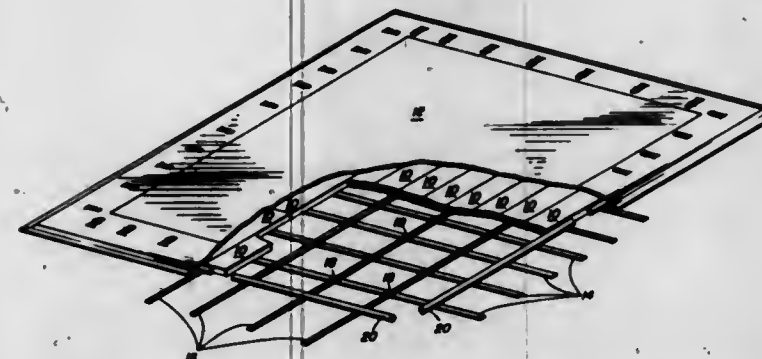
engagement to the support frame and a drive mechanism controlling extension and retraction of the extensible support to shift the support frame between a display position encircling the mattress and a canopy position overhanging the mattress.

**3,518,707**  
**MAT FOR FREE EXERCISE OR WRESTLING OR THE LIKE**

George P. Nissen, Cedar Rapids, Iowa, assignor to Nissen Corporation, Cedar Rapids, Iowa, a corporation of Iowa

Filed May 22, 1968, Ser. No. 731,019  
Int. Cl. A47g 9/00  
U.S. Cl. 5—344

8 Claims



A lightweight mat for free exercise, wrestling or the like made up of sections of lightweight, shock-absorbing material which are held together as a unit by a cover and an interlacing method so that the mat can be quickly assembled and disassembled by a single person.

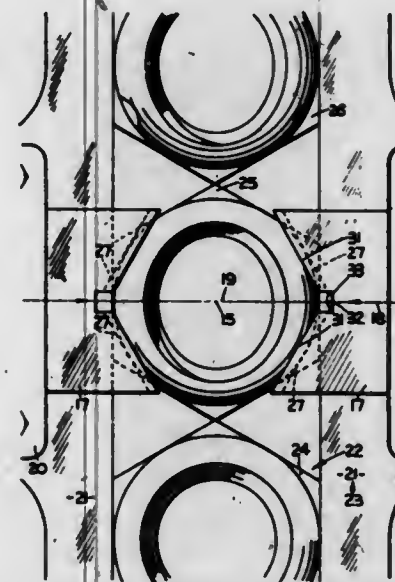
**3,518,708**  
**STIFF NUTS**  
Arthur Edmund Jordan and Reginald Hugh Williams, Birmingham, England, assignors to G.K.N. Screws & Fasteners Limited, Smethwick, England, a British company

Original application Jan. 10, 1968, Ser. No. 696,827, now Patent No. 3,459,249. Divided and this application Dec. 23, 1968, Ser. No. 801,895  
Claims priority, application Great Britain, Jan. 10, 1967, 1,230/67

U.S. Cl. 10—86

Int. Cl. B21d 53/24

5 Claims

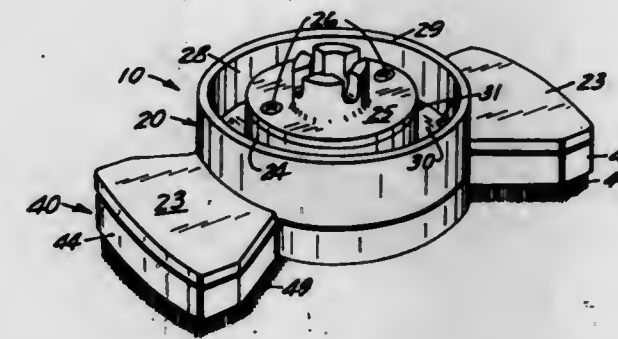


The disclosure describes a stiff nut which has the required prevailing torque characteristics but which will avoid damage to a bolt. The stiff nut has a collar which is closed to elliptical shape by pressure applied at four points arranged symmetrically with respect to a diameter of the nut such that the angle between two adjacent points on opposite sides of the diameter is between 110 and 130°.

**3,518,709**  
**FLOOR TREATING MACHINE HEAD ASSEMBLY**  
Ronald O. Zemke, St. Paul, and Robert H. Kleemeler, Arden Hills, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn.  
Filed Mar. 18, 1968, Ser. No. 713,639  
Int. Cl. A47i 11/164

U.S. Cl. 15—4

5 Claims



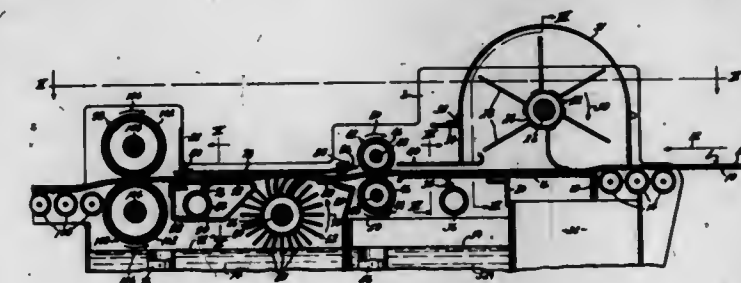
A floor-treating machine head assembly for shampooing carpeting and for treating hard-surfaced floors comprises a drive block and a brush holder subassembly releasably attached thereto. The brush holder subassembly is readily removed to expose a holder which releasably engages fibrous pads for scrubbing or polishing hard-surface floors.

**3,518,710**  
**RUG CLEANING MACHINE**  
John D. Heilman, Independence, Mo., assignor to Matttron, Inc., Kansas City, Mo., a corporation of Missouri

Filed July 24, 1968, Ser. No. 747,229  
Int. Cl. A47i 11/00

U.S. Cl. 15—5

8 Claims



A rug cleaning machine comprising means whereby a rug, in an inverted position, with its nap down, is first beaten from its back side to dislodge and loosen dirt, then presoaked and rinsed in a detergent or other cleaning solution, then pressed between wringer rolls to further remove coarse dirt, then scrubbed with a detergent or other cleaning solution, rinsed and passed between a final set of wringer rollers. The processing of the rug in an inverted position has the advantage of facilitating the removal and disposition of dirt and grit which, once loosened by the beating and scrubbing steps of the process, would tend to settle back into and be trapped by the rug nap if the rug were treated in an upright position.

**3,518,711**  
**CLOTHES BRUSH**  
Remington S. Radcliffe, Lexington, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 22, 1968, Ser. No. 731,150  
Int. Cl. A46b 13/02; H01m 45/04

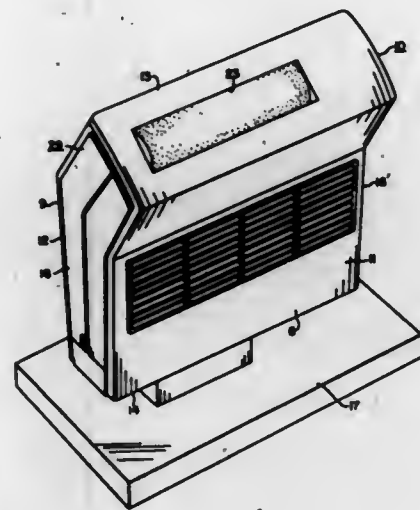
U.S. Cl. 15—23

7 Claims

A battery operated clothes cleaning brush and charging base therefor. The subject brush is characterized by



the locating of the female-like charging contacts in the brush in lieu of the charging base. The female-like contacts are disposed in a recessed area adjacent the bottom wall of the brush housing and accessible through the bottom wall. The male-like contacts are carried in the vertical



wall of a post member constituting a part of the charging base.

### 3,518,712 FLOOR POLISHER WITH MOTOR MOUNTED ON A PIVOTED HANDLE

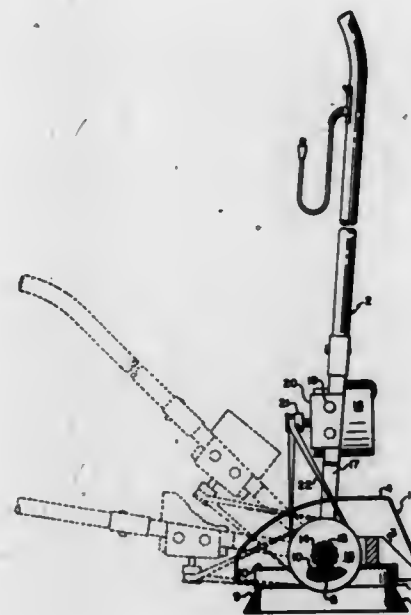
Christian D. Berger, North Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Delaware

Filed May 21, 1968, Ser. No. 730,784

Int. Cl. A47I 11/16

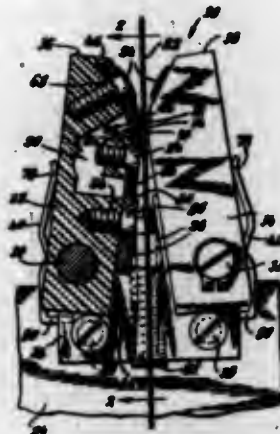
U.S. Cl. 15-49

7 Claims



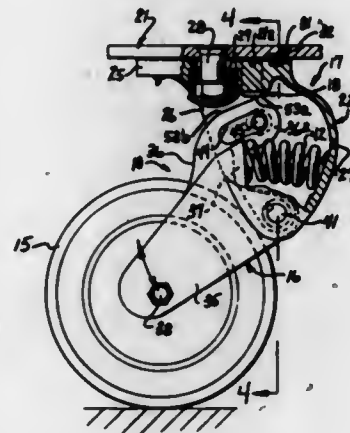
A floor polisher having main body with a pair of brushes rotatable on vertical axes. A handle pivoted to the main body has an electric motor mounted on it, and the motor is drivingly connected with the brushes. The drive from the motor to the brushes on the main body is arranged so that optimum driving engagement exists regardless of the pivoted position of the handle. The brushes have rigid back portions with upwardly facing drive teeth integrally formed on the peripheral area of the upper face.

3,518,713  
AIR SQUEEGEE  
Edward B. Krause, 20 Meadow Wood Road,  
Trumbull, Conn. 06611  
Filed Apr. 10, 1968, Ser. No. 720,088  
Int. Cl. B08b 5/02  
U.S. Cl. 15-306  
1 Claim



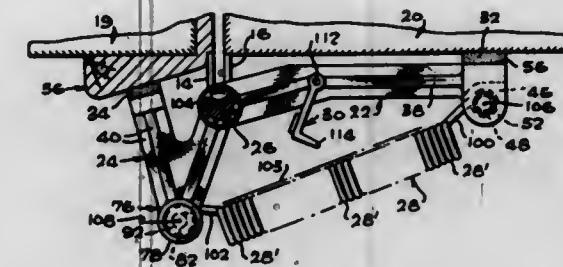
An air squeegee for removing liquid from a moving film. Orifice blocks are pivotally mounted on opposite sides of the film, and direct air jets at obtuse angles toward the film, substantially countercurrent to the direction of film movement. The blocks are individually urged toward the film by separate springs, permitting unequal spring biasing. Each block includes two jet orifices, one of which has a fixed minimum width. The trailing edges of the orifices are recessed to protect the film. A screw is mounted on the squeegee in the plane of the film and parallel to the axis thereof, to symmetrically adjust the blocks.

3,518,714  
CASTER APPARATUS WITH SWIVEL  
DAMPENING BRAKES  
Clarence H. Hager, Rockford, Ill., assignor to Modern  
Caster Co., Inc., Rockford, Ill., a corporation of Illinois  
Filed Nov. 13, 1968, Ser. No. 775,323  
Int. Cl. B60b 33/00  
U.S. Cl. 16-35  
10 Claims



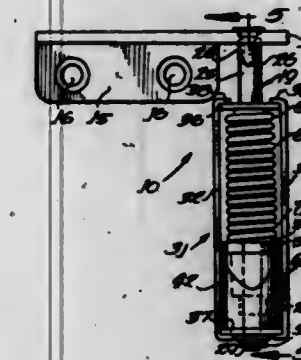
A caster apparatus of the shock absorbing type having a caster bracket mounted for swiveling movement about an upright axis and a caster wheel yieldably mounted on the caster bracket for limited vertical movement, in which a swivel dampening brake is automatically operated in response to vertical movement of the wheel to increase the braking action when the wheel moves out of engagement with the ground to inhibit free swiveling of the caster wheel under these conditions.

3,518,715  
AUTOMATIC HINGE-MOUNTED DOOR CLOSER  
Michael M. Weiner, Los Angeles, Calif.  
(P.O. Box 16, Woodland Hills, Calif. 91364)  
Filed Jan. 24, 1968, Ser. No. 700,061  
Int. Cl. E05f 1/08  
U.S. Cl. 16-80  
12 Claims



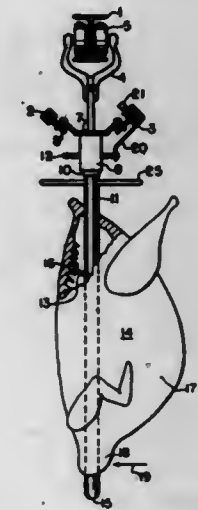
An automatic door closer mountable directly on a door hinge by means of the door hinge pin only. A stationary arm abuts against the door frame. A rotatable arm abuts against the door and pivots with the door about the pivotal axis of the door hinge, i.e., the hinge pin axis. A spring is interconnected between the stationary and rotatable arms in a substantially constant torque arrangement whereby a constant restoring torque is applied by the spring about the hinge pin for closing the door after opening thereof. A latch is provided for deactivating the device. Geometrical, trigonometrical and mathematical relationships and design parameters are disclosed.

3,518,716  
SELF-CLOSING HINGE  
Robert S. Larson, Loves Park, Ill., assignor to Keystone  
Consolidated Industries, Inc., a corporation of Delaware  
Filed May 24, 1968, Ser. No. 731,894  
Int. Cl. E05f 1/12  
U.S. Cl. 16-189  
6 Claims



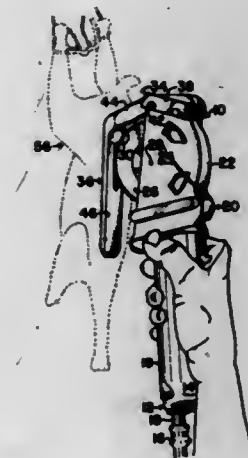
A self-closing hinge adapted to be mounted on a refrigerator or other cabinet and associated door having a bracket secured to the cabinet or other enclosure and a door wing or housing secured to the door and mounted on and rotating on a shaft extending into the housing. A stationary cam member provides a pivot axis for the shaft and is positioned at the lower end of the housing, and a slidable and vertically movable cam member is positioned thereabove to move on the shaft. A compression spring encompasses the shaft and biases the movable cam member downward so that the camming surfaces on the stationary and movable cam members cooperate to return the movable cam member, housing and door to a closed position.

3,518,717  
RIGID TURKEY SHACKLE AND POSITIONING  
DEVICE  
Ralph D. Johnson, Shawnee Mission, Kans., Roger E.  
Walters, St. Louis, Mo., and John A. Hamann,  
Cheverly, Md., assignors to the United States of America  
as represented by the Secretary of Agriculture  
Filed June 13, 1968, Ser. No. 736,793  
Int. Cl. A22c 21/00  
U.S. Cl. 17-11  
6 Claims



Device for use in deboning and dismembering turkey carcasses which conveys the carcasses to a work station, positions them for convenient cutting, and holds them steady so that the work may be performed quickly, efficiently, and safely.

3,518,718  
METHOD FOR OPENING THE BODY CAVITY OF  
A POULTRY CARCASS  
William A. Barefield, Hall County, near Gainesville, Ga.,  
assignor to J. D. Jewell, Inc., Gainesville, Ga.  
Filed Oct. 28, 1966, Ser. No. 590,388  
Int. Cl. A22c 21/00  
U.S. Cl. 17-52  
4 Claims



A method for opening the body cavity of chickens to allow easy evisceration and inspection and to a hand held and manually manipulated, power driven cutting tool having guide means for insertion in the chicken carcass to facilitate the opening of same without cutting the intestines or otherwise contaminating and to provide access and visibility of the carcass for inspection by making an opening on the back of the poultry carcass and starting a cut from this opening up the back towards the neck to completely sever the backbone without cutting the viscera.



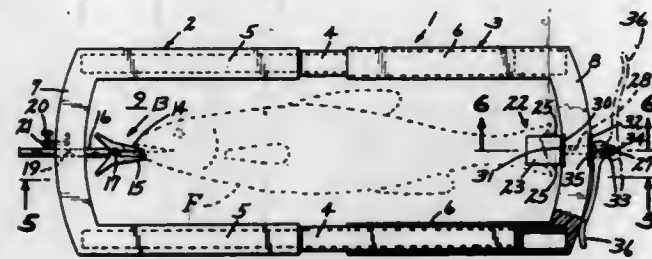
3,518,719

**FISH HOLDING RACK**

Dwight Dean Anderson, 218 W. Broadway,  
Box 759, Lewistown, Mont. 59457  
Filed Oct. 11, 1967, Ser. No. 674,400  
Int. Cl. A22c 25/06

U.S. Cl. 17-70

4 Claims



An elongated generally rectangular frame having generally flat top and bottom surfaces and defining a fish-receiving opening, and fish engaging clamps in said opening adjacent opposite ends of the frame. Means is provided for adjusting the position of one of the clamps longitudinally of the frame, the frame being longitudinally adjustable to accommodate fish of different lengths. One of the clamps is provided with means for opening the jaws thereof, said means and said clamps in their jaw closed positions being disposed wholly between generally flat planes defined by the top and bottom surfaces of the frame.

3,518,720

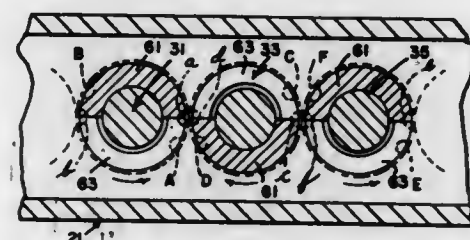
**APPARATUS FOR MAKING NET-LIKE STRUCTURES**

Theodore H. Fairbanks, West Chester, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Jan. 31, 1968, Ser. No. 702,048  
Int. Cl. D02g 1/20; D01d 3/00

U.S. Cl. 18-8

6 Claims



Manufacture of net-like structures in which two series of extruded spaced streams are moved in opposite directions along separate serpentine paths which periodically intersect with each other, with the extruded streams being set either before or after they have contacted with each other.

3,518,721

**SCREW EXTRUDER FOR REPROCESSING THERMOPLASTICS**

Vasily Alexandrovich Rukas, Ul. Putny 13, kv. 54; Eduard Stanislavovich Klenovskiy, Ul. Malaya Vidurine 20; Rimgaudas-Pranas Pranovich Minalga, Ul. Zholino 2-a, kv. 29, all of Vilnius, U.S.S.R.

Filed Mar. 22, 1967, Ser. No. 625,092  
Claims priority, application U.S.S.R., Mar. 29, 1966, 1,064,524

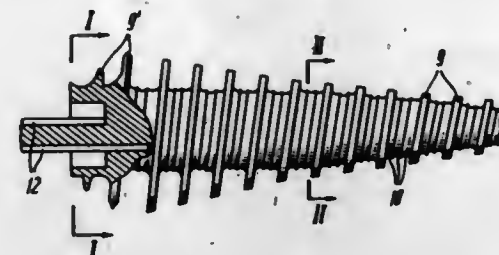
Int. Cl. B29f 3/02

U.S. Cl. 18-12

3 Claims

An extruder for reprocessing waste thermoplastic material, said extruder comprising a screw with a plurality

of blades and a multiple screw thread between said blades. The thread of the multiple screw thread has



a concave, curvilinear cross-section with the concavity directed outwardly.

3,518,722

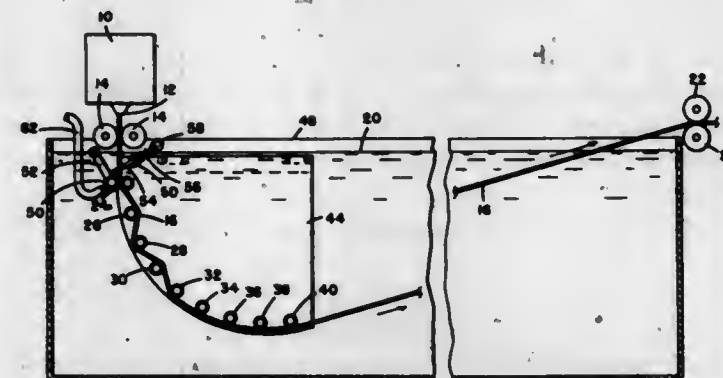
**GUIDE FOR INCOMPLETELY SOLIDIFIED POLYMERIC ARTICLE**

Daniel J. Ryan, Chester, and James L. Discavage, Prospect Park, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Oct. 31, 1967, Ser. No. 679,392  
Int. Cl. B29f 3/00

U.S. Cl. 18-12

5 Claims



A guide for directing a relatively thick, hot and only partially solidified polymeric article through a substantially right-angled turn in a quench bath. The guide basically comprises a plurality of horizontally extending members which are spaced apart and arranged in a circular arc having a vertical tangent and a substantially horizontal tangent. Use of the guide facilitates the making of an article of uniform thickness.

3,518,723

**DIES FOR USE IN MANUFACTURING PELLETS AND TO APPARATUS INCLUDING SUCH DIES**

Maurice Wooding, Norwich, England, assignor to Dreiholz & Company Limited, Dereham, Norfolk, England, a corporation of Great Britain

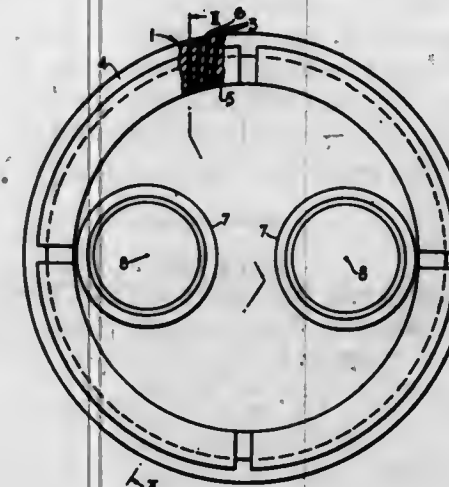
Filed Apr. 24, 1968, Ser. No. 723,745  
Claims priority, application Great Britain, May 5, 1967, 20,933/67; Apr. 3, 1968, 15,937/68  
Int. Cl. B29f 3/04; B29d 1/03

U.S. Cl. 18-12

14 Claims

In the manufacture of pellets of material the material is forced through pellet-forming apertures having walls constituted by polytetrafluoroethylene loaded with a compatible strengthening material in powdered form, or by a material having essential properties similar to such loaded polytetrafluoroethylene. The loaded polytetrafluoroethylene or similar material is protected from the pressure used to force the material through the pellet-forming apertures by a metallic facing which is replaceably secured within the die ring which contains the pellet-forming apertures, and which has apertures corresponding to the pellet-forming apertures, and located so as to

define the inlets to the pellet-forming apertures. The pellet-forming apertures may be apertures in an annular body or, alternatively, the pellet-forming apertures may



be defined by the apertures in plugs of loaded polytetrafluoroethylene or similar material, the plugs being located on a ring former.

3,518,724

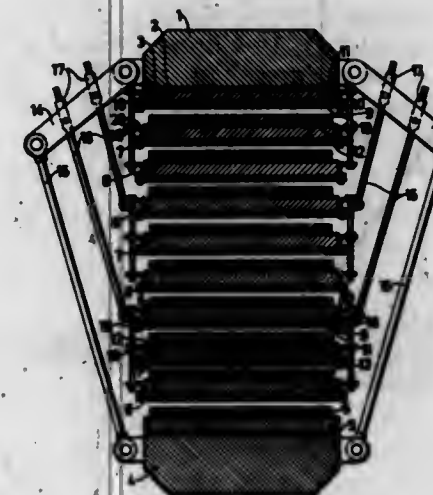
**MEANS FOR CLOSING AND OPENING MULTIPLATEN PRESSES**

Nils Evert Erling Book, Motala, Sweden, assignor to Aktiebolaget Motala Verkstad, Motala, Sweden, a corporation of Sweden

Filed Mar. 15, 1968, Ser. No. 713,352  
Claims priority, application Sweden, Mar. 28, 1967, 4,240/67  
Int. Cl. B30b 7/02

U.S. Cl. 18-16

3 Claims



Apparatus for closing and opening a multistory press having some of the press platens connected to a stationary press table by a direct linkage and other press platens mounted between and connected to the first named platens by support means independent of the direct linkage.

3,518,725

**MACHINE FOR FORMING MULTIPLE CAVITY CONTAINERS FROM THERMOPLASTIC SHEET MATERIAL**

Alfonso M. Donofrio, Toledo, Ohio, assignor, by means assignments, to Craft Master Corporation, Toledo, Ohio, a corporation of Delaware

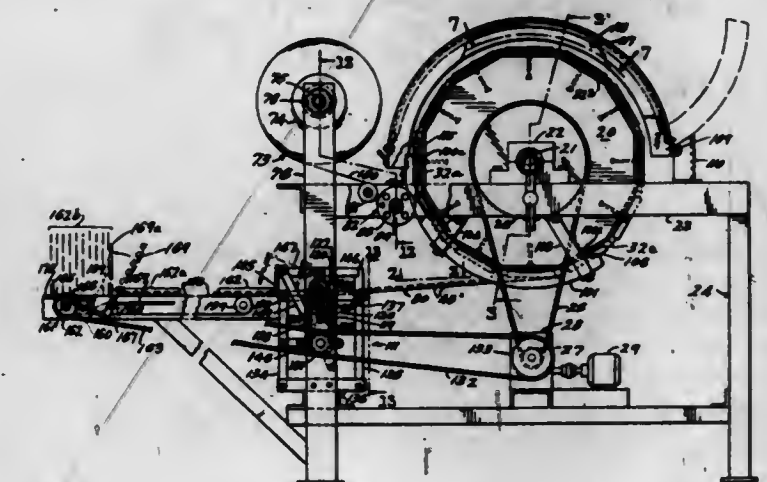
Filed Sept. 13, 1967, Ser. No. 667,550  
Int. Cl. B29c 3/02

U.S. Cl. 18-21

1 Claim

A machine for forming multiple cavity containers from a continuous web of thermoplastic sheet material. The machine comprises a mounting for a supply roll of the

material and a die carrying drum which has a plurality of multiple cavity, pocketed dies mounted in edge to edge adjacency around its periphery. The machine has mechanism for guiding the web of material onto the surfaces of the dies, and each die has clamping means for gripping the margins of the web of material in order to pull it from the supply roll and to maintain its lateral dimension during deformation. Heaters overlie a part of the drum for softening the web of thermoplastic sheet material prior to deformation into the die cavities. Each of the dies is also heated and each has ports and passageways for successively connecting the cavities of the die serially to (1) a compressed air line for holding the sheet off of



the die during heating prior to deformation; (2) a vacuum line for deforming the thermoplastic sheet material into the cavities; and (3) a vent line for releasing the pocketed material from the cavities. An off feeding mechanism pulls the pocketed web off of the dies and away from the periphery of the die carrying drum and through an automatic cutter which cuts off a selected length of the pocketed web to form a multiple cavity container having a desired number of pockets therein. Lids for the multiple cavity containers, with similarly oriented depressed portions of a size proper to fit into the open tops of the pockets in the containers for closing the same may also be formed on the machine by utilizing multiple cavity dies having suitable shallower cavities.

3,518,726

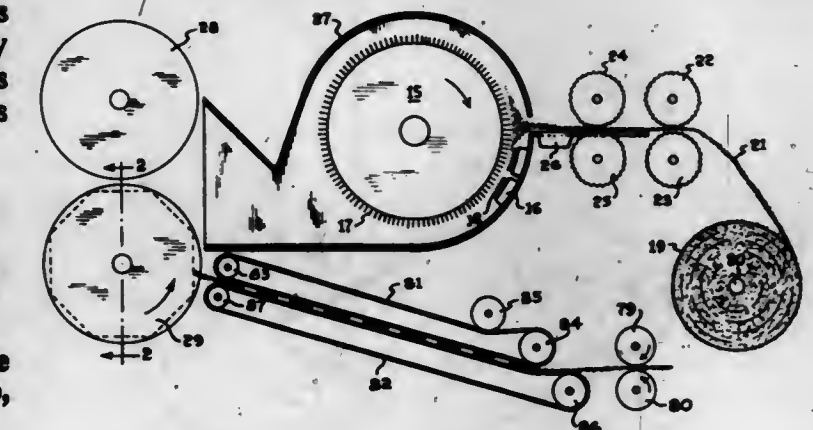
**MACHINE FOR MAKING SANITARY NAPKINS**

Charles T. Banks, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Sept. 15, 1967, Ser. No. 668,058  
Int. Cl. A61l 15/00

U.S. Cl. 19-144.5

4 Claims



A sanitary napkin manufacturing machine comprising a source of fluff and a drum having compartments in its periphery which have perforated bottoms that are connected with a source of suction for accumulating the fluff



within the compartments, a source of compressed and embossed fluff segments mechanically arranged to discharge the segments onto the bottoms of the compartments before the fluff from said source is accumulated in the compartments so as to thereby form internal sanitary napkin pads having the same shape as the compartments and each having one of the compressed segments embedded in the active face thereof.

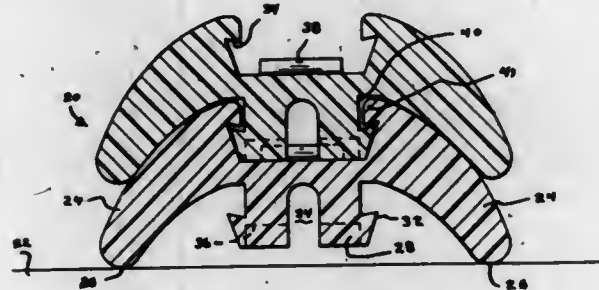
### 3,518,727 BUNDLE TIE

John Elmer Eberle, New Cumberland, and Norman Edwin Hoffman, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Apr. 10, 1968, Ser. No. 720,100  
Int. Cl. B65d 63/00; F16l 3/08, 5/00

U.S. Cl. 24—16

15 Claims



A bundle tie is disclosed and comprises an elongated flexible strap for tying a bundle of cables or the like, the strap having a pair of laterally extending wing members having bearing surfaces for engaging the strap, and co-operable interlocking means disposed between the wing members, the interlocking means being capable of self-engagement when the strap is disposed around a bundle and caused to overlap itself.

### 3,518,728

#### RETAINING APPARATUS

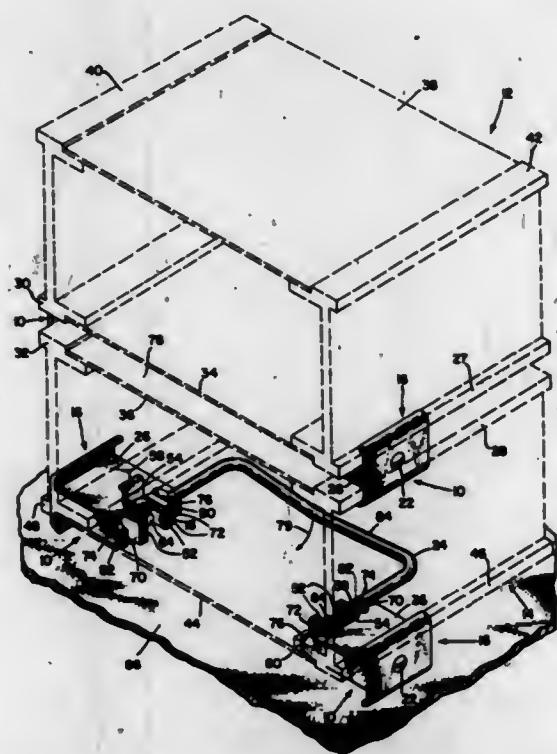
Donald G. Phillips, Anchorage, Alaska, assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Mar. 11, 1968, Ser. No. 712,202

Int. Cl. B65d 21/02

U.S. Cl. 24—81

3 Claims



A retaining apparatus in the form of a mounting foot that can be interchangeably employed between opposite

top and bottom side surfaces of adjacent stacked casings which have bail supporting and releasable casing interlock portions for: (a) retaining a bail in its stowed, non-supporting position under each stacked casing; (b) preventing the stacked casings from separating during shipment; (c) providing an easy way of rapidly mounting and dismounting a selected one or more of the casings from their stacked position and (d) eliminating the need for the usual cumbersome rack structure on which these instruments have heretofore been required to be mounted.

### 3,518,729

#### EYE-SHANK BUTTON ATTACHMENT

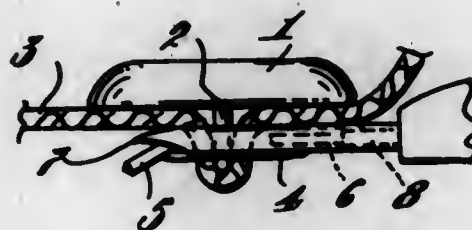
Francis G. Merzer, Framingham, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada

Filed Mar. 28, 1968, Ser. No. 716,784

Int. Cl. A44p 1/18

U.S. Cl. 24—90

3 Claims



The combination of a button having an eye shank, a sheet of material and a fastener comprising a filament looping through the material and eye with heads on the filament seating on the side of the sheet opposite to the button.

### 3,518,730

#### MONOFORM SHOELACE

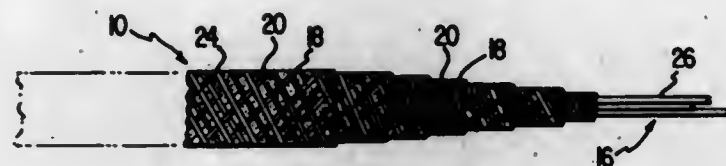
John A. Cupler II, 10 Cupler Drive-LaVale, Cumberland, Md. 21502

Filed Jan. 22, 1968, Ser. No. 699,637

Int. Cl. A43c 9/00

U.S. Cl. 24—143

14 Claims



The disclosure is directed to an improved extensible shoelace that is virtually indestructible in normal usage, does not require a tip and is formed in such a manner that, when knotted, it will not slip and when cut, it will not fray.

### 3,518,731

#### WORK MEMBER POSITIONING STRUCTURE AND COMBINATION THEREOF WITH A CONTAINER

Efrem M. Ostrowsky, Highland Park, and Joseph P. Tunzi, Chicago, Ill., assignors to Nibot Corporation, Chicago, Ill., a corporation of Illinois

Original application June 19, 1968, Ser. No. 738,224, now Patent No. 3,471,054. Divided and this application May 5, 1969, Ser. No. 841,653

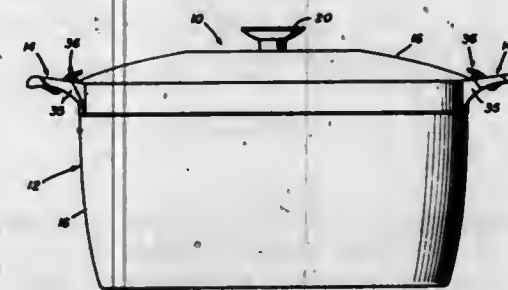
Int. Cl. A44b 21/00

U.S. Cl. 24—248

6 Claims

There is disclosed a work member positioning structure in the form of a clasp cooperating with the cover and body of a container, the work member positioning structure being preferably formed integrally in one-piece of a

suitable plastic such as polypropylene plastic and having two stable positions; the structure comprising first and second spaced-apart opposed support elements carrying therebetween first and second arms hingedly mounted



thereon and to each other and connected by a resilient hinge structure, and a work member hingedly mounted on one of the arms and movable therewith as the hinge structure moves between the two stable positions thereof.

### 3,518,732

#### PIPE FORMING MACHINE WITH ROTATABLE PLATFORM CARRYING ROTATABLE SUPPORTING PLATE

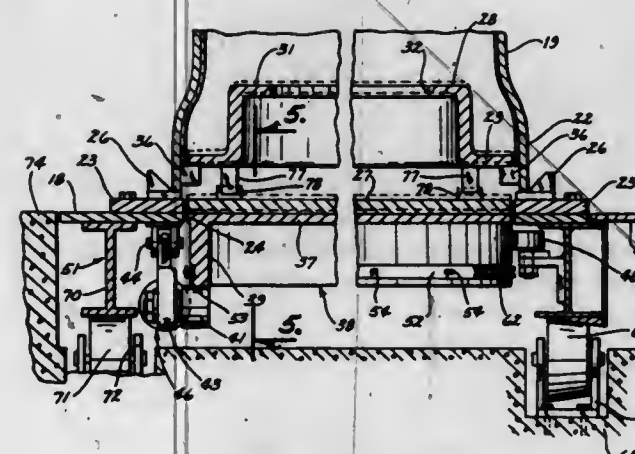
Robert G. Foster, Boone, Iowa, assignor to Quinn Wire & Iron Works Inc., Boone, Iowa, a corporation of Iowa

Filed Dec. 4, 1967, Ser. No. 687,713

Int. Cl. B23g 21/22

U.S. Cl. 2—30

4 Claims



The pipe forming apparatus includes a platform having a circular opening for receiving in an opening-closing relation a rotatable circular plate member that is rotatably supported on rollers mounted from the underside of the platform. A pipe form, carried on the platform in a concentric relation with the opening, has inwardly projected radially extended mountings for supporting a pallet. When the pallet is resting on such mountings, the top surfaces of the platform and plate are in a substantially common plane with the pallet above and releasably engaged in a driven relation with the rotatable plate member. In the initial filling of the form the plate member is rotated and vibrated, to in turn rotate and vibrate the pallet, by structure located below and covered by the platform and plate member. Rotation and vibration of the pallet takes place for a predetermined time period during which the pipe form is filled to approximately the top level of the pallet. Concurrently with such vibration and rotation, the pallet may be lifted from the pipe form mounting to reduce friction and wear therebetween. On drippings or spill, that usually occurs during the pipe forming operation, are readily accessible on the top surface of the platform and plate member for easy and quick removal by a sweeping or shoveling operation.

### 3,518,733

#### STRAND TREATMENT

Robert K. Stanley, Media, Pa., assignor to Techniservice Corporation, Kennett Square, Pa., a corporation of Pennsylvania

Filed Nov. 6, 1967, Ser. No. 680,851

Int. Cl. D02g 1/00

U.S. Cl. 28—1.2

10 Claims



This invention relates to treatment of a bulked or crimped textile strand by means of cocurrent flow of gaseous fluid therealong in a post-treating zone. A flexible conduit is provided to conduct the strand from a bulking or crimping zone to a winding location while maintaining constant length of the strand path through the post-treating zone in which the strand is surrounded by the cocurrent gas flow.

### 3,518,734

#### METHOD FOR THE CONTINUOUS TEXTURIZING OR VOLUMINIZING OF TEXTILE MATERIALS

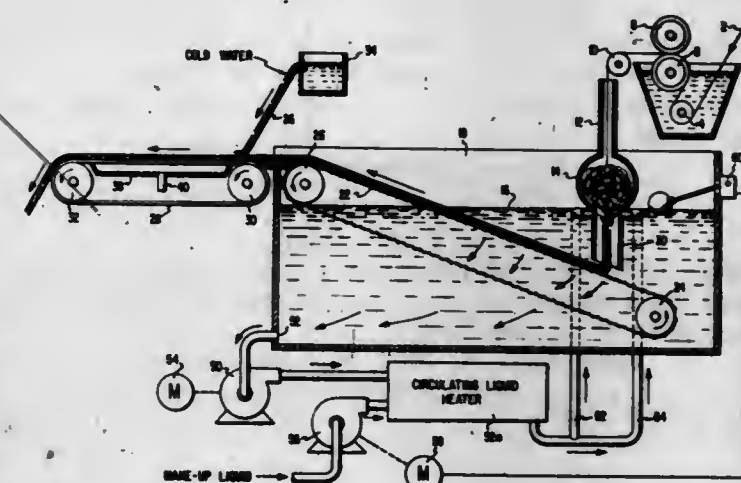
Julius Hermes, 905 Jefferson Circle, Martinsville, Va. 24112

Filed Mar. 6, 1968, Ser. No. 711,057

Int. Cl. D02g 1/00

U.S. Cl. 28—72.1

14 Claims



Textile materials are texturized, voluminized or bulked by contacting same with a relatively low boiling liquid, such as water or alcohol, and then with a hot relatively high boiling liquid. The resulting flashing of the relatively low boiling liquid into vapor separates, entangles, intermingles and intertwines the filaments of the textile material.

### 3,518,735

#### FILE ATTACHMENT FOR SANDERS

Thomas M. Porter, Halliday, N. Dak. 58636

Filed Aug. 22, 1969, Ser. No. 852,249

Int. Cl. B23d 71/00

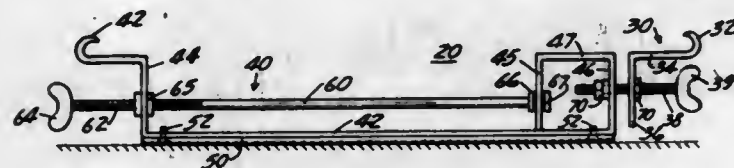
U.S. Cl. 29—78

9 Claims

An improved file attachment for sanders including a two-part clamp adapted to be positioned over the plate



of an oscillating plate of a sander and to mount a file blade thereon. The filing attachment and file blade are



flexible and an adjusting rod will deform the attachment to bow the file blade for varying desired contours.

3,518,736

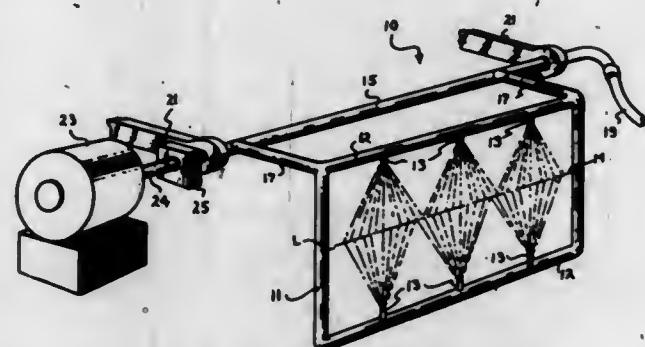
**ROLLING MILL DESCALING DEVICE**

Thomas C. Domeika, Roanoke, Va., assignor to General Electric Company, a corporation of New York  
Filed July 29, 1968, Ser. No. 748,408

Int. Cl. B21c 43/04

U.S. Cl. 29—81

4 Claims



Apparatus for assuring uniform descaling of a strip being processed in a hot strip rolling mill wherein water sprays are directed upon the strip uniformly above and below the strip during rolling operations by nozzles carried in frames positioned around the strip between the respective mill stands, the frames being arranged to retain predetermined uniform positions in respect to the strip by position regulators controlled by the looper control mechanism in accordance with strip variations from the rolling line.

3,518,737

**CUTTING TOOL**

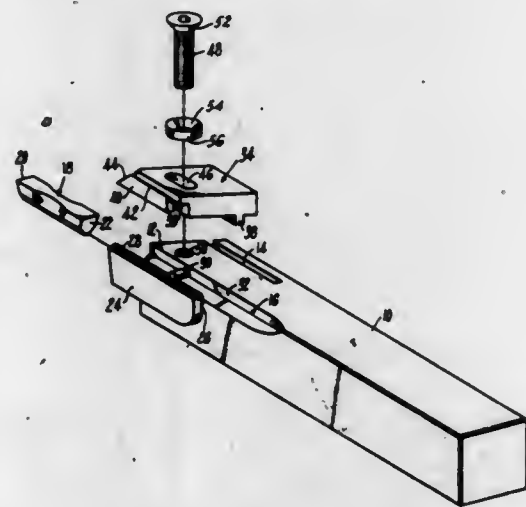
Robert J. Hood, East Hartford, Conn., assignor to Eastern Tool Company, Inc., East Hartford, Conn., a corporation of Connecticut

Filed Aug. 24, 1967, Ser. No. 662,919

Int. Cl. B26d 1/00

U.S. Cl. 29—96

7 Claims



A holder for tools employed to machine workpieces, the holder having a tool supporting member and a chip

breaker which are respectively brazed to the shank and clamp portions of the holder and which are both comprised of a material which is harder than the remainder of the holder. The chip breaker is locked by a set screw and washer which have cooperating inclined faces, the chip breaker being adjustable only longitudinally with respect to the cutting tool, and the cutting tool is positioned against a nonadjustable stop.

3,518,738

**MICROMETER ADJUSTMENT FOR CUTTING TOOLS**

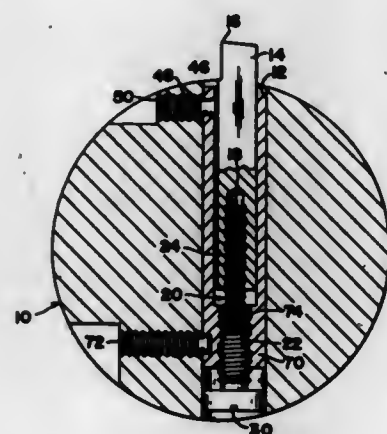
Raymond J. Porter, Panama, New South Wales, Australia, assignor, by mesne assignments, to Gulf + Western Industrial Products Company, Grand Rapids, Mich., a corporation of Delaware

Filed Feb. 6, 1968, Ser. No. 703,338

Int. Cl. B23d 1/00

U.S. Cl. 29—96

2 Claims



There is provided a cutting tool having an adjustable cutting element which is positioned by an adjustment means, wherein the adjustment means includes a shaft having two threaded portions of unequal pitch.

3,518,739

**TRACKING ROLLER**

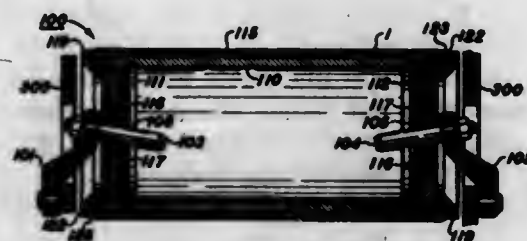
Gordon Charles Butler, Fairport, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed May 29, 1968, Ser. No. 732,940

Int. Cl. F16h 7/18

U.S. Cl. 29—123

12 Claims



A steering roller for automatically tracking a web of material passing thereover including a cylinder supported on a pair of axles, offset from the rollers axis of rotation, by means of spherical bearings. The outer surface of the cylinder carries a pair of resilient bearing flanges which when engaged by an edge of the web material passing thereover displace the cylinder's axis of rotation by moving the cylinder laterally along the axles

and at an angle relative to the web materials path of movement to automatically track the passing web into a predetermined path of movement.

3,518,740

**METHOD FOR INCREASING THE RESISTANCE TO THE FRETTING CORROSION OF THE FRICTION SURFACE OF TWO FERROUS METALLIC MEMBERS**

Jacques Jean Caubet, Saint-Etienne, France, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Torino, Italy, a corporation of Italy

Filed July 6, 1967, Ser. No. 651,569

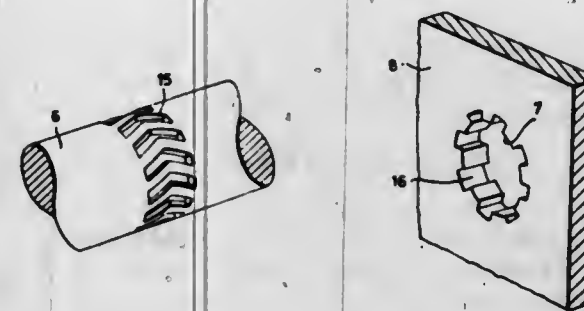
Claims priority, application Italy, July 8, 1966,

16,007/66

Int. Cl. B21d 53/10; B23p 11/00

U.S. Cl. 29—149.5

1 Claim



A method for increasing the resistance to the fretting corrosion of the friction surface of two ferrous metallic members, wherein the friction surface of a first member is coated with a layer of relatively hard metal and is provided with grooves adapted to reduce the time wherein the debris detached from said members remain in the friction area, the surface of the other member being coated with a relatively ductile metal adapted to generate a pad of debris downstream of the friction area.

3,518,741

**METHOD OF MAKING A PISTON WITH RING GROOVE REINFORCEMENTS**

Robert L. Elliott, Cleveland, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio

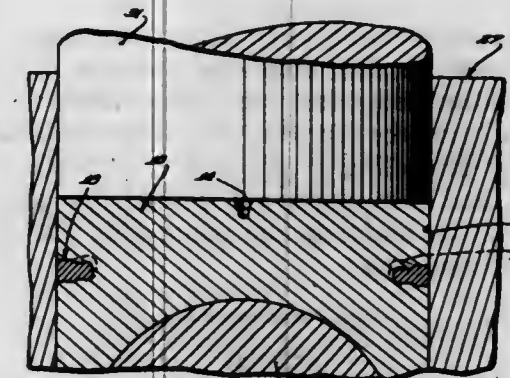
Filed June 28, 1968, Ser. No. 740,931

Int. Cl. B23p 15/10

U.S. Cl. 29—156.5

6 Claims

Method of making an aluminum alloy piston with a



ferrous metal ring insert wherein an aluminum alloy blank is upset forged about the insert ring while the two are at substantially different temperatures, and then the temperature differential between the ring and the blank is substantially decreased, whereupon the forged blank containing the insert is subjected to a final coining operation to secure the ring firmly within the blank.

876 O.G.—2

3,518,742

**CAVITY WALL VALVE BALLS AND A METHOD OF MANUFACTURING THEM**

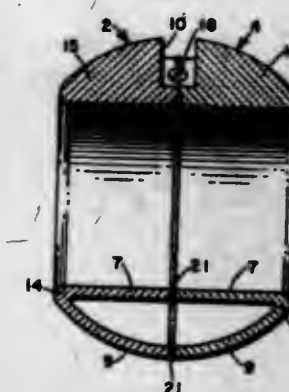
Samuel E. Merrill and Joseph D. Krosoczka, Worcester, Mass., assignors to Sem-Tec, Inc., Worcester, Mass.

Filed Aug. 30, 1967, Ser. No. 664,426

Int. Cl. B21k 21/00

U.S. Cl. 29—157.1

9 Claims



A valve ball with a cavity therein, formed by casting two semi-spherical shell type segments, each having a tubular section therethrough, and bonding the semi-spherical segments together.

3,518,743

**CLAMPING DEVICE FOR SHIFTABLE MACHINE TOOL STRUCTURAL MEMBERS**

Johann Müller, Munich, Germany, assignor to Friedrich Deckel Prazisions Mechanik & Maschinenbau, Munich, Germany, a firm of Germany

Filed July 11, 1968, Ser. No. 744,094

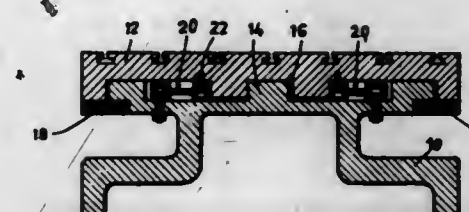
Claims priority, application Austria, July 24, 1967,

A 6,856/67

Int. Cl. B23p 19/04

U.S. Cl. 29—200

9 Claims



An elongated clamping member for a shiftable member such as a work table on a machine tool comprising one longitudinal edge firmly connected to the shiftable member and a second longitudinal edge portion having a T-slot clamping groove connected to the first longitudinal edge by a resilient web portion, whereby upon tightening of bolts stationary with the machine tool and having head portions slidably engaged in the T-slot, the web portion is flexed to provide a friction connection between the second longitudinal edge portion and the machine tool to clamp the shiftable member to the machine tool.

3,518,744

**CAP REJECTOR**

Wilbur N. Boyd, Sunnyside, Wash., assignor to Carnation Company, Los Angeles, Calif., a corporation of Delaware

Filed May 1, 1967, Ser. No. 635,033

Int. Cl. B23p 19/04; B23g 7/10

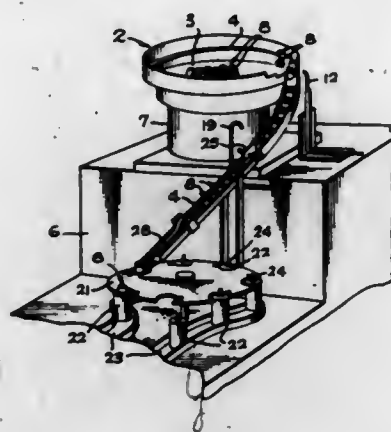
U.S. Cl. 29—208

2 Claims

An apparatus for placing caps on containers having vertically projecting stems is provided which comprises



means for continuously orienting the caps into a position with their open end down, means for continuously moving the caps in succession along a track into a holding means at the termination of the track, pressure release means for holding the first cap in a stationary position



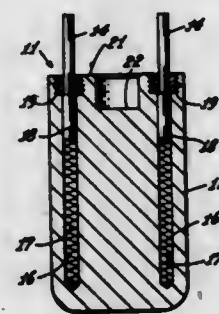
and releasing it under external pressure exerted against the cap, means for moving caps under the stationary caps and into contact therewith so that the stem of the cap exerts an external pressure against the cap and releases it from the holding means on to the vertical stem.

### 3,518,745 INSTALLATION TOOL

J. W. Gray, Norwalk, and Carl T. Hoffman, Palos Verdes Estates, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California  
Filed Dec. 27, 1967, Ser. No. 693,927  
Int. Cl. B25b 27/14

U.S. Cl. 29—271

2 Claims



A tool facilitating the installation of nut-plates and the like in which one or more rivets, bolts or the like are utilized to effect the installation. The tool includes a body portion and one or more pins, the latter being resiliently mounted in the body portion and normally have a projecting relation with respect to a face of the body portion. The face and projecting pins provide means for positioning a nut-plate and other associated components in troublesome, hard to reach, locations. The tool also provides means for locating a nut-plate in previously prepared holes and subsequently facilitates securing the same utilizing blind-type rivets.

### 3,518,746 FILM WINDING AND STAKING METHOD

James E. Hoover, Binghamton, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 30, 1967, Ser. No. 679,052

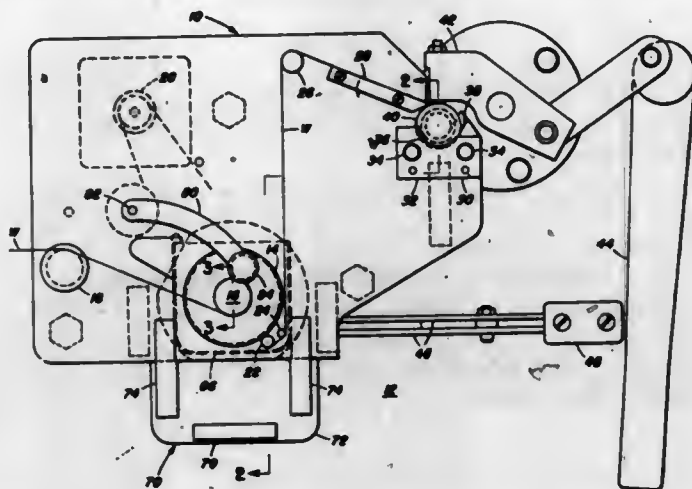
Int. Cl. B23p 21/00; H01f 27/30; G03b 1/56

U.S. Cl. 29—430

2 Claims

This invention relates to a film winding and staking apparatus and method. A continuous segment of film is wound or spooled upon a spindle which is then replaced by a film cartridge body. The trailing end of the film is

staked to a scroll disc or take-up core and then superimposed on the cartridge body. Subsequently, the assembled film and components are conveyed or slid to a pivotable guide plate, which is rotated to an angular inclination to facilitate the enclosure of the film and cartridge components by a film cartridge cover.

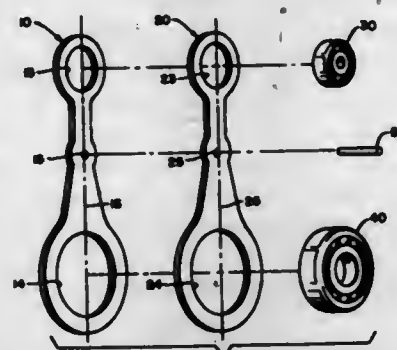


stable guide plate, which is rotated to an angular inclination to facilitate the enclosure of the film and cartridge components by a film cartridge cover.

3,518,747  
METHOD OF MOUNTING BEARINGS  
Francis E. Huntoon, Des Plaines, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware  
Filed Aug. 15, 1967, Ser. No. 660,723  
Int. Cl. B23p 11/02; B21d 53/10

U.S. Cl. 29—446

11 Claims



A method of mounting antifriction bearings in connecting rods including the steps of forming two bearing receiving holes in each of two connecting rod halves, forming a pin receiving hole through each connecting rod half at a point displaced from a line between the centers of the bearing receiving holes therein, positioning the two connecting rod halves one on top of the other with each bearing receiving hole in each half axially aligned with a bearing receiving hole in the other half and with the pin receiving hole in one half axially misaligned with the pin receiving hole in the other half, inserting a bearing into the aligned bearing receiving holes in each of the two halves, distorting the two halves with respect to each other to bring the pin receiving holes into axial alignment thereby imparting a gripping stress upon each of the bearings and inserting a pin through the aligned pin receiving holes to maintain the connecting rod halves in the distorted condition.

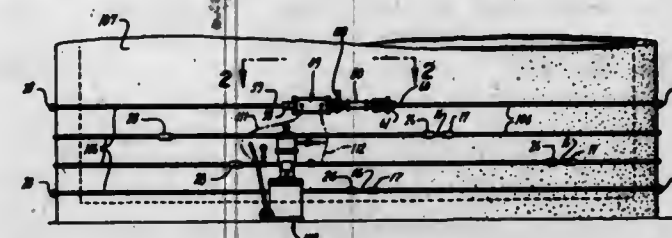
3,518,748  
CONCRETE PRESTRESSING METHOD  
James W. Howlett, Richmond Annex, Calif., assignor to Howlett Machine Works, a corporation of California  
Original application Aug. 16, 1963, Ser. No. 302,628, now Patent No. 3,343,808, dated Sept. 26, 1967. Divided and this application Apr. 12, 1967, Ser. No. 630,288  
Int. Cl. B21d 39/00

U.S. Cl. 29—452

5 Claims

A method of drawing together and tensioning two generally aligned opposed ends of concrete prestressing

tendons and securing these tendons is shown, which method enables very high tension forces to be achieved in the tendons. The method contemplates the use of a cam-acting, radially gripping, coupling member on the end of one tendon and a bar on the end of the other tendon which

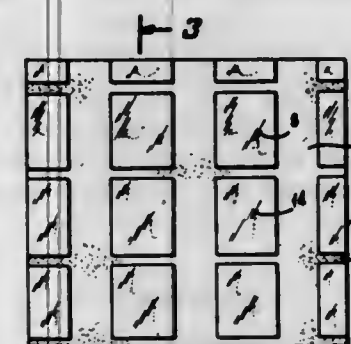


is grippingly engaged by the coupler as the bar is drawn into the coupler and which is held against withdrawal from the coupler. Also set forth are a jacking device and coupler construction suitable for use in the present method as well as method of tensioning tendons for construction of a concrete tank.

3,518,749  
METHOD OF MAKING GUNN-EFFECT DEVICES  
Lowell E. Norton, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware  
Filed Feb. 23, 1968, Ser. No. 707,668  
Int. Cl. H01l 7/24

U.S. Cl. 29—571

1 Claim

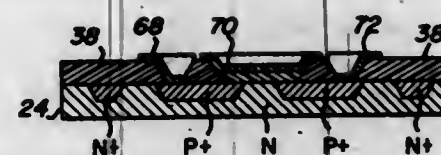


A Gunn-effect diode oscillator comprising a substrate layer of high resistivity semiconductor material, an epitaxial surface layer of a semiconductor such as gallium arsenide, and two closely-spaced electrodes on the surface layer, wherein the electrodes occupy less than the entire width of the epitaxial layer in order to utilize only that part of the layer having an undamaged crystalline structure.

3,518,750  
METHOD OF MANUFACTURING A MISFET  
Kenneth J. Moyle, Los Altos Hills, Calif., assignor to National Semiconductor Corporation, Santa Clara, Calif., a corporation of Delaware  
Filed Oct. 2, 1968, Ser. No. 764,543  
Int. Cl. H01l 1/14

U.S. Cl. 29—571

6 Claims



A novel MISFET and method of manufacture involving a five mask process suitable for making N-channel devices alone, P-channel devices alone or both N and P-channel devices simultaneously. Novel topside contact means, field inversion protection means and gate breakdown protection means are disclosed.

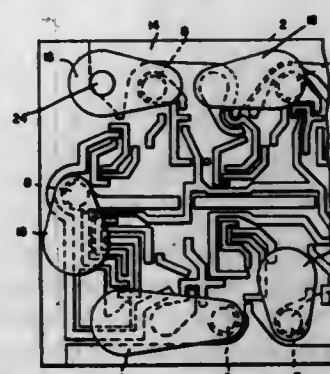
3,518,751  
ELECTRICAL CONNECTION AND/OR MOUNTING ARRAYS FOR INTEGRATED CIRCUIT CHIPS  
Warren P. Waters, Corona del Mar, and Richard J. Belardi, Anaheim, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed May 25, 1967, Ser. No. 641,325

Int. Cl. B01j 17/00; H01l 1/16

U.S. Cl. 29—577

7 Claims

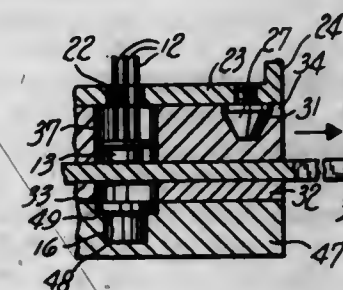


An integrated circuit chip having a first array of fixed connection pads and provided with a second array of connection pads conforming to some predetermined desired pattern different from the pattern of the first array, the connection pads of the second array being electrically connected to respective ones of the first array and electrically insulated from other portions of the circuit chip.

3,518,752  
METHOD OF AND APPARATUS FOR LOADING SEMICONDUCTOR DEVICES  
Forrest G. Lentz, Bethlehem, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York  
Filed July 28, 1967, Ser. No. 656,754  
Int. Cl. B23p 19/04

U.S. Cl. 29—588

7 Claims



An array of transistor headers are loaded into an apertured tray so that paramagnetic leads of the headers extend downwardly, after which a transfer device is clamped to the tray. The tray and transfer device are inverted and positioned over a workholder having a matching array of cans. A shutter is slidably moved within the transfer device to permit the headers to drop through guide apertures in the transfer device and into the cans. An operator moves a magnetic wand over the tray and agitates the leads of the headers to assure the seating of the headers in the cans.

3,518,753  
GLASS ENCAPSULATED SEMICONDUCTOR DEVICES  
Paul J. Heidenreich, Mesa, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois  
Filed Aug. 22, 1967, Ser. No. 662,336  
Int. Cl. H01l 1/10

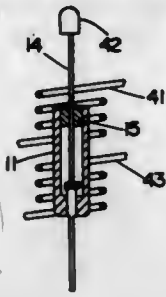
U.S. Cl. 29—588

3 Claims

A glass-encapsulated, small junction semiconductor diode is assembled by a procedure which involves "bump plating" the semiconductor die to provide a gold contact



built up about one mil above the surrounding surface of the semiconductor die. The die is then bonded to the lead terminal within the tubular glass housing of a "first seal" subassembly. A gold plated, beaded lead subassembly is then inserted through the open end of the first seal subassembly whereby the gold plated end of the beaded



lead comes to rest upon the gold bump of the semiconductor die. Finally, in a single heating step, a thermally induced pressure weld of the gold plated electrode to the gold bump is obtained, simultaneously with the fusing of the beaded lead to the glass housing of the first seal, to complete the packaged device.

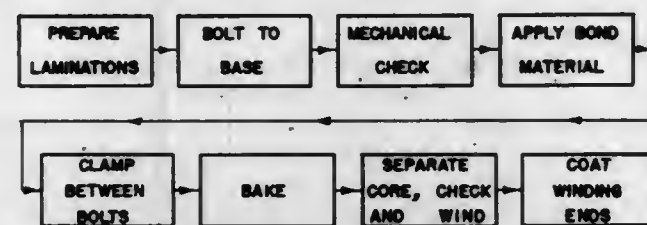
### 3,518,754 METHOD OF MANUFACTURING A MOTOR STATOR ASSEMBLY

Bernard J. Pleiss, Dayton, Gustav J. Goldner, Tipp City, and Frederick H. Storck, Dayton, Ohio, and K. S. Vasan, Latham, N.Y., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York  
Filed Aug. 5, 1966, Ser. No. 570,533

Int. Cl. H02k 15/00

U.S. Cl. 29-596

10 Claims



The present disclosure relates to core bonding a laminated stator core. Laminations of a high degree of flatness are assembled over a suitable arbor and rest on a base. Bolts pass through bolt holes in the laminations and clamp the lamination to the base. Suitable varnish is applied to the outer periphery of the stack. The varnish is then removed from all exposed surfaces by a wiping operation to remove the excess bonding material. The stacked laminations are then further clamped together between the clamping bolts and the assembly is disposed in an oven and baked for a selected period.

### 3,518,755 METHOD OF FORMING ELECTRICAL COILS

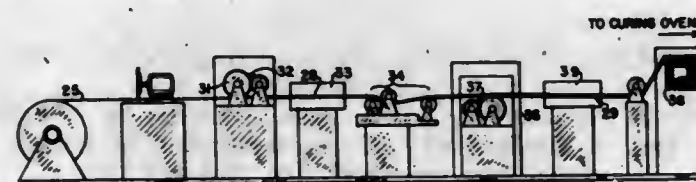
Emil H. Olson, North Muskegon, Mich., assignor to Anaconda Wire and Cable Company, a corporation of Delaware

Filed July 3, 1967, Ser. No. 651,036

Int. Cl. H01f 7/06

U.S. Cl. 29-605

9 Claims



An electrical coil is formed by winding an enamelled strip while the enamel is still wet and tacky, the enamel being cured hard after the coil has been formed.

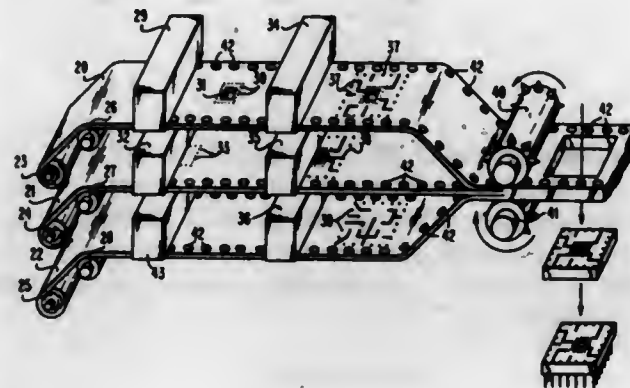
### 3,518,756 FABRICATION OF MULTILEVEL CERAMIC, MICROELECTRONIC STRUCTURES

Marvin Bennett, Poughkeepsie, Warren E. Boyd, Newburgh, and Joseph C. Noble, Cold Spring, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Aug. 22, 1967, Ser. No. 662,444

Int. Cl. B41m 3/08; H05k 3/00

U.S. Cl. 29-625

1 Claim



Multilevel ceramic, microelectronic structures are fabricated by: forming a slip comprising ceramic particles and binder dispersed in a solvent; spreading and leveling the slip into thin films or tapes; punching via holes and cavities at predetermined locations in the tapes; metallizing surfaces of the tapes to form desired circuit patterns, a portion of the metallization being deposited in the via holes; stacking and registering the tapes; and, in one operation, laminating the tapes by the application of very high pressure into a monolithic structure, simultaneously cutting the tapes to a predetermined size and forming terminal holes.

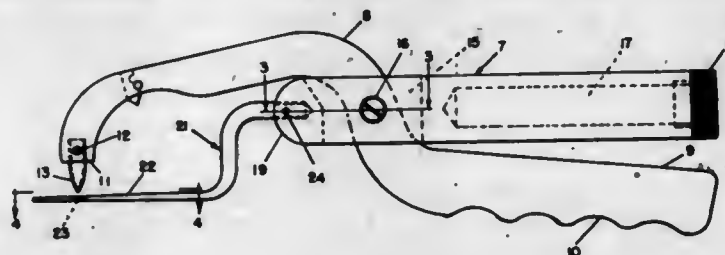
### 3,518,757 CABLE TAB CUTTER

Walter F. Grant, 610 Kentucky St., Bellingham, Wash. 98225  
Filed Dec. 12, 1967, Ser. No. 689,900

Int. Cl. B21f 13/00; B26b 29/00

U.S. Cl. 30-91.1

5 Claims



This invention consists of a tubular body having a cavity in one end thereof in which is placed spare cutting members or other parts of this invention; and a cutting anvil that is Z-shaped when viewed from the side, one end of the cutting anvil being adapted to be screwed into one end of the aforesaid tubular body; and a second Z-shaped member which has one end formed into a pressure handle and the other end terminating in a holder in which the cutting member is removably secured. The second Z-shaped member has its center portion passing through an opening in the aforesaid tubular body to which it is swingably secured by means of a threaded pin having a head on one end thereof.

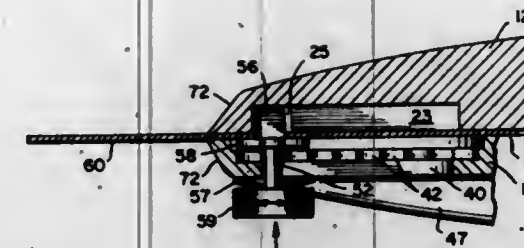
### 3,518,758 UTILITY KNIFE WITH MOVABLE AND ROTATABLE BLADE

Robert A. Bennett, Lot 6, Falmouth Drive, Huntington, Conn. 06484  
Filed Oct. 24, 1967, Ser. No. 677,530

Int. Cl. B26b 1/00

U.S. Cl. 30-154

8 Claims



A utility knife having a blade which is movable from a position entirely within the knife handle to one with an exposed cutting edge in a series of steps and in which a locking arrangement is provided which permits the blade to be turned to a scraping position and also to expose another portion of the blade for cutting without disassembling the knife handle.

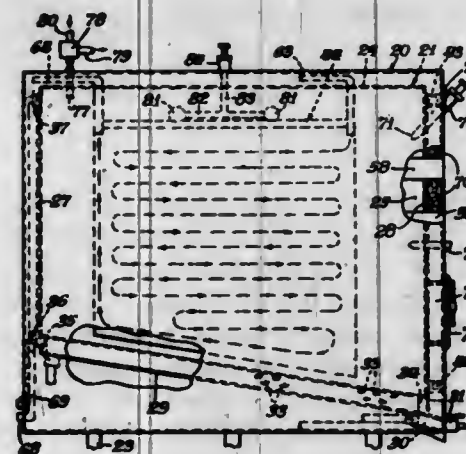
### 3,518,759 ATTEMPERING AND FINISHING UNIT FOR CULTURED SOUR CREAM

Norman J. Peters, Fond du Lac, Wis., assignor, by mesne assignments, to Dairy Equipment Company, Madison, Wis., a corporation of Wisconsin  
Filed Oct. 1, 1965, Ser. No. 492,112

Int. Cl. A01j 13/00

U.S. Cl. 31-2

18 Claims



An apparatus for processing cultured cream comprising a tank having two opposed side walls and two opposed end walls connected along their upper edges by a top wall and connected along their bottom edges by a bottom wall. Each wall is composed of a flat inner wall section and an outer wall section having a plurality of protuberances which are engaged with the outer surface of the inner wall section. The protuberances space the outer wall section from the inner wall section and provide passages for the circulation of an tempering medium. An tempering element composed of two spaced parallel sheets is located within the tank and spaced from the walls of the tank. The spaces between the sheets of the tempering element serve as passageways for the circulation of an tempering medium.

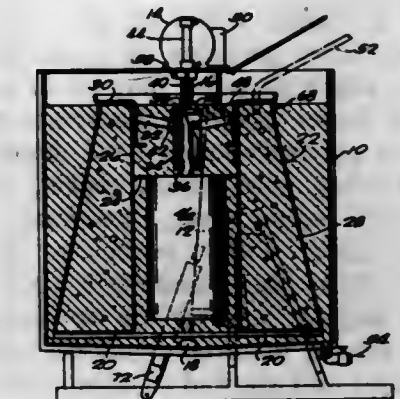
### 3,518,760 CHEESE CHEDDARING APPARATUS AND METHOD

Dayle D. Winnie, Kiel, Wis., assignor to Stocking Brothers Company, Kiel, Wis., a corporation of Wisconsin  
Filed Aug. 1, 1968, Ser. No. 749,365

Int. Cl. A01j 25/00

U.S. Cl. 31-46

9 Claims



Prepared whey and curd are transferred to the cheddaring machine to place the curd in the perforate downwardly diverging annular screen enclosure within the vat (FIG. 1). The screen is rotated and a mixer keeps the curd moving upwardly to obtain uniform dispersion of the curd and facilitate removal of air and gases. After filling the mixer is removed and whey drained while rotation continues at a slower rate. The vat is tilted (FIG. 2) so the now-knitting curd is manipulated to aid whey expulsion and work the cheese as required in cheddaring. Tilting to the FIG. 3 position compresses the curd previously on the upper surface and knits the curd while the converging annulus further compresses and works the curd. Finally (FIG. 4) the ring closure is pulled back and a knife fixed across the opening to cut the curd as it moves down and out. By reason of the rotation of the screen the curd comes out in a continuous ribbon for conveyance to further process stations.

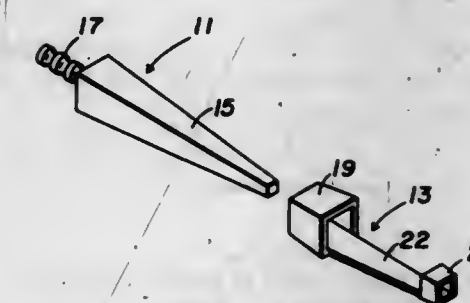
### 3,518,761 PIN AND SLEEVE COMBINATION TO SUPPORT DIES IN DENTISTRY

Harry Susman and Jon E. Susman, both of 6439 Prestonshire, Dallas, Tex. 75225  
Filed Sept. 28, 1967, Ser. No. 671,450

Int. Cl. A61c 13/00

U.S. Cl. 32-11

12 Claims



A pin and a sleeve that only partially surrounds it in supporting engagement are used in conjunction with a stone die and model. The pin has a rod portion which extends into the die, with the pin base or shank extending outwardly from the die. The sleeve is set in the stone base of the model and is adapted to receive the shank of the pin in order to support the removable die. The sleeve is well supported in the stone since it has portions disposed to resist axial displacement with respect to the stone.



### 3,518,762 SEALING MATERIALS USEFUL IN DENTAL PRACTICE

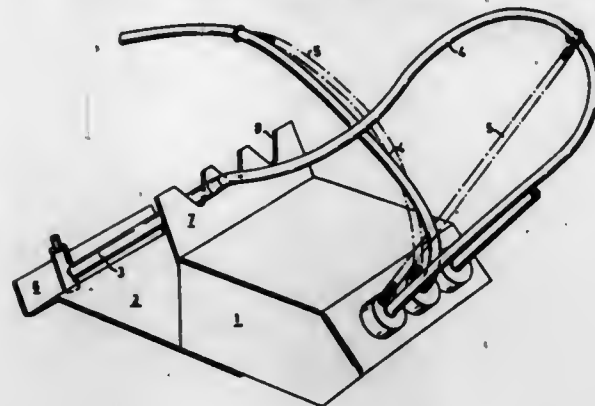
Mitsuharu Takeuchi, 26-19 2-chome, Ichikawa,  
Ichikawa-shi, Chiba-ken, Japan  
No Drawing. Filed Oct. 25, 1966, Ser. No. 589,211  
Int. Cl. A61k 5/02

U.S. Cl. 32-15

2 Claims

Tooth filling material useful for sealing cracks, fissures and cavities consists of monomeric lower alkyl  $\alpha$ -cyanoacrylate, such as ethyl  $\alpha$ -cyanoacrylate monomer, which is applied to the tooth followed by a second material comprising microfine particles of a dentally acceptable solid material, which particles may be in admixture with or coated with lower alkyl methacrylate polymer, such as methacrylate polymer powder, the dentally acceptable solid material being gold, silver, nickel, tin, aluminum, platinum, indium, copper, iron, chromium, stainless steel, brass, indium-silver alloy, porcelain or fibrous or powdery glass. After the monomeric alkyl  $\alpha$ -cyanoacrylate is applied and spread over the openings in the tooth structure, the second material is added and pressed into the pits or fissures and allowed to cure in situ.

readiness for use. Each tube or cable leading from the housing to a tool is suspended in and supported by an individual resilient element, the elements being adapted



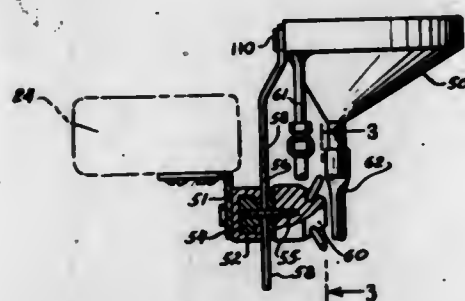
to compensate the weight of the tube or cable and also to maintain the tool substantially unaffected by horizontal forces in use.

### 3,518,763 SUPPORT FOR DENTAL ACCESSORIES

Charles M. Weiss and David Harold Linn, New York, N.Y., assignors, by mesne assignments, to Pennwalt Corporation, a corporation of Pennsylvania  
Continuation of application Ser. No. 309,232, Sept. 16, 1963, now Patent No. 3,302,290, dated Feb. 7, 1967.  
This application Feb. 6, 1967, Ser. No. 614,286  
Int. Cl. A61c 19/02

U.S. Cl. 32-22

8 Claims



A dental unit and support means for dental instruments and accessories providing for convertibility of the dental unit when using traditional techniques or the recent innovation of time-motion techniques. Hand pieces, syringes, vacuum nozzles, aspirators, and the like, are provided with holders being separately adjustable so that the dentist can arrange the various instruments into the most preferred arrangements and locations.

### 3,518,764 DENTAL UNIT WITH RESILIENTLY SUPPORTED TOOLS

Sven Vilhelm Emanuel Lundin, Satravagen 25,  
Saltsjobaden, Sweden  
Filed Oct. 9, 1967, Ser. No. 673,809  
Claims priority, application Sweden, Oct. 11, 1966,  
13,765/66  
Int. Cl. A61c 19/02

U.S. Cl. 32-22

6 Claims

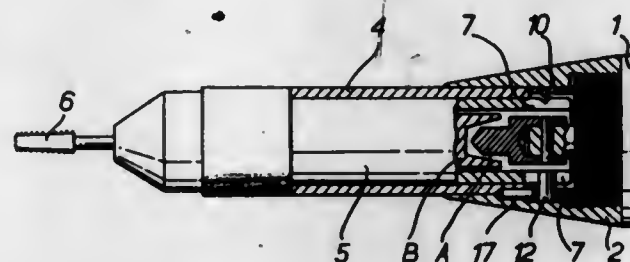
In a holder unit having a box-like housing through which tubes or cables connected to tools are conveyed, free-standing resilient elements in the form of coil springs are provided, for holding or supporting these tools in

### 3,518,765 DENTAL HANDPIECE

Kazuo Hayashi, 376 Higomachi, Fushimi-ku,  
Kyoto, Japan  
Filed Sept. 15, 1967, Ser. No. 668,313  
Claims priority, application Japan, June 26, 1967,  
42/40,865  
Int. Cl. A61c 1/08

U.S. Cl. 32-26

4 Claims



A dental handpiece having means to change dental tools such as drills quickly and easily. The handpiece comprises a hollow cylindrical body and a tubular member releasably connected to the body. The body has a portion of its bore eccentric with respect to the outer circumferential surface of the tubular member. A collar is rotatably disposed within the eccentric bore portion and carries an inner circumferential surface concentric with the tubular member. The collar is constructed and arranged so that relative rotation between the cylindrical body and the first tubular member causes the collar to securely but releasably fasten the tubular member to the interior of the cylindrical body. Relative rotation in the opposite direction releases the collar permitting separation of the body and tubular member.

### 3,518,766 PIEZOELECTRIC CLEANING DEVICE WITH REMOVABLE WORKPIECE

Emanuel Burt, 2714 SW. 36th Ave.,  
Miami, Fla. 33135  
Filed Jan. 30, 1969, Ser. No. 795,239  
Int. Cl. A61c 3/06

U.S. Cl. 32-58

6 Claims

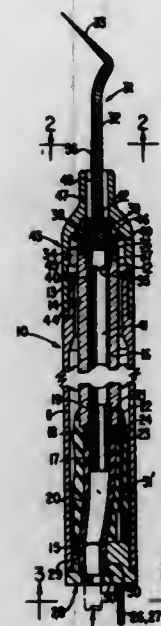
A piezoelectric dental cleaning device comprising a tubular piezoelectric crystal centrally supported within a

### 3,518,768 TRY SQUARES

Andre Quenot, Besancon, Doubs, France, assignor to  
Quenot & Cie S.a.r.l., Besancon, Doubs, France, a com-  
pany of France  
Continuation of application Ser. No. 667,177, Sept. 12,  
1967. This application May 20, 1969, Ser. No. 827,124  
Claims priority, application France, Dec. 6, 1966,  
86,345  
Int. Cl. B43I 7/00

U.S. Cl. 33-112

12 Claims



A try square having a stock and a blade. The stock comprises a drawn metallic section having a cross sectional shape forming opposite channels with the blade disposed at one end of the stock at an angle thereto. Two inserts are received respectively in the channels and have end portions embracing a portion of the blade received between them. The inserts are secured in the channels and are secured to the blade.

of said crystal and means for delivering coolant through said crystal and directing it outwardly along the tip to a region adjacent the working end of the tip to flush debris loosened by ultrasonic vibration of said working end of said tip.

### 3,518,767 ENGRAVING MACHINE HAVING A GIMBALED COPYING PENCIL

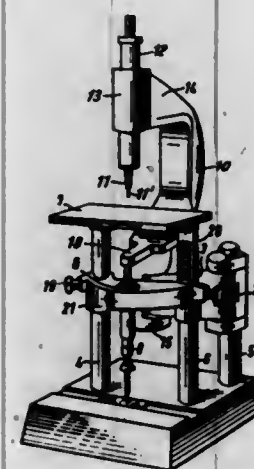
Christian C. Claas, Kornblumenweg 6, Singen,  
Hohentwiel, Germany  
Filed Oct. 23, 1968, Ser. No. 769,852  
Claims priority, application Germany, Oct. 28, 1967,  
1,652,315  
Int. Cl. B43I 13/10

U.S. Cl. 33-24

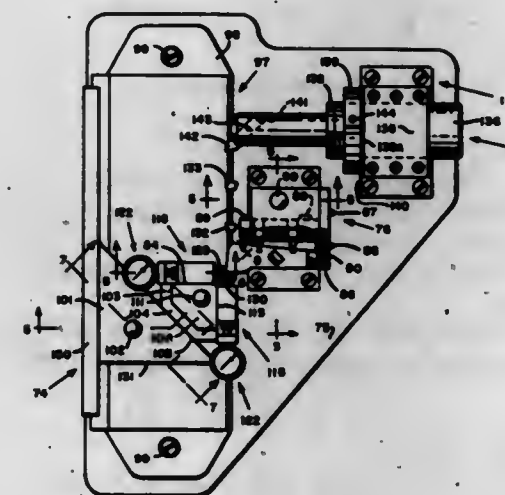
5 Claims U.S. Cl. 33-185

Int. Cl. B27g 23/00

3 Claims



An engraving machine provided with an engraving diamond mounted on an adjustable sheath carried by a tool support which is mounted on a supporting column by means of a pair of fork bearings having an articulated lever therebetween. A crossbeam mounted on two other supporting columns for carrying a copying pencil which is disposed accurately beneath the engraving diamond wherein the copying pencil will follow a stencil or template positioned on a mounting plate.



An apparatus for presetting the location of a cutting tool relative to two adjustable locating surfaces on the tool shank. The apparatus has a pocket with two locating surfaces in contact with which the locating surfaces of the tool can be maintained while two gauges can be simultaneously brought into contact with the cutting tip to indicate the dimensions in directions perpendicular to the locating surfaces. Adjustment of the locating surfaces

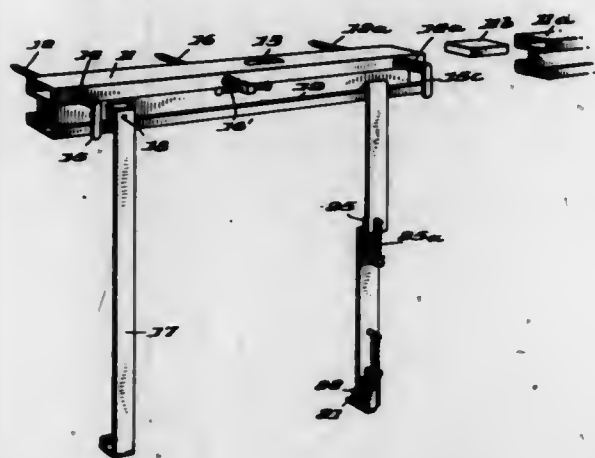


of the cutting tool can be made while it is in the apparatus so that the gauge settings correspond precisely to the settings obtained when a master tool is interchangeably positioned in the apparatus.

**3,518,770**  
**TOOL FOR PLACING SIDING ON A BUILDING**  
Robert L. Cromleigh, 130 High St.,  
Duncannon, Pa. 17020  
Filed July 16, 1968, Ser. No. 745,220  
Int. Cl. G01b 3/30

U.S. Cl. 33—187

5 Claims



A tool to start the placing of metal siding on a building to make sure that the starting strip and the first strips of siding are perfectly horizontal comprising at least one elongated support with quick fastening means to secure it to the building wall, a leveling bubble for quick adjustment to its horizontal position, and movable hook elements to hold the starting strips in selected horizontal position until secured in place and to subsequently hold the first strips of siding until secured in place. It is usual in applying metal siding to a building to stretch a line along the side of the building using a line level hooked on the line to determine when the line is level. The line, even when securely held at its ends is subject to deflection and it is difficult to place the starting strip, which is flexible to a degree, in exact horizontal position as even a slight sag of the line or of the strip will spoil the accuracy with which the strip is positioned.

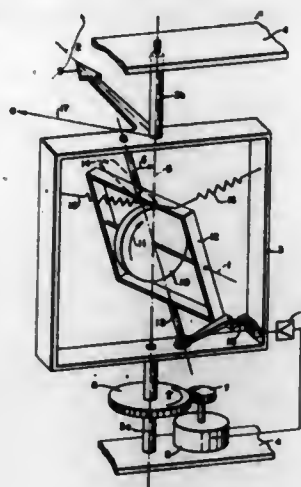
**3,518,771**  
**NORTH-SEEKING GYROSCOPE**  
Peter Schultz, Heidelberg, and Werner Auer, Heidelberg-Wieblingen, Germany, assignors to Teldix Luftfahrt-Ansrtungs G.m.b.H., Heidelberg-Wieblingen, Germany  
Filed July 18, 1967, Ser. No. 654,248  
Claims priority, application Germany, July 22, 1966, T 31,655  
Int. Cl. G10c 19/38

U.S. Cl. 33—226

8 Claims

A north-seeking gyro including a frame member journaled within a housing for rotation about a first axis, a gimbal member journaled within the frame member for rotation about a second axis which is co-planar with the first axis and which is inclined at a relatively small angle of inclination thereto, a rotor journaled within the gimbal member for rotation about a third axis which is substantially perpendicular to the second axis, and a servomotor responsive to the angle between the gimbal member and the frame member for rotating the frame member with regard to the housing to compensate for changes in the relative position of the gimbal member and the frame

member. In its rest position, the axis of the rotor is preferably perpendicular to the plane defined by the first and second axes, and the angle between the second axis and

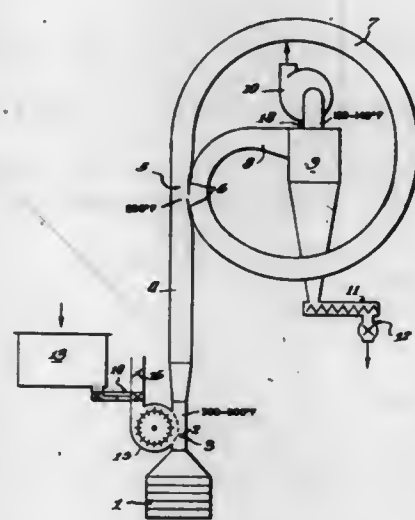


the first axis as measured from the second axis to the first axis extends in the same direction as the direction of rotation of the rotor.

**3,518,772**  
**APPARATUS FOR DRYING FINELY DIVIDED HEAT SENSITIVE PARTICLES**  
Peter Joachim Barr, London, England, assignor to Barr & Murphy Ltd., London, England, a British corporation  
Filed Sept. 30, 1968, Ser. No. 763,697  
Int. Cl. F26b 3/10

U.S. Cl. 34—10

5 Claims



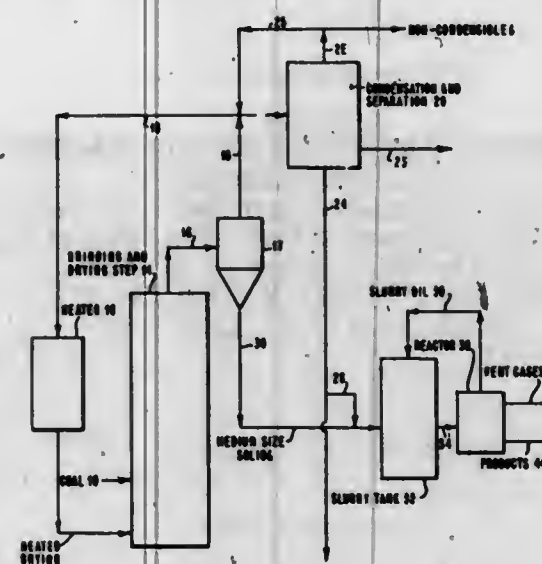
A flash dryer arrangement is disclosed for handling finely divided materials such as starch and includes a main drying duct having a hot stream of gas flowing therethrough, the duct having a particle entry region defined by a venturi throat section serving to accelerate the hot stream of gas, a main section in which entrained particles are dried in part, while carried in the stream, and a ring section curving back to merge with the main section at a recycle point where the heavier moist particles separate from the lighter dried particles, the ring section finally leading to a cyclone separator.

The particle entry region has a perforate duct wall constituting a portion of the venturi section. A paddle wheel conveys the moist agglomerate material to the perforate wall and simultaneously rubs it through the perforate wall, to provide finely divided particles that are immediately and directly contacted by the hot stream of gas to be distributed, entrained and carried in the stream in a state of fine division so that a maximum of surface area is exposed.

**3,518,773**  
**SOLIDS DRYING PROCESS**  
Edwin S. Johnson, Princeton, N.J., assignor to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey  
Filed Feb. 29, 1968, Ser. No. 709,468  
Int. Cl. F27b 5/00

U.S. Cl. 34—26

9 Claims

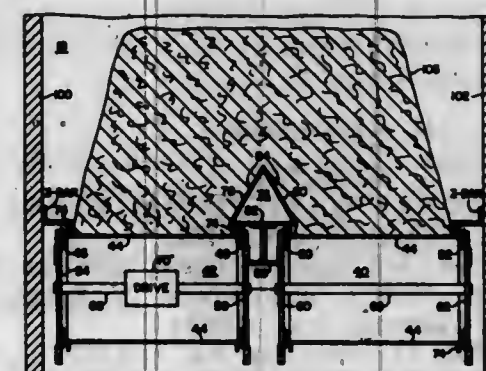


A process for removing moisture from a fine particulate solid material by contacting a drying gas with the particulate material. The use of a readily condensable gas for the drying gas is disclosed with subsequent condensing of the gas after the contacting step, whereby the fines contained in said gas may be recovered from the condensate.

**3,518,774**  
**AERATING ARRANGEMENT AND METHOD FOR REFUSE DIGESTER**  
Leon G. Reimer, Buffalo, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Oct. 17, 1968, Ser. No. 768,457  
Int. Cl. F26b 17/04

U.S. Cl. 34—33

11 Claims



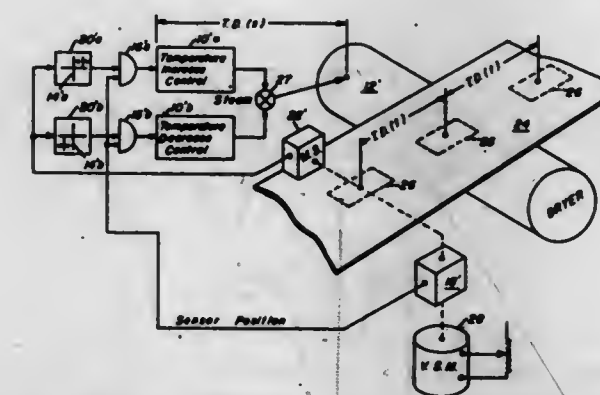
There is described a refuse processing system having an aerobic digester arrangement wherein a plurality of parallel laterally spaced horizontal endless conveyors slowly carry comminute refuse material during the digestion process. Between each set of adjacent conveyors is a perforate duct extending lengthwise of the conveyors and having longitudinally spaced holes located above the conveyor plane. Means is provided for supplying forced air to the duct or ducts as the case may be. In normal operation the conveyors are charged or loaded with comminute refuse material to a level above the holes in the

duct or ducts so that as the refuse material is moved along by the conveyors, the material is continuously aerated by the forced air in the duct or ducts escaping through the holes therein.

**3,518,775**  
**MOISTURE CONTROL SYSTEM**  
Edward C. Bartles and Raymond A. Frahm, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
Filed Nov. 25, 1968, Ser. No. 778,395  
Int. Cl. F26b 19/00

U.S. Cl. 34—48

6 Claims

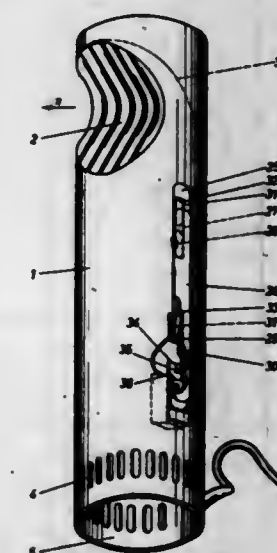


A moisture control system for use in papermaking is disclosed as employing a traversing moisture sensor, the traversal time of which is made compatible with the thermal time constant of a dryer stage for such paper.

**3,518,776**  
**BLOWER, PARTICULARLY FOR HAIR-DRYING, LAUNDRY-DRYING OR THE LIKE**  
Joachim Wolff, Hilden, Fritz Krüger, Dussel Post Dornap, Jürgen Göpfert, Solingen auf de Höhe, and Heinz Seitel, Solingen-Ohligs, Germany, assignors to Dremabey & Co., Solingen-Ohligs, Germany, a corporation of Germany  
Filed June 3, 1968, Ser. No. 733,918  
Claims priority, application Germany, June 3, 1967, 1,585,589; May 22, 1968, 1,703,452; July 14, 1967, 1,557,256, B 93,484; Apr. 25, 1968, 1,757,323  
Int. Cl. A45d 20/04

U.S. Cl. 34—97

20 Claims



A blower, particularly for hair drying, laundry drying or the like, which comprises a tubular housing serving simultaneously as an arm and having a foot formation supporting the housing. Electrical auxiliary means are disposed in the housing and the latter has at its forward end a radially directed blowout opening and at its rear



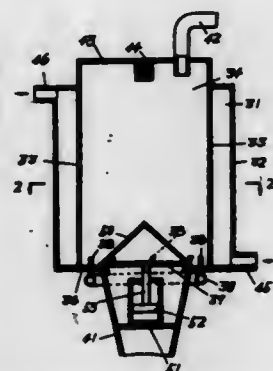
end an axially directed air suction opening. The electrical auxiliary means include a blower motor and the foot formation has a carrier bushing. The latter leaves free air entrance openings provided therein in an extension of the axial direction of the housing.

### 3,518,777 HEAT EXCHANGE APPARATUS FOR FLUIDIZING PARTICULATE MATERIAL

Motomi Kono, 627 2-chome, Nishichinoe, Edogawa-ku, Tokyo, Japan  
Filed Jan. 29, 1968, Ser. No. 701,315  
Int. Cl. F26b 17/10

U.S. Cl. 34-57

1 Claim



A double walled vessel closed at the top and bottom has a space between the walls for circulating a heat exchange method. The pulverous or particulate material which is to be heated, cooled, or dried, is introduced into the inner chamber and caused to circulate therein by means of a gaseous fluid causing such material to be spiraled against the inner wall to be subject to the heat exchange method. A filter is provided in the top to permit escape of the gaseous fluid without allowing escape of the particulate material.

### 3,518,778 APPARATUS FOR IMPROVING HEAT EXCHANGE BETWEEN A GASEOUS CARRIER MEDIUM AND SOLIDS SUSPENDED THEREIN

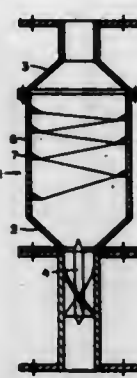
Walter Gresch, Muttens, Switzerland; assignor to Buss Aktiengesellschaft, Basel, Switzerland, a corporation of Switzerland

Filed Jan. 18, 1968, Ser. No. 702,496  
Claims priority, application Germany, Jan. 24, 1968, 90,861

Int. Cl. F26b 17/10

U.S. Cl. 34-57

4 Claims



Apparatus for heat exchange between a gaseous carrier medium flowing in a duct and solids suspended therein which comprises means for artificially increasing the relative velocity between the solids and the gaseous medium at least at one point in the duct in which the gaseous carrier medium and the solids flow, and a decelerating and re-accelerating means in said duct for artificially increasing the relative velocity between said gaseous carrier medium and said solids at least at one point. The

decelerating and re-accelerating means includes an open-ended chamber having a diameter larger than that of the duct into which it is installed, said chamber having a coned inlet which decelerates the flow of carrier medium due to expansion of the diameter of flow and a coned outlet which re-accelerates the flow due to contraction of the diameter of flow at the point where the carrier medium leaves the expanded diameter to return to the duct system. Braking and deflecting devices may be provided in the chamber and swirling devices may be installed in the duct upstream of the chamber inlet.

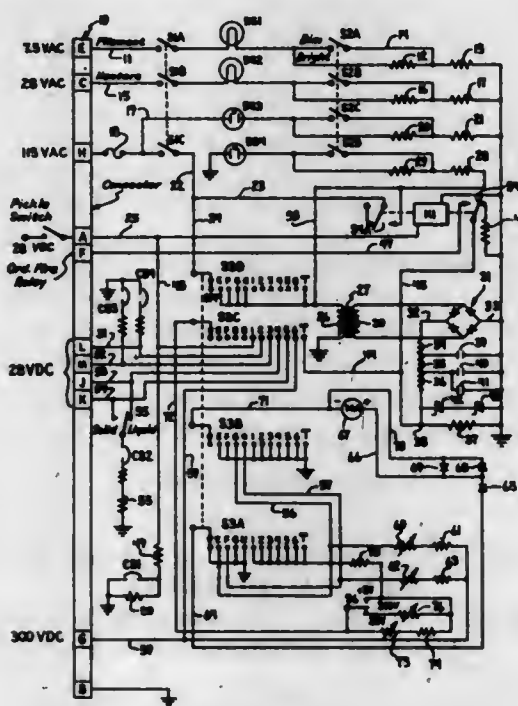
### 3,518,779 CHECKOUT EQUIPMENT FOR MISSILE CARRYING AIRCRAFT

Lawrence D. Cox, Lemoore, and Robert T. Price, Santa Susana, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Dec. 19, 1967, Ser. No. 691,831  
Int. Cl. G01r 15/12; G09b 9/08

U.S. Cl. 35-12

6 Claims



A circuit component portable unit for connecting to a launcher plug-in having loaded circuits, switches, and voltage sources simulating the loads and self-contained voltages in a missile for which this check is made and switchable in the sequence of loads and voltages applied for the missile intended thereby checking all launcher circuits under actual load conditions.

### 3,518,780 LONGITUDINAL WAVE PROPAGATION DEMONSTRATORS

Kenneth C. Stewart, 344 Bellwack Drive, McGraw Hills, Bridgeville, Pa. 15017, and Ernest J. Burgi, Box 291-A, R.D. 2, Cheswick, Pa. 15024

Filed Mar. 27, 1968, Ser. No. 716,553

Int. Cl. G09b 23/06

U.S. Cl. 35-19

6 Claims

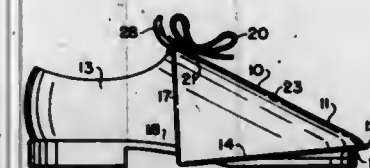


A longitudinal wave propagation demonstrator is provided with a multiplicity of like masses movably mounted on guide means and connected by like resilient members and a reciprocating drive connected to one of said masses to impart motion thereto.

3,518,781  
SHOE PROTECTOR  
Nicholas De Vito, 9133 Avenue N., Brooklyn, N.Y. 11236  
Filed June 2, 1969, Ser. No. 829,352  
Int. Cl. A43b 13/22

U.S. Cl. 36-72

1 Claim



A shoe protector is shaped like the front portion of a shoe upper and is fixed over the front of a shoe by means of a pair of rearwardly disposed apertures which receive the laces of the shoe therethrough and by means of a tongue fixed to extend rearwardly from the inner side of the shoe protector under the lacing flaps and laces of the shoe, the shoe protector having a rearwardly and downwardly sloping lower edge formed as a drain trench and having a substantially vertical rear edge curled forward to conduct fluid and form a large contact area with the ankle of a wearer.

### 3,518,782 PLACARD HOLDER

Charles H. Long, St. Louis, Mo., assignor to Stout Sign Company, St. Louis, Mo., a corporation of Missouri  
Filed Oct. 2, 1967, Ser. No. 672,366  
Int. Cl. G09f 15/00

U.S. Cl. 40-104.18

5 Claims



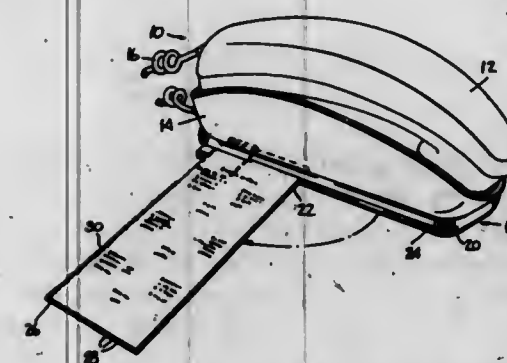
A placard holder having a base plate for disposition upon a load-carrying vehicle, a plurality of placards swingably mounted upon said base plate with the adjacent faces of immediately consecutive placards having inscribed or otherwise provided thereon indicia for informing as to the character of the load, and means for retaining the placards in predetermined relationship.

### 3,518,783 TELEPHONE INDEX HOUSING ARRANGEMENTS

James P. Foley, 748 Forest Ave., Larchmont, N.Y. 10538  
Filed Apr. 25, 1968, Ser. No. 724,046  
Int. Cl. G09f 3/00

U.S. Cl. 40-336

8 Claims



Telephone index arrangements wherein a plastic housing is configured to clip onto the underside of a telephone

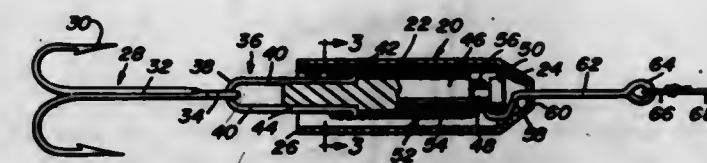
interiorly of the telephone cover and to provide a readily accessible index. The index is pivotally mounted inside a channel in the plastic housing.

3,518,784  
LURE WITH FISHHOOK RELEASING DEVICE  
Edward A. Kling, 2279 Southwood St., and Norman H. Moss, 2680 Bellevue Road, both of Muskegon, Mich. 49441

Filed July 1, 1968, Ser. No. 741,544  
Int. Cl. A01k 91/04

U.S. Cl. 43-43.12

5 Claims

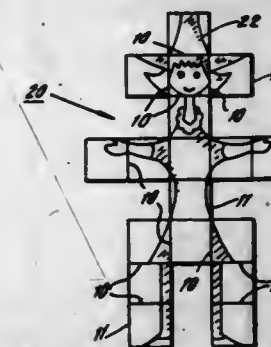


An artificial lure having an axial member at its leading end to which a fishing line is connected. Generically, the lure body, preferably an elongate shell, permits a conventional multiple-prong fishhook to be releasably joined to its rearward end. Variable means, embodied in the six forms of the invention shown, is characterized by pull responsive means which allows the fishhook to release itself so that the angler can recover a snagged lure.

3,518,785  
FOLDING TOY  
Marion R. Behr, 24 Fishel Road, Edison, N.J. 08817  
Filed July 1, 1968, Ser. No. 741,803  
Int. Cl. A63h 33/00

U.S. Cl. 46-1

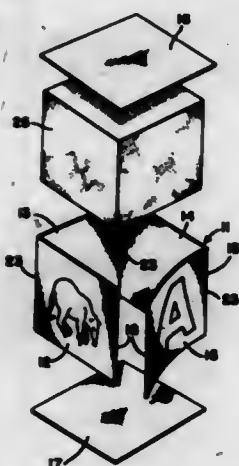
9 Claims



There is provided a novel educational toy comprising the representation of a figure such as a doll, an animal, or a machine which may be folded and unfolded at will. The toy is so constructed that it may have disposed upon it textual material. The figure is encapsulated between two sheets of encapsulating material; and the said figure and said encapsulating material are subdivided into a plurality of panels which are connected to neighboring panels by foldable junctures. The novel toy, when folded, has the compactness of a book and the silhouette of a single panel, and when unfolded has the appearance and strength of a toy, having an unfolded silhouette approximating to the outline of the figure and, because of the textual material thereon has direct educational as well as entertainment value.

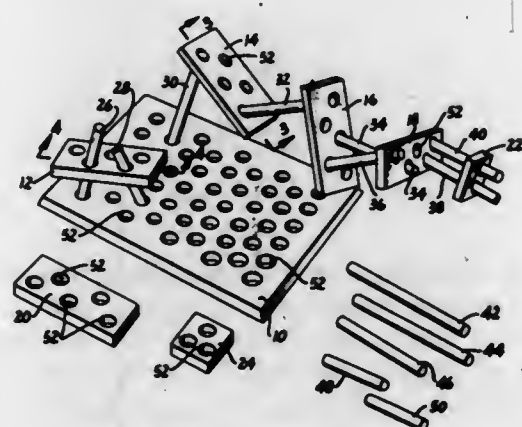


**3,518,786**  
**BLOCK WITH RESILIENT FOAM CORE AND PLASTIC COVER**  
 John H. Holtvoigt, Tipp City, Ohio, assignor to The Dolly Toy Co., Tipp City, Ohio, a corporation of Ohio  
 Filed Apr. 30, 1968, Ser. No. 725,366  
 Int. Cl. A63h 33/06  
 U.S. Cl. 46—24 2 Claims



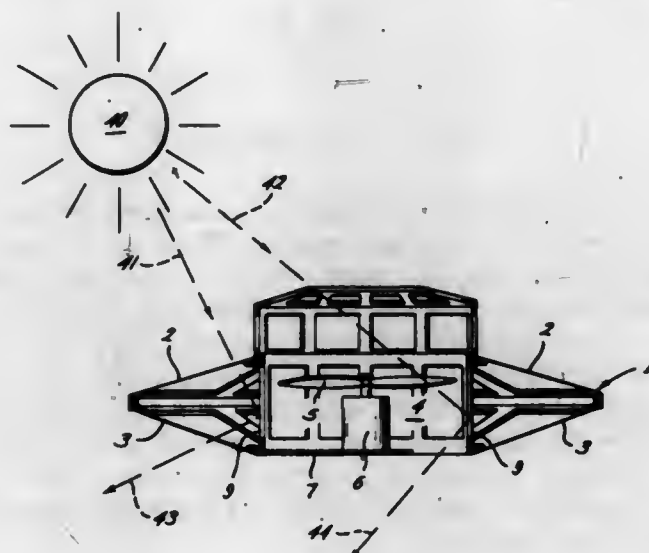
A child's safety toy block constructed of resilient and flexible materials so that the child will not be injured if he falls on or attempts to bite into the block. The block includes a flexible outer shell of vinyl plastic having the configuration of a cube which surrounds a similarly shaped cube of polyurethane open cell foam which always returns the configuration of the block to its original shape.

**3,518,787**  
**BUILDING BLOCKS WITH MEANS FOR LOOSELY CONNECTING SAME**  
 John Anello, Sr., 160 Camille Court, Alamo, Calif. 94507, and Joseph L. Anello, 835 Castro St., San Francisco, Calif. 94114  
 Continuation-in-part of application Ser. No. 496,724, Oct. 15, 1965. This application Dec. 22, 1967, Ser. No. 697,276  
 Int. Cl. A63h 33/10  
 U.S. Cl. 46—26 4 Claims



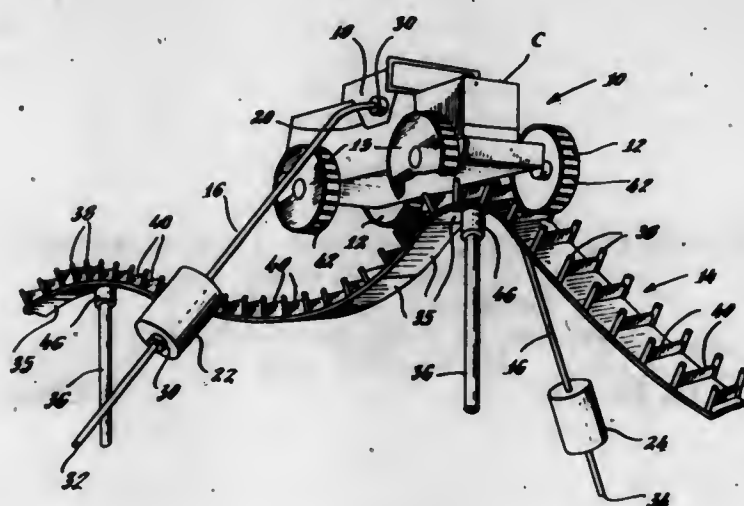
A building toy composed of interfittable and connectable rod and body parts, the body parts having holes which are somewhat oversized in transverse dimension in relation to the transverse dimension of the rods, the rod parts being connectable to the body parts and being maintained in such connected relation under the influence of frictional and gravity forces.

**3,518,788**  
**FLASHING LIGHT IN A FLYING TOY**  
 James E. Sides, Dallas, Tex., assignor to UFO Corporation, Dallas, Tex., a corporation of Texas  
 Filed July 24, 1967, Ser. No. 655,560  
 Int. Cl. A63h 27/12  
 U.S. Cl. 46—75 6 Claims



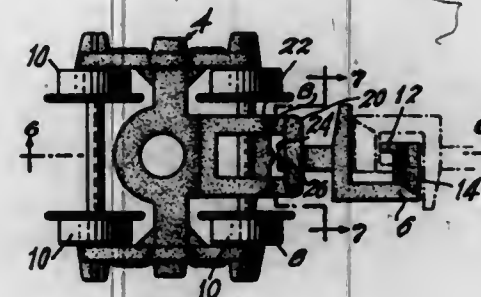
A reflective substance affixed to portions of a rotating flying toy to reflect the light waves of the sun or other light sources. The reflective substance may be disposed so as to reflect through translucent materials of which other portions of the toy may be made. These translucent materials may be of various colors so as to give the appearance of flashing lights of various colors.

**3,518,789**  
**SYSTEM AND BALANCING KIT FOR MOBILE TOYS**  
 Volodymyr Domashovetz, Newark, N.J., assignor to Remco Industries, Inc., Harrison, N.J.  
 Filed June 27, 1968, Ser. No. 740,703  
 Int. Cl. A63h 11/10  
 U.S. Cl. 46—202 8 Claims



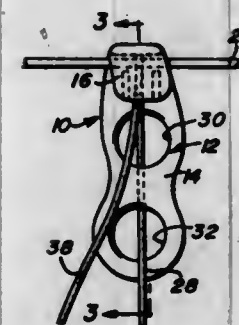
This invention provides a system in which a four-wheel toy travels on one set of its wheels over a single raised track. This toy is balanced by means of a kit which provides counterweights extending from each side of the toy on opposite ends of a rod mounted on the toy. The weights are arranged to displace the effective center of gravity of the toy to a position directly below the center of the raised track, whereby the toy is balanced during its travel over the single raised track.

**3,518,790**  
**TRUCK AND COUPLER APPARATUS**  
 Paul A. Zamorra, Lake Road, Far Hills, N.J. 07931  
 Filed Mar. 18, 1968, Ser. No. 713,652  
 Int. Cl. A63h 19/00  
 U.S. Cl. 46—216 3 Claims



The invention provides a one-piece car-truck and coupler apparatus as used in railway equipment and has application to toy or model railroad apparatus but is not limited thereto.

**3,518,791**  
**ADJUSTABLE PLANT STRING CLIP**  
 Raymond M. Carson, Box 101, and Wesley R. Carson, Rte. 1, both of Faxon, Okla. 73540  
 Filed May 28, 1968, Ser. No. 732,718  
 Int. Cl. A01g 17/04  
 U.S. Cl. 47—47 11 Claims

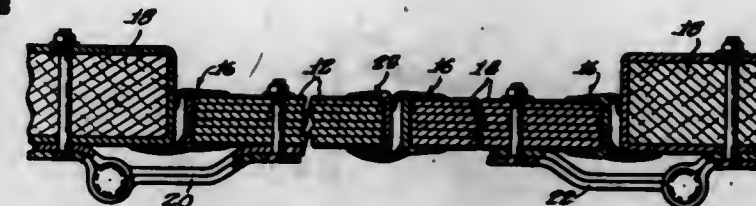


An inverted generally J-shaped clip constructed of panel-like material and including short and long leg portions thereof interconnected by means of generally U-shaped bight portion, the long leg portion of the clip including a plurality of openings formed therethrough through which a tension member may be threaded and frictionally retained against longitudinal shifting relative to the clip.

**3,518,792**  
**PANEL SEAL**  
 Dwight O. Williamson, Chicago, and Burton A. Urbanick, La Grange, Ill., assignors to Met-L-Wood Corporation, Chicago, Ill., a corporation of Illinois  
 Filed May 21, 1968, Ser. No. 730,866  
 Int. Cl. E06b 7/22  
 U.S. Cl. 49—488 16 Claims

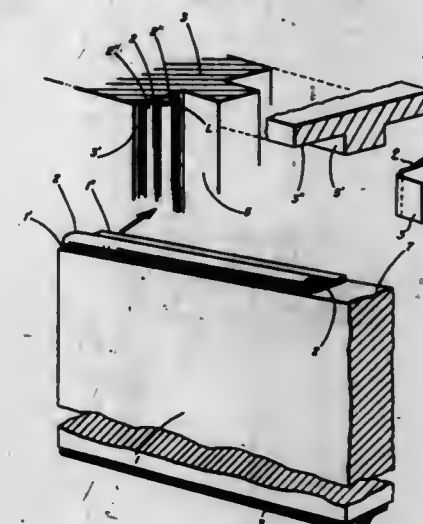
A composite, one-piece member defining an edge gasket for a container door, and the like and a dynamic closure seal with an adjacent door frame, and the like is disclosed. An elongated channel portion of the member is composed of a relatively rigid plastic and is adhesively secured to an edge portion of the door; a pair of opposed sealing lips are integrally formed with the channel portion and are directed oppositely to the channel leg portions. The sealing lips are composed of a relatively pliable plastic material and are each inwardly curved toward

one another and tapered in thickness adapting them to effect a pair of independent and resilient closure seals be-



tween the door and an adjacent door frame. Other features are disclosed.

**3,518,793**  
**CLOSURE SEALING APPARATUS**  
 Parker W. Hirdle, Lexington, Mass., assignor to Bolt Beranek and Newman Inc., Cambridge, Mass., a corporation of Massachusetts  
 Continuation of application Ser. No. 489,106, Sept. 22, 1965. This application May 22, 1968, Ser. No. 732,012  
 Int. Cl. E06b 7/23  
 U.S. Cl. 49—488 3 Claims



Closure sealing apparatus in which one of each pair of corresponding peripheral edges of the closure and surrounding closure frame is provided with a gasket having a base portion and a resilient loop enclosing an air space and extending from the base portion. Frame-mounted gaskets have their loop extending from the base portion in the direction of closing of the closure, the loop terminating short of the edge of the frame surface that abuts with the forward edge of the closure when fully closed within the frame. Closure-mounted gaskets have their loop extending from the base portion in the direction of opening of the closure. The loops are compressed when the closure is closed within the frame to form a soundproof seal without interfering with the closing of the closure.

**3,518,794**  
**DOORFRAME HAVING ADJUSTABLE JAMB**  
 William Horner, Fakhaven Ave., Swansea, Mass. 02777  
 Filed Dec. 30, 1968, Ser. No. 787,815  
 Int. Cl. E06b 1/08  
 U.S. Cl. 49—505 3 Claims

A doorframe having an adjustable jamb that provides for expansion and contraction of a door pivotally mounted thereon, the jamb being adjusted by a plurality of vertically spaced bolts that project through the jamb into a fixed



member, and a sealing element mounted on the adjustable jamb for movement therewith and being engageable by



the door for effectively sealing the door in the closed position thereof.

3,518,795

**WORKPIECE TREATING APPARATUS**

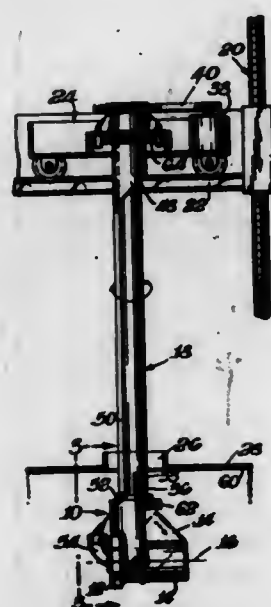
John V. Halder, Pittsburgh, Pa., and James H. Carpenter, Jr., Hagerstown, Md. (both % The Pangborn Corporation, Hagerstown, Md. 21740)

Filed Nov. 16, 1967, Ser. No. 683,638

Int. Cl. B24c 3/24

U.S. Cl. 51—9

10 Claims



A workpiece treating apparatus includes a throwing wheel which is driven about a first axis and which with its drive means is pivotally connected to a boom in such a manner that it is movable to and from a vertical position and a horizontal position. The boom can be raised and lowered and can also be rotated about an axis perpendicular to the axis of rotation of the wheel.

3,518,796

**APPARATUS FOR GRINDING AND POLISHING GLASS ARTICLES**

Eugene A. Gawronski, Columbus, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Sept. 1, 1967, Ser. No. 665,011

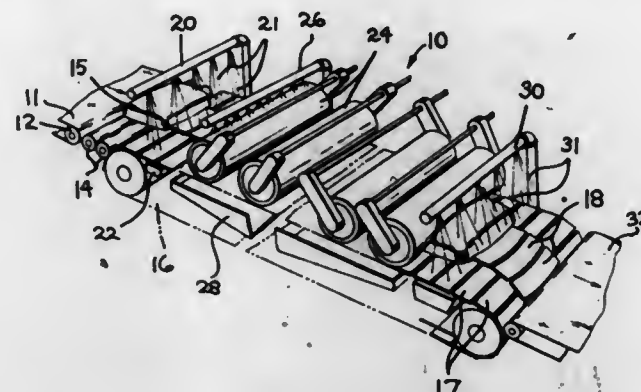
Int. Cl. B24b 19/00, 37/00

U.S. Cl. 51—76

2 Claims

Apparatus for grinding and polishing glass articles, and more particularly, large curved surfaces of glass articles such as television picture tube face plates and other glass components useful in both the electronics and optical

industries. Workpieces, for example, television picture tube face plates, are advanced below a series of downwardly biased buffing drums to which abrasive-containing fluid is supplied by a spray header. Such workpieces are carried by an endless conveyor comprising a plurality of flat, parallel, elongated plates. Support members are attached to the conveyor plates and are adapted to hold



the leading edge of a workpiece between adjacent, curved vertical surfaces and the trailing edge of the workpiece on a horizontal surface thereof such that the leading edge is disposed at a lower elevation than the trailing edge. Collection and return apparatus is provided for re-using the fluid and a second spray header is provided for finally rinsing the abraded workpiece.

3,518,797

**ROUTER BIT EDGE FORMING MACHINE**

Harry J. Ballard, 15719 Larkspur,

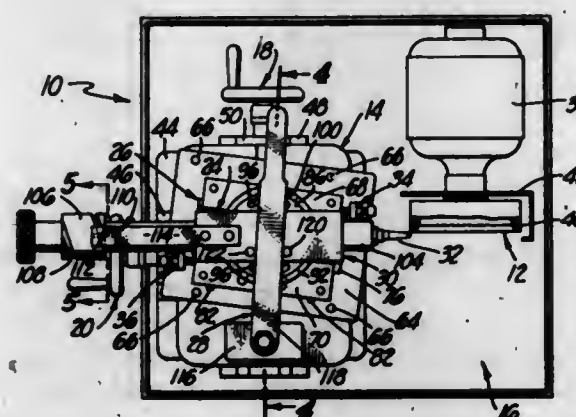
Sylmar, Calif. 91342

Filed Nov. 6, 1967, Ser. No. 680,795

Int. Cl. B24b 3/10

U.S. Cl. 51—123

4 Claims



A machine for forming separate spiral-shaped edges on the exterior of router bits and the like comprising a grinding element and a bit carrier. A slide supports the carrier for spiral movement toward and away from the grinding element while the slide is supported for movement between forward and rearward positions on a track inclined at an acute angle to the surface of the grinding element engaging the bit.

3,518,798

**POLISHING MACHINE**

Stephen A. Boettcher, Riverwoods, Deerfield, Ill., assignor to Speedfam Corporation, Skokie, Ill., a corporation of Illinois

Filed Aug. 10, 1967, Ser. No. 659,780

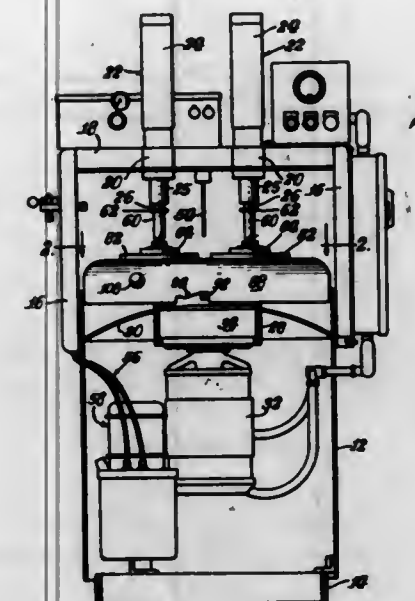
Int. Cl. B24b 5/00

U.S. Cl. 51—131

10 Claims

A vertically movable pressure disc having means at the lower surface thereof engageable with means at the upper surface of a load plate to which work pieces

are affixed for engagement with a polishing wheel assembly. Surrounding the polishing wheel assembly is an layer of fiberboard which extends under the floorboards and under and between the channels and which is secured



annular shroud which is supported in either one of two vertical positions.

3,518,799

**SIMULATED BRICK CONSTRUCTION**

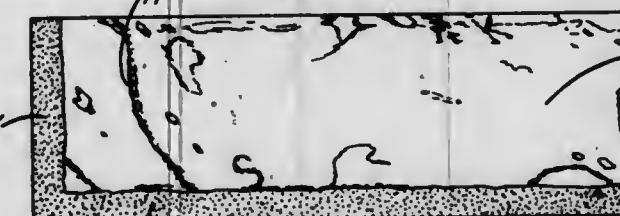
George L. Bachner, Chicago, Ill., assignor to Majestic Tile Company, Melrose Park, Ill., a corporation of Delaware

Filed Jan. 9, 1967, Ser. No. 608,082

Int. Cl. E04c 2/20; B44f 9/04

U.S. Cl. 52—173

3 Claims



An imitation decorative facing structure having a mortar joint area along two adjoining edges and a rear side which lies in a common bearing plane, and including bearing ridges lying in the bearing plane which enable the bottommost brick in a stack of bricks to be slid outwardly beneath the stack without jamming.

3,518,800

**FLOORING SYSTEM**

Henry G. Tank, Milwaukee, Wis., assignor to Connor Forest Industries, Laona, Wis., a corporation of Wisconsin

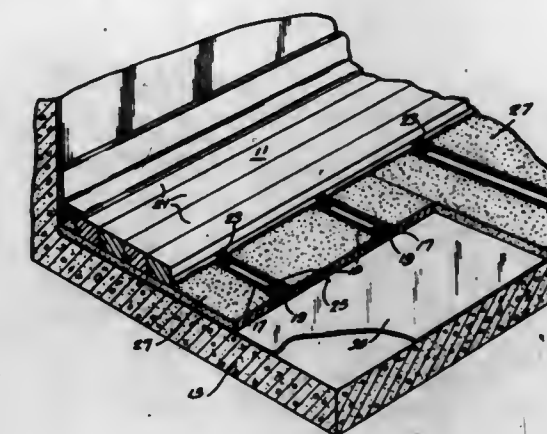
Continuation of application Ser. No. 625,690, Mar. 24, 1967. This application June 24, 1969, Ser. No. 842,771

Int. Cl. E04f 15/18

U.S. Cl. 52—480

10 Claims

Disclosed herein is a flooring system which includes a series of spaced parallel channels supporting a series of abutting floor boards and which also includes an under-



to the foundation incident to securing of the channels to the foundation.

3,518,801

**ADJUSTABLE CONSTRUCTION JOINT STRIPS**

George Redey, P.O. Box 26, Englewood, N.J. 07631

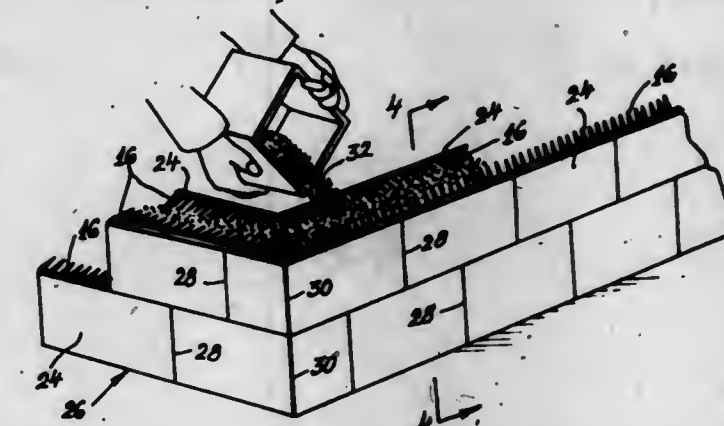
Continuation-in-part of application Ser. No. 581,234, Sept. 22, 1966. This application Sept. 30, 1968, Ser. No. 763,738

The portion of the term of the patent subsequent to Oct. 1, 1985, has been disclaimed

Int. Cl. E04b 2/08; E04c 1/12

U.S. Cl. 52—425

4 Claims



An elongated strip of flexible plastic material for use in forming blocks for building units. The strip has an elongated body with a smooth surface and with projections on the other surfaces thereof. The body is flexible and may be cut into blocks, the blocks being adapted to be juxtaposed with the projections intermeshing. Concrete may be poured into the interstices between the intermeshing projections. In a modified form of strip, the body has projections on opposed surfaces thereof, the projections on one surface having blunt ends for the purpose of absorbing or reflecting sound waves. With desired aim, the strip can be laid on the ground surface or on a ship deck to provide a high resistance landing surface for aircraft.

3,518,802

**CARTON FEEDER**

Lloyd M. Martz, Philadelphia, Pa., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 5, 1968, Ser. No. 742,852

Int. Cl. B65b 43/39

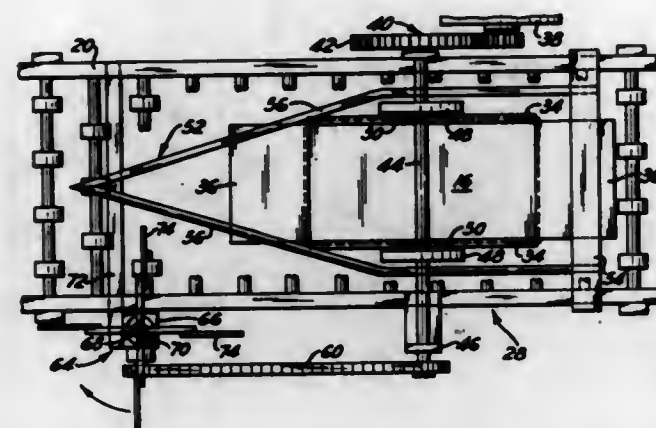
U.S. Cl. 53—3

11 Claims

The invention comprises means to feed cartons comprising a roller conveyor, a tapered plough to initially open the flaps, a star wheel having flexible tips adapted



to repeatedly strike the trailing surface of a carton to resiliently urge it forward, and a pair of eccentrically mounted rotating cams positioned above the carton but



tube mounted on the body so as to be in fluid communication with the chamber. A predetermined micro measurement of a stabilized dry reagent per unit volume of

an anhydrous liquid stored within the chamber thereby adapting the assembly for use in micro-analytical test procedures.

3,518,805

**PACKING MACHINERY**

Donald Frederick Udall, Shirley, Southampton, and Dennis Leonard Miller, Chandlers Ford, Eastleigh, England, assignors to Brown and Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware

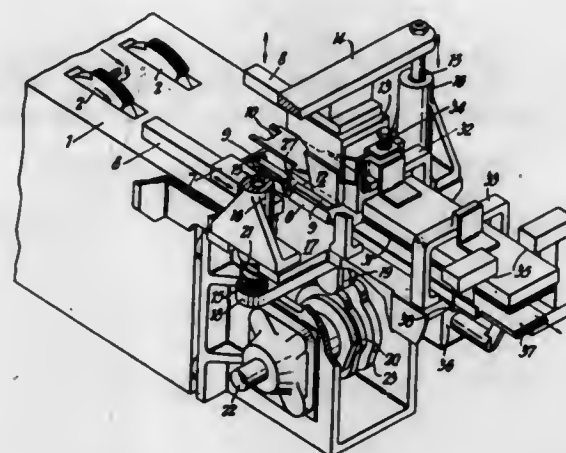
Filed Mar. 19, 1968, Ser. No. 718,303

Claims priority, application Great Britain, Mar. 20, 1967, 13,018/67

Int. Cl. B65b 7/20, 57/02

U.S. Cl. 53—53

8 Claims



The invention relates to improved apparatus, for producing longitudinal side seams for securing outer side flaps of a package, in which, in conjunction with means for the application of hot melt or other rapidly acting adhesive to the said flaps, a reciprocating former device moving in a direction perpendicular to the path of the package through the apparatus is used to fold the said flaps into their required final position.

3,518,806

**PACKAGING MACHINE**

Ralph L. Davidson, Worcester, James H. Arsenault, Whitinsville, and Paul E. Cheney and Daniel C. Snyder, Fitchburg, Mass., assignors to Curtis & Marble Machine Co., Worcester, Mass., a corporation of Massachusetts

Filed May 14, 1968, Ser. No. 729,060

Int. Cl. B65b 11/06, 12/02, 57/14

U.S. Cl. 53—59

15 Claims

The invention is an apparatus for packaging bolts of cloth or other materials in heat-sealable plastic sheet material, comprising an elevator for moving a bolt in an upward direction against a sheet of the packaging material to draw the latter around the bolt. A pair of platforms at the top of the apparatus open so that the bolt with its enveloping material moves through the opening.

3,518,804

**PIPETTE ASSEMBLY HAVING PRECISE QUANTITY STABILIZED REAGENT IN LIQUID FORM AND METHOD OF PREPARING SAME**

Horace W. Gerarde, 40 Knoll Road, Tenafly, N.J. 07670

Filed Nov. 1, 1966, Ser. No. 591,670

Int. Cl. B011 3/02

U.S. Cl. 53—37

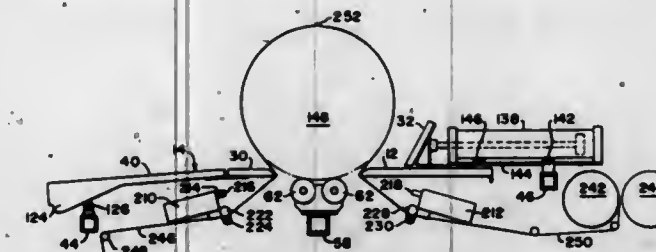
3 Claims

A pipette assembly having a molded body with an internal chamber and an accurately calibrated capillary



The doors or platforms then close to support the package while heat sealing means move inwardly to heat seal the packaging material. Thereafter, a pushing means

preferably the upper series, having special release mechanism releasable from engaged relation by torque force applied due to force applied rearwardly of the direction of



moves the package of material onto one of the platforms for delivery thereby immediately or at a later time at the will of the operator.

3,518,807

**TYING APPARATUS**

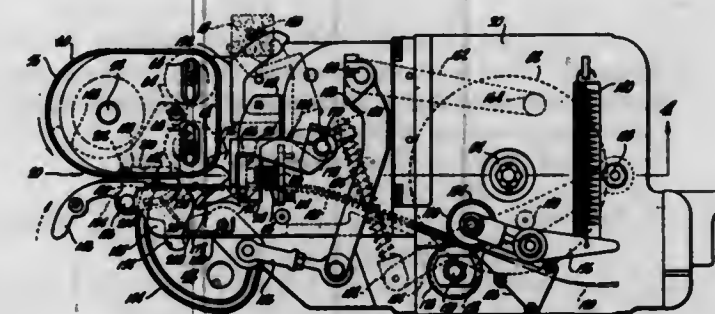
Alan R. Pitkanen, Newport Beach, Calif., assignor, by mesne assignments to Royal Industries, Inc., Pasadena, Calif., a corporation of Delaware

Filed Nov. 22, 1967, Ser. No. 685,182

Int. Cl. B65b 51/08

U.S. Cl. 53—67

17 Claims



Tying apparatus for automatically tying articles with tie material capable of being twisted to form a tie upon the automatic and successive presentation of articles to be tied and tied thereto and automatically ejected from the tying apparatus.

The automatic tying apparatus when particularly adapted for tying open mouthed bags is adapted to automatically gather the bag neck upon presentation of the bag thereto in its path to the tying station. The tie material is automatically delivered to the tying station so that as the bag is travelling towards the tying station, the tie material is wrapped around the bag to be tied upon itself at the tying station. At the tying station the tie material is cut from its length simultaneously with the twisting operation. Upon completion of the tying operation the bag is ejected from the tying apparatus and the apparatus is in condition to receive the next bag to be tied.

3,518,808

**PACKAGING MACHINE ARTICLE RELEASE APPARATUS**

William H. Solomon, Grand Rapids, Mich., assignor to Oliver Machinery Company, Grand Rapids, Mich., a corporation of Michigan

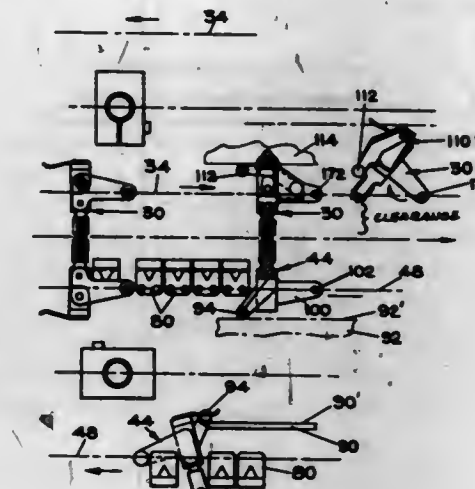
Filed Oct. 4, 1968, Ser. No. 765,085

Int. Cl. B65b 57/10

U.S. Cl. 53—77

11 Claims

Packaging machine with recirculating, continuous operation, cooperative upper and lower series of transverse sealer or fusion members, advanced in mutually engaged relation, with each one of at least one series of members,



fusion member advance or vertically thereof, to be self-clearing, prevent jamming of the machine due to mislocated objects, and to prevent potential personal injury.

3,518,809

**APPARATUS FOR MAKING AND FILLING BAGS**

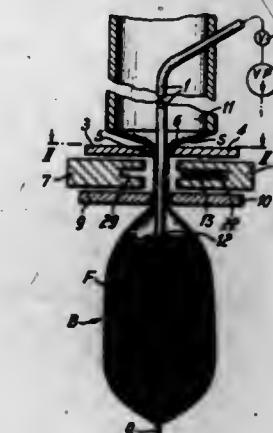
Helmut Ott, Hofingen, Kreis Leonberg, Germany, assignor to Fr. Hesser Maschinenfabrik, A.G., Stuttgart-Bad Cannstatt, Germany

Filed Feb. 7, 1968, Ser. No. 703,772

Int. Cl. B65b 31/06

U.S. Cl. 53—112

9 Claims



Apparatus for making, sealing and filling bags from a continuous web of packaging material in which the web is draped over a forming tube; two pairs of clamp jaws are disposed below the tube and a pair of seal jaws is interposed therebetween. An evacuating conduit extends through the tube into and between the jaws and protrudes into or closely adjacent to the top level of the fill good. Upon withdrawal of the conduit from the bag, the upper margins of the tubing are clamped, provided with two transverse seams and severed between the two seams to form the bag.

3,518,810

**WEB PLEATING APPARATUS AND PACKAGED WEB ARTICLE**

Robert W. Steeves, Nahant, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Filed July 26, 1968, Ser. No. 747,912

Int. Cl. B65b 63/04

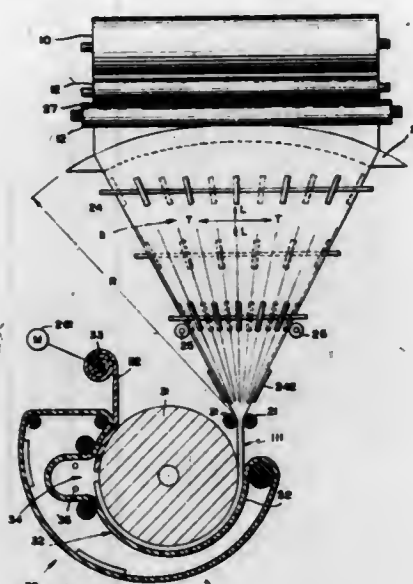
U.S. Cl. 53—117

8 Claims

Apparatus for packaging web material of a stiff, resilient nature by feeding a web longitudinally, accordion-pleating it along longitudinal fold lines, holding the pleated



form and cutting to desired length. The resultant article is a compact pleated form of the web, which may be



further compacted by rolling about a transverse axis and secured by confining in a package sheath.

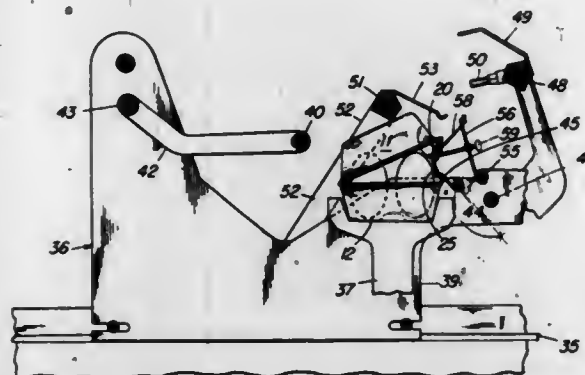
3,518,811

**EGG CARTON CLOSING APPARATUS**

Alden E. Favro, Holcomb, Richard T. Warburton, Canandaigua, and Nicholas D. Comisso, Victor, N.Y., assignors to Mobil Oil Corporation, a corporation of New York  
Filed Aug. 20, 1968, Ser. No. 753,980  
Int. Cl. B65b 7/26

U.S. Cl. 53—376

15 Claims



An apparatus for closing and locking egg-filled cartons. The apparatus includes a plurality of cooperative carton closing components adapted to elevate an individual egg carton above a travel path and then impart incremental closing motion to the carton cover and carton cover locking flange and bottom locking flange. This will provide for the continuous closing and locking of egg cartons in a rapid and effective manner.

3,518,812

**PROCESS FOR REMOVING DUST FROM HOT DUST-LADEN GASES**

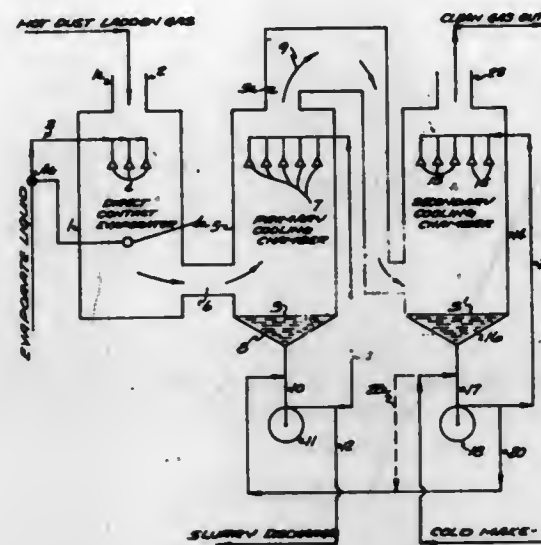
Ernest L. Kolm, 419 W. Cambridge St., Alliance, Ohio 44601  
Filed July 10, 1968, Ser. No. 743,837  
Int. Cl. B01d 47/00

U.S. Cl. 55—20

8 Claims

The process for removing suspended solid particles in a hot gas which consists of humidifying the gas to just as near 100% saturation as possible without exceeding 100% saturation while maintaining the temperature of the gas

when saturated above the dew point, condensing the liquid in the humidified gas by reducing the temperature thereof



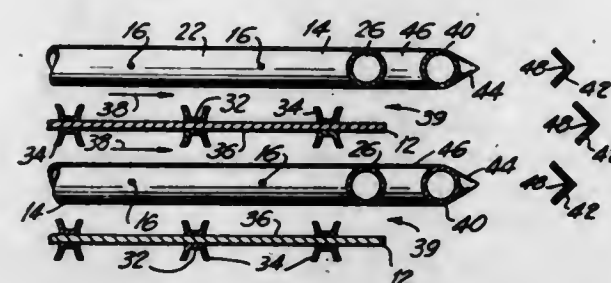
3,518,813

**EXTENDED DISCHARGE SYSTEMS FOR ELECTROSTATIC PRECIPITATORS**

Hermann C. Werner, Ridgewood, N.J., assignor to Alretron Engineering Corporation, Midland Park, N.J., a corporation of New Jersey  
Filed Sept. 4, 1968, Ser. No. 757,293  
Int. Cl. B03c 3/08

U.S. Cl. 55—136

7 Claims



An extended discharge system for electrostatic precipitators including further discharge electrodes disposed downstream from the main electrostatic precipitator stack and further collection plates spaced downstream from said further discharge electrodes and adapted to receive and retain precipitant while permitting the continued flow thereby of the fluid from which the precipitant is being removed. The further discharge electrodes are preferably adapted to produce a directional electrostatic field extending substantially in the direction of flow of said fluid.

3,518,814

**AIRFLOW CONTROL FOR A DUST-FREE BENCH**

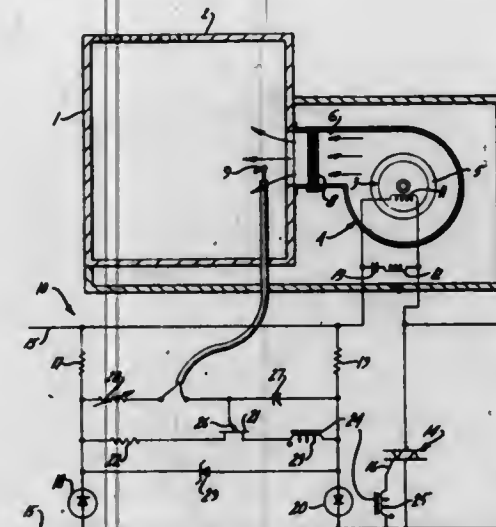
John T. Maynard, New Berlin, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York  
Filed Mar. 28, 1967, Ser. No. 626,473  
Int. Cl. B01d 46/46

U.S. Cl. 55—210

3 Claims

A dust-free bench includes a working surface and a lower enclosing housing defining an air passageway for

movement of air upwardly through a filter and the work area. A variable speed motor operated fan is controlled by a speed control circuit including a thermistor mounted to sense the velocity of the discharged air from the filter. Change in flow results in a proportionate change in the resistance of the thermistor which is connected to actuate



lized to increase the velocity of the gas stream and to direct the high velocity gas stream at the collection disc. As a result of the arrangement of the nozzle assembly plate and the collection disc, the direction of flow of the high velocity gas stream is abruptly changed adjacent to the disc so as to permit the gas to flow around the periphery of the disc. This abrupt change of direction of the gas stream causes the aerosol, with sufficient inertia, to impinge upon the collection disc and be entrained thereon in a thin, continuous liquid film formed and maintained on the collection disc by a novel liquid feeder. The nozzles are arranged and disposed, relative to the collection disc, so that the high velocity gas streams emitted therefrom do not significantly interrupt the integrity of the liquid film or cause substantial aerosolization of the liquid. The liquid and the hydrosol therein are removed from the disc by a novel aspirator for further analysis.

3,518,816

**GAS SCRUBBING EQUIPMENT**

Michael M. Jalma, 410 Brookside Place, Cranford, N.J. 07016  
Filed July 17, 1968, Ser. No. 745,567  
Int. Cl. B01d 47/06

U.S. Cl. 55—240

2 Claims

a unijunction oscillator and thereby a change in the firing of a "Triac" or other solid state switching device connected in series in the motor energizing circuit to vary the speed of the motor. The motor speed is thus changed to maintain a constant air flow at the output side of the filter.

3,518,815

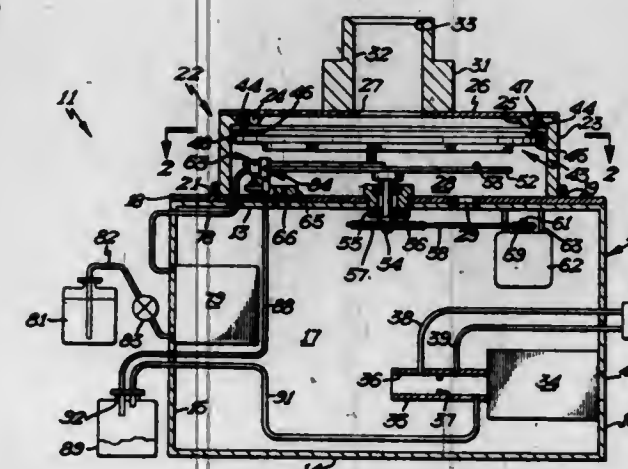
**AEROSOL SAMPLER**

Andrew R. McFarland and Carl M. Peterson, Minneapolis, Minn., assignors to Environmental Research Corporation, St. Paul, Minn., a corporation of Minnesota

Filed May 24, 1968, Ser. No. 731,881  
Int. Cl. B01d 47/00

U.S. Cl. 55—241

10 Claims



Gas scrubbing equipment in which gas and a scrubbing liquid are passed upward through a stationary inclined plate having openings therein provided with deflecting surfaces engaged by the gas and liquid as they pass through the openings. The scrubbing liquid is caused to flow in opposite directions across the surface of the plate and over the openings therein in a manner to create vigorous turbulence in the liquid while it is in contact with the gases being scrubbed.

3,518,817

**CUPOLA EXHAUST GAS CONDITIONING APPARATUS**

David E. Dell'Agnese, Port Washington, Wis., and Townsend Tinker, Easton, Md., assignors to Modern Equipment Company, Port Washington, Wis., a corporation of Wisconsin  
Filed Jan. 11, 1968, Ser. No. 697,194  
Int. Cl. B01d 50/00

U.S. Cl. 55—257

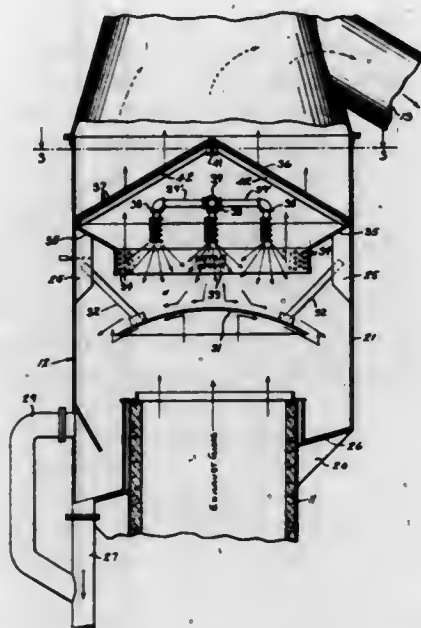
8 Claims

The improved inertial impactor, aerosol sampler of the present invention is used to obtain a hydrosol for subsequent analysis from a continuous flow of gas. The improved sampler includes a housing having a gas inlet, a gas outlet and a passageway. A suction blower, positioned adjacent to the gas outlet, causes gas to flow through the passageway. A plurality of nozzles, formed in a plate assembly adjustably positioned in the passageway immediately upstream of a collection disc, are uti-

A gas conditioning apparatus including an umbrella-like deflector mounted above the cupola stack with a plurality of nozzles spaced thereabove continuously directing a water spray downwardly over said deflector to intercept cupola gases flowing upwardly therearound, said water spray impinging and entraining dirt particles and other suspended matter carried by said gases, the gas stream next being directed into a confined spray zone above said deflector for further, intensified cleaning action by said



water spray, and, finally, passed through a specially-designed grating in the upper portion of said apparatus

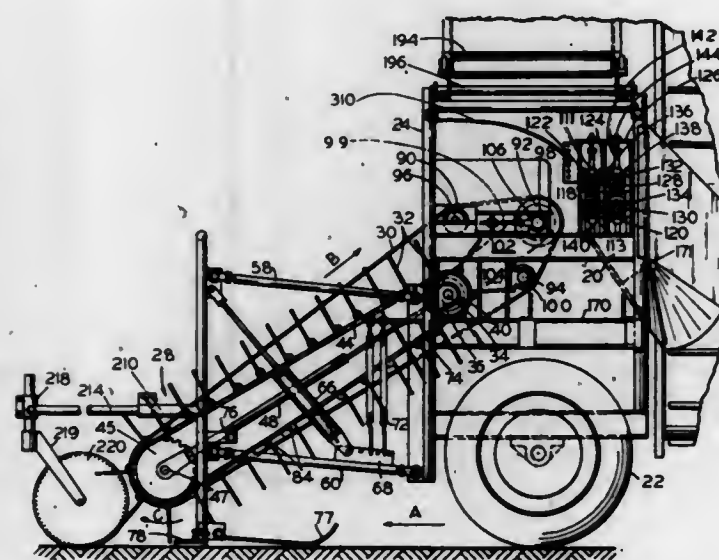


to separate and remove the dirt-entraining water therefrom.

**3,518,818**  
**PICKLING CUCUMBER HARVESTER**  
Wellington W. Porter, R.D. 2, Dublin Road,  
Waterloo, N.Y. 13165  
Filed Jan. 24, 1968, Ser. No. 700,175  
Int. Cl. A01d 45/00

U.S. Cl. 56—327

5 Claims



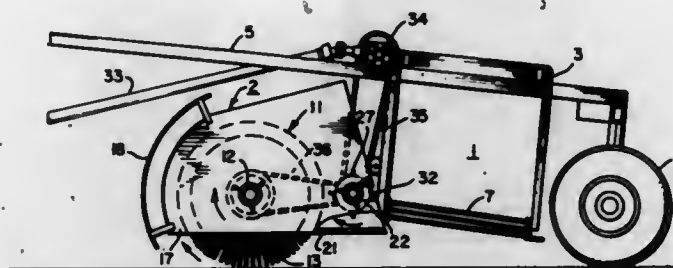
Pickling cucumber harvester having a transverse ground level vine cutter and sprocket and chain tines for sweeping cut vines upon conveying belts in a wide swath, the tines receding between the belts, a pair of stripping rolls, backed up by a pair of traction rolls disposed to pull the vines from the conveyor belts, and the lower of the separating rolls being smooth, and the traction and separator rolls having a peripheral velocity in the order of five times the conveyor belt speed to suddenly accelerate the vines, and thin them out so that the spacing between the separating rolls is close and whereby the pickling cucumbers are detached and prevented from passing between the separating rolls.

**3,518,819**  
**BRUSH PICKUP**  
Fred W. Schneider, Mitchell, and Willard E. Morris,  
Gering, Nebr., assignors, by meane assignments, to  
Lockwood Corporation, Gering, Nebr., a corpora-  
tion of Delaware

Filed Feb. 13, 1967, Ser. No. 615,474  
Int. Cl. A01d 43/02

U.S. Cl. 56—344

11 Claims

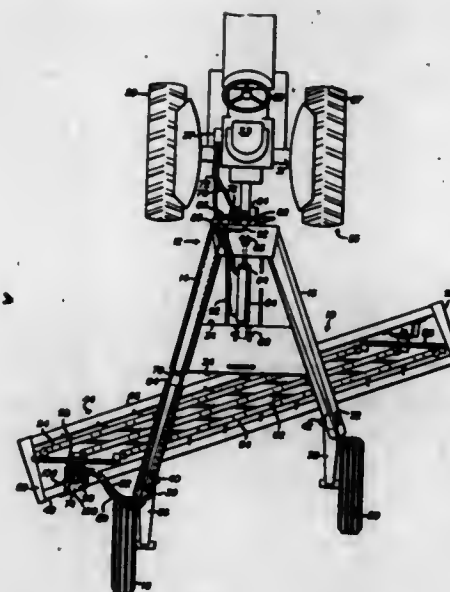


A brush pickup assembly for vegetation disposed on a field surface, inclusive of a brush member having bristles of a special construction and configuration disposed in ground contacting relation. One or a pair of associated driven rotary members are disposed in proximity to the brush member to move the vegetation elevated by the brush member to a rearward disposal point. A cover member disposed forwardly of the brush member directs the vegetation elevated by the brush member over its forward surface.

**3,518,820**  
**HYDRAULIC DRIVE FOR SIDE-DELIVERY RAKE**  
Laurel R. Yeske, Rockford, Ill., assignor to J. I. Case  
Company, Racine, Wis., a corporation of Wisconsin  
Filed Aug. 2, 1967, Ser. No. 657,913  
Int. Cl. A01d 77/06

U.S. Cl. 56—377

5 Claims



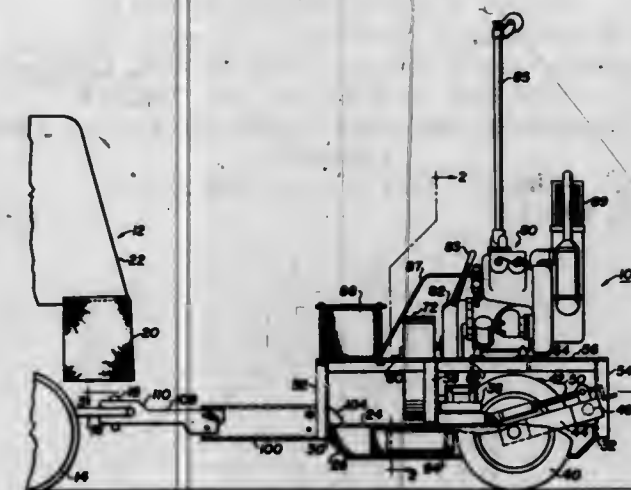
A drive and control system for a side delivery rake including hydraulic fluid drive means for rotating the rake reel. A towing vehicle provides a source of pressurized fluid, and means for carrying the fluid between the source and the drive means, and control means for regulating the flow of the fluid are a part of the system. The pressurized fluid system also includes connections to a hydraulic cylinder for raising and lowering the rake in relation to the ground. A mounting and support structure is provided on the rake frame such that hydraulic or mechanical drive means can be utilized for driving the reel.

**3,518,821**  
**SELF-POWERED COMBINE TRAILED BY AN INDEPENDENTLY POWERED RESIDUE CHOPPING UNIT**

Edwin Allan Parker, 47 Ritters Lane,  
Owings Mills, Md. 21117  
Filed June 15, 1967, Ser. No. 646,299  
Int. Cl. A01d 49/00

U.S. Cl. 56—503

10 Claims U.S. Cl. 57—131

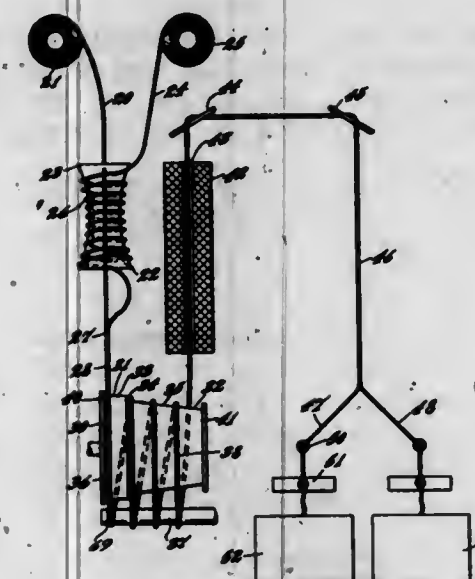


A crop residue chopping device comprising a two-wheeled trailer having a rotary chopping blade mounted for horizontal rotation upon its underside. The blade is powered by an internal combustion engine mounted over the trailer wheels on its upper side. The trailer is pivotally attached to and drawn by a self powered harvester-combine in the vicinity of the rearward steering wheels of the combine.

**3,518,822**  
**TEXTILE HEATER**  
Henry W. McCard, 208 Rodman Ave.,  
Jenkintown, Pa. 19046  
Filed Aug. 12, 1968, Ser. No. 751,785  
Int. Cl. D01h 13/28; F27b 7/10

U.S. Cl. 57—34

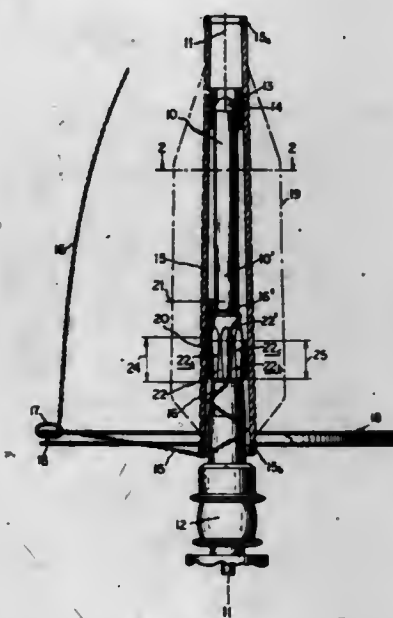
15 Claims



A heat-conductive drum textile heater has an inlet portion which is smooth and cylindrical, a smooth descending conical portion toward a takeoff end, and a downward step either at one or the other end of the smooth conical portion. The drum is adapted to receive two ends of synthetic thermoplastic continuous filament yarn twisted into plies, to heat and shrink them, and to discharge to mechanism which separates the ends into bulked yarn having stretch characteristics. The drum may be used with a rotating downwardly tapering pin about which the yarn is wrapped.

**3,518,823**  
**YARN-RELIEF BOBBIN-SPINDLE UNITS**  
Samuel F. Adams, Greenville, S.C., Edmond H. Guerin,  
Jr., Woonsocket, R.I., and Edwin L. Birch, Port Gil-  
son, Miss., assignors to American Paper Tube Com-  
pany, Woonsocket, R.I., a corporation of Rhode Island  
Filed Sept. 18, 1968, Ser. No. 760,601  
Int. Cl. D01h 7/16

10 Claims

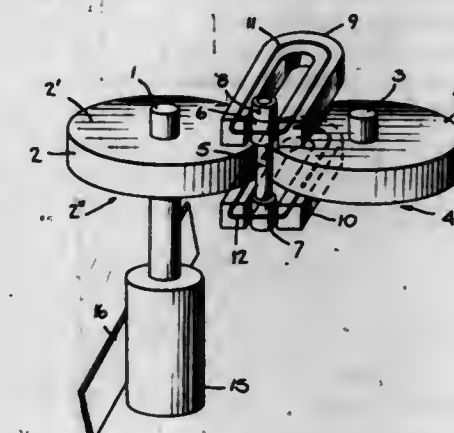


In the high-speed winding of textile yarn and like materials, the close fit required between confronting bobbin and spindle surfaces, for such purposes as vibration-suppression, is relieved at angularly-spaced positions where the spindle-wrapped yarn will be urged to pass through to its coupling with the usual traveller in a substantially un-jammed condition; yarn-breakage and waste-accumulation tendencies are advantageously decreased, while, at the same time, necessary minute critical looseness is preserved between bobbin-spindle surfaces to avoid bindings which interfere with vibration control, balance, and doffing.

**3,518,824**  
**APPARATUS FOR CRIMPING TEXTILE YARNS BY FALSE-TWISTING**  
Josef Raschle, St. Gall, Switzerland, assignor to Heberlein Patent Corporation, New York, N.Y., a corporation of New York

Filed Apr. 18, 1969, Ser. No. 817,467  
Claims priority, application Switzerland, June 18, 1968,  
9,056/68  
Int. Cl. D02g 1/04; D01h 7/92; F16h 13/12  
U.S. Cl. 57—77.45

4 Claims



Apparatus for crimping textile yarns by the false-twist method utilizing axially parallel rollers including flat discs engaging a twist tube, and magnet means comprising elements arranged on each side of the discs to hold the twist tube in contact with the discs.

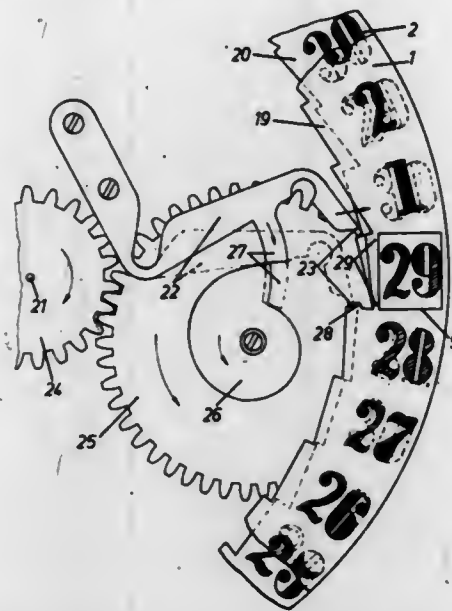


### 3,518,825 INDICATING DEVICE

Walter Nissen, 10 Brederscheid,  
4307 Kettwig (Ruhr), Germany  
Filed May 1, 1968, Ser. No. 725,591  
Claims priority, application Germany, May 3, 1967,  
N 30,454  
Int. Cl. G04b 19/24

U.S. Cl. 58—4

16 Claims



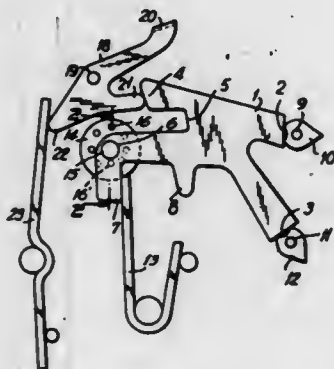
An indicating device which includes a pair of endless carriers one of which is behind the other and both of which are mounted for advancement in a predetermined direction. First marking means is provided on the front carrier and represents a first series of successive values beginning with an initial value and ending with a terminal value. A window is provided in the front carrier at a location which is subsequent to the terminal value of the series. Second marking means is provided on the rear carrier and represents at least one additional value which constitutes the value following the terminal value of the series. Advancing means is associated with the carriers for intermittently advancing both of the same as a unit so that the values of the series on the front carrier successively arrive at an observation station, and for intermittently advancing only the rear carrier relative to the front carrier when the window in the latter arrives at the observation station so that the additional value on the rear carrier becomes observable through this window.

### 3,518,826 RETURN MECHANISM FOR STOPWATCHES

Naoki Takashina, Tokyo, Japan, assignor to Kabushiki Kaisha Daini Seikosha  
Filed July 1, 1968, Ser. No. 741,595  
Claims priority, application Japan, Aug. 21, 1967,  
42/53,301  
Int. Cl. G04f 7/04

U.S. Cl. 58—74

2 Claims



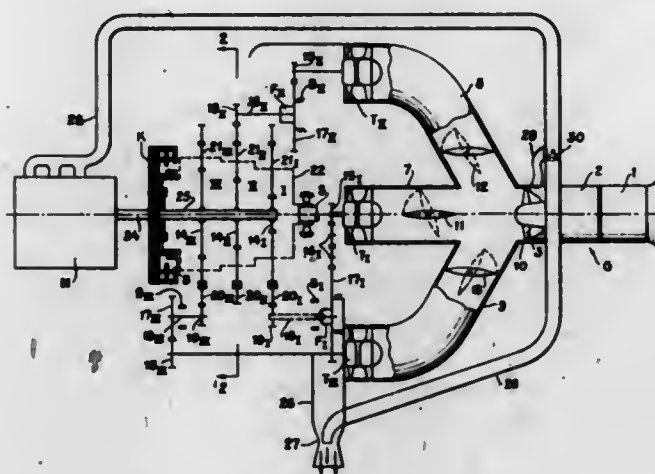
A return mechanism for stopwatches including a hammer pivotally mounted on the base of said stopwatch and

formed with acting surfaces adapted to operatively engage the minute hand and second hand respectively and means for displacing the point of pivotable mounting of the hammer along the base plate so that said hammer acting surfaces will operatively engage both the minute and second hands at the zero position thereof.

### 3,518,827 DRIVE SYSTEM FOR VEHICLES

Fritz Riemerschmid, Starnberg, Germany, assignor to Motoren- und Turbinen-Union, Munich, Germany  
Filed Oct. 10, 1968, Ser. No. 766,537  
Claims priority, application Germany, Oct. 11, 1967,  
1,630,820  
Int. Cl. F01k 23/14; F16h 37/06  
U.S. Cl. 60—11

8 Claims



A diesel engine and a plurality of gas turbine engines are coupled through a multi-gear stage planetary gear system. The turbine engines are driven by a gas generator and the output to the vehicle drive shaft has its gear ratio changed, that is, gears shifted, by routing the gas from the generator to the turbine engine connected to its gear stage.

### 3,518,828 HYBRID ROCKET MOTOR IGNITION SYSTEM

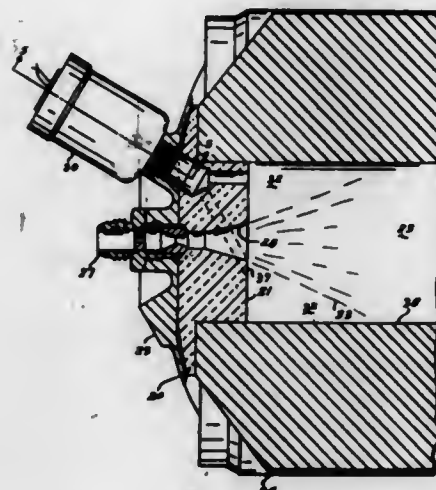
James N. Bradford, Sunnyvale, and Richard A. Jones, Los Gatos, Calif., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Sept. 27, 1968, Ser. No. 763,261

Int. Cl. F02k 9/06

U.S. Cl. 60—39.82

2 Claims



An ignition system for a hybrid rocket motor has the oxidizer supplied to the fuel grain port with a predetermined spray cone angle. The fuel-rich products of combustion of a small solid propellant igniter is supplied to

the zone adjacent the spray cone wherein the secondary reaction with the oxidizer provides the heat energy to cause ignition between the liquid oxidizer and the solid fuel of the hybrid rocket.

### 3,518,829 FLUID MOTOR BRAKE MECHANISM

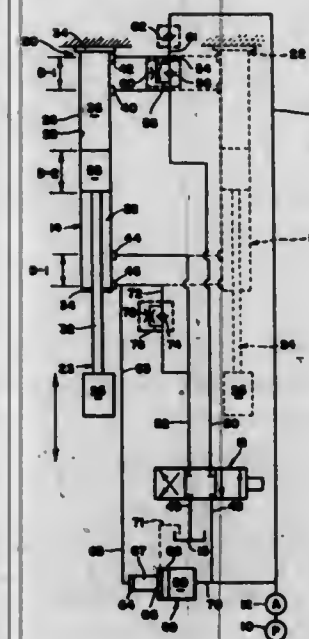
Haim J. Kamner, 2720 W. Rascher St.,  
Chicago, Ill. 60625

Filed Oct. 8, 1968, Ser. No. 765,827

Int. Cl. F15b 1/02, 15/22; F01b 11/02

U.S. Cl. 60—51

11 Claims



A brake mechanism for a fluid cylinder having a piston and rod assembly reciprocally mounted therein which defines head and rod chambers. Each of the chambers are further defined by an end plate fixed to the cylinder on the outer axial end of the respective chamber. First and second fluid ports are provided in each of said chambers, all ports being adapted to be placed in fluid communication with either a fluid reservoir, or a fluid pressure accumulator, by first and second conduit means. Each of the first ports is axially spaced from its respective chamber end plate a distance less than the longitudinal axial dimension of the piston whereby bottoming of the piston against either end plate closes the respective first port. Each of the second ports is axially closer to its respective end plate than the first port and is additionally adapted to be operatively connected by third conduit means to the fluid pressure accumulator whereby bottoming of the piston in either chamber charges the accumulator thereby cushioning against inertia or shock loads upon bottoming of the piston without generation of extremely high pressures or provoking heat dissipation problems.

### 3,518,830 VAPOR HEATED TUBE AND SHELL HEAT EXCHANGER SYSTEM AND METHOD OF PURGING

Paul W. Viscovich, Swedesboro, N.J., and Allan A. Dunnivant, Wallingford, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 17, 1968, Ser. No. 768,454

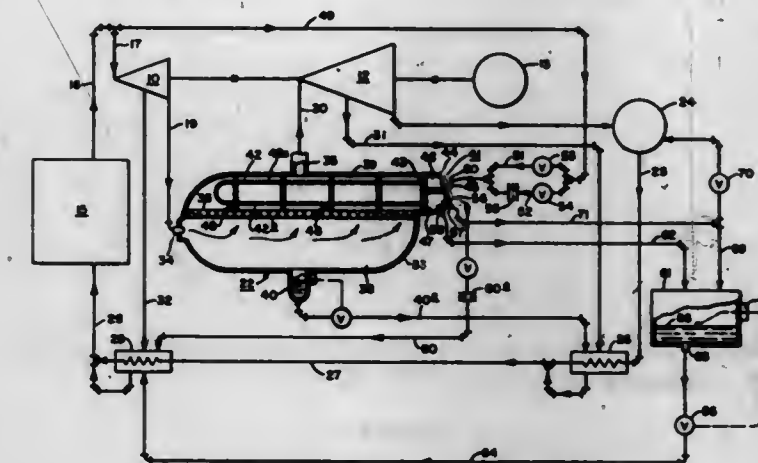
Int. Cl. F01k 7/16

U.S. Cl. 60—73

5 Claims

A system comprising a vapor heated tube and shell heat exchanger for heating steam to a higher temperature is provided with a novel system for purging air from the

heat exchanger tubes upon initiating operation. The system is operable by a novel method which includes venting the tubes to a region below atmospheric pressure to remove most of the air from the tubes, preheating the tubes externally in a uniform manner by the steam to be



reheated, and then completing the purging by passing highly heated steam through the tubes at a low rate so as to reduce the tendency of the tubes to warp or buckle and to prevent damage to the tubes and/or the tube supports.

### 3,518,831 METHOD AND APPARATUS FOR SUBTERRANEAN IRRIGATION

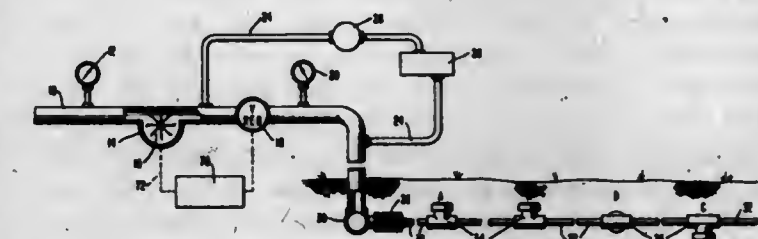
Edward Camp Tibbals, Jr., and Robert J. Mlosek, Boulder, and John M. Stechman, Jamestown, Colo., assignors, by mesne assignments, to Alexander Dawson, Inc., Mahwah, N.J., a corporation of Delaware

Continuation-in-part of application Ser. No. 575,608, Aug. 29, 1966. This application Nov. 2, 1967, Ser. No. 680,197

Int. Cl. E02b 13/00

U.S. Cl. 61—13

19 Claims



Subterranean irrigation system and improved fluid dispensing units therefor incorporating a movable valve member displaceable in accordance with variations in pressure of the irrigating fluid for metering the amount of irrigating fluid emitted therefrom and for disturbing sediment accumulated therein at preselected intervals.

### 3,518,832 DOWNSTREAM AERATED GATE SLUICE

Guido Dolder, Zurich, Switzerland, assignor to Escher Wyss Limited, Zurich, Switzerland, a corporation of Switzerland

Filed July 31, 1968, Ser. No. 749,041

Int. Cl. E02b 7/28

U.S. Cl. 61—28

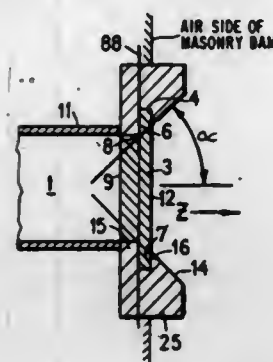
6 Claims

A gate sluice, aerated downstream, for regulating the quantity of discharge of water in a channel, having a sluice gate movable in recesses in the side walls of said channel. The flow-separation edge at the foot of the



sluice gate lies in the same plane as the edges between the side walls of the upstream channel part and the said

surrounding soil. A further feature of the invention involves the use of an inflatable packing means designed to seal the bore to prevent movement of grouting composi-



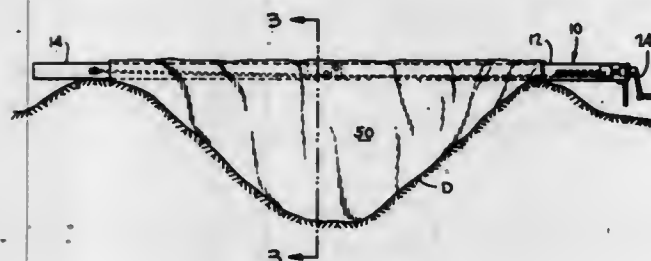
recesses, and the upstream-directed surface of the sluice gate is situated upstream of this plane.

### 3,518,833 ADJUSTABLE DAM STOCK FOR IRRIGATION DITCH

Clark Elmer Bogart, P.O. Box 459,  
Hale Center, Tex. 79041  
Filed Nov. 6, 1968, Ser. No. 773,902  
Int. Cl. E02b 5/08

U.S. Cl. 61-29

8 Claims



A portable dam stock for an irrigation ditch that comprises a sheet of flexible impervious material suspended from a pair of hollow tubular members that are pivotally interconnected at their adjacent ends and rest at their outer ends on the ground adjacent the sides of the ditch. One end of a flexible cable is attached adjacent the outer end of one of the tubular members, passes through a cable guide at the lower inner end of one of the tubular members, and is attached at its other end to a screw and nut arrangement at the outer end of the other tubular member. By adjusting the screw and nut arrangement, the length of the cable can be increased or decreased to vary the angle between the tubular members and thereby the height of the flexible material that forms the dam stock.

### 3,518,834 GROUTING SYSTEM

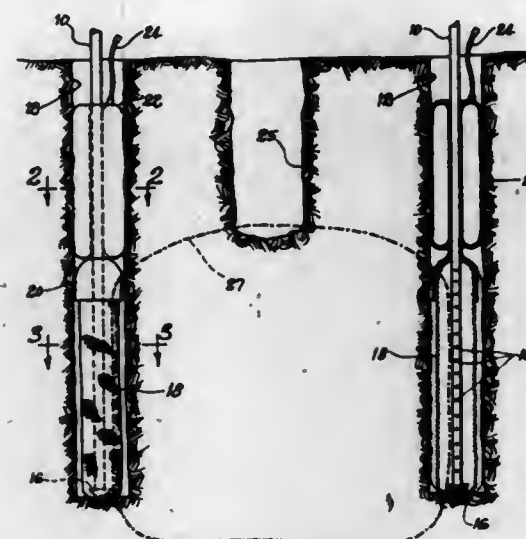
John P. Gnaedinger, Highland Park, Ill., and Alvaro L. Ruiz, Madrid, Spain, assignors to Soil Testing Services, Inc., Northbrook, Ill., a corporation of Illinois  
Filed May 9, 1968, Ser. No. 728,007  
Int. Cl. E02d 3/12; E01g 3/00

U.S. Cl. 61-36

3 Claims

A construction and method for introducing grouting materials into the soil comprising an elongated pipe having means attached thereto which result in uniform introduction of the grouting composition and which prevent passage of the composition out of the bore formed for grouting purposes. A porous bag may be attached to the pipe whereby the grouting composition will seep through openings in the bag for uniform flow into the

A method for alleviating scouring around the legs of a marine structure which are partially embedded in the bottom of a body of water. The method comprises the placement of an insoluble, unconsolidated, particulate, antiscouring material having a specific gravity of four or greater in masses about the lower ends of each leg. The antiscouring material is preferably selected from materials which are normally used for weighting drilling muds, e.g., iron oxide, lead shot, celestite, and barite. Of these, barite is preferred due to its ready availability and relatively low cost. This material by having substantially greater density than that of the naturally occurring materials which normally comprise the bottom of the water will resist scouring and will fill any excavations caused by scouring of sand or gravel from the legs. It will thereby maintain a firm foundation about the legs and prevent shifting of the structure.



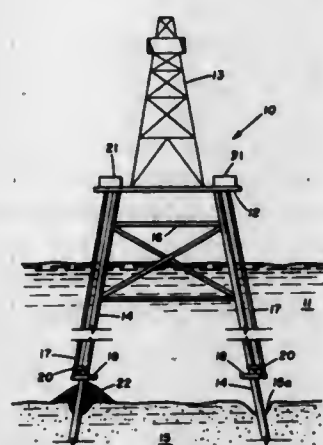
tion out of the bore after it has been introduced but before the composition has an opportunity to pass into the surrounding soil.

### 3,518,835 METHOD FOR ALLEVIATING SCOURING ABOUT A MARINE STRUCTURE

George W. Perry, Le Vesinet, France, assignor to Mobil Oil Corporation, a corporation of New York  
Filed July 15, 1968, Ser. No. 744,993  
Int. Cl. E02d 3/14

U.S. Cl. 61-46

8 Claims

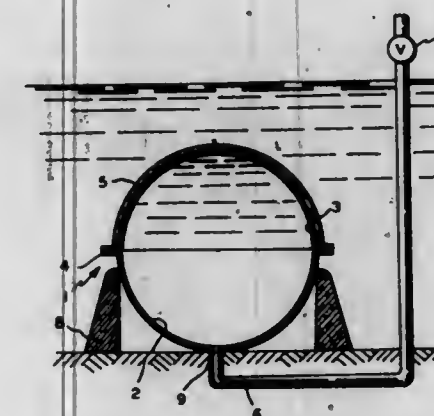


### 3,518,836 UNDERWATER OIL TANK

Hideo Itokawa, 15-34 4-chome, Matsubara,  
Setagaya-ku, Tokyo, Japan  
Filed Feb. 7, 1969, Ser. No. 797,401  
Claims priority, application Japan, Feb. 14, 1968,  
43/9,303  
Int. Cl. E02d 29/00

U.S. Cl. 61-46

1 Claim



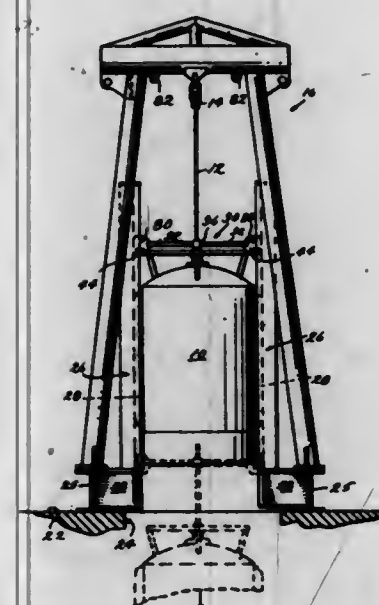
An underwater oil tank. The tank has a rigid lower half which is half-circular in vertical section, and which is fixed on the bottom of a body of water. An upper half made of a water-proof flexible material is half-circular in vertical section when fully expanded and is coupled securely to said lower half. An upper half portion protector covers the outer surface of said upper half. A pipe extends from the bottom of the tank through the body of water to above the water surface.

### 3,518,837 STABILIZING BAR FOR LIFTING AND LOWER- ING SYSTEMS USED WITH SUBMERSIBLE OBJECTS

Mark P. Banjavich, 7600 W. End Blvd.,  
New Orleans, La. 70124  
Filed Feb. 14, 1969, Ser. No. 799,474  
Int. Cl. B63c 11/00; E02b 17/00

U.S. Cl. 61-69

16 Claims



A lifting and lowering system for moving a diving vehicle, or other submersible structure, from an underwater level of operation to an above-water level includes a support frame into which the diving vehicle may be

received when the vehicle is suspended on the end of a line or cable. In order to eliminate or reduce a pendulum effect which might otherwise arise when the diving vehicle is tethered at the end of the cable, a stabilizing bar means is inserted into the support frame so as to limit horizontal movements of the cable from which the diving vehicle is suspended. The stabilizing bar means is carried in the support frame so as to enclose or encircle the line or cable passing down through the support frame, and the stabilizer bar moves vertically within the support frame in accordance with the position of the diving vehicle within the support frame.

### ERRATUM

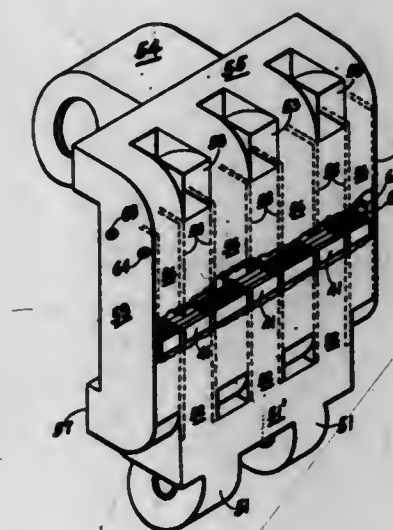
For Class 61-72.1 see:  
Patent No. 3,518,840

### 3,518,838 THERMOELECTRIC DEVICES

Alwin B. Newton, Spring Garden Township, York  
County, Pa., assignor to Borg-Warner Corpora-  
tion, Chicago, Ill., a corporation of Illinois  
Filed Sept. 10, 1962, Ser. No. 222,371  
Int. Cl. F25b 21/02

U.S. Cl. 62-3

11 Claims



A thermoelectric module which includes alternating p-type and n-type thermoelectric elements having heat exchange fins interposed therebetween. The fins are constructed from an electrically conductive material so that unidirectional electrical energy is passed in series through the heat exchanger sections and the thermoelectric elements in series.

### 3,518,839 LOW TEMPERATURE FRACTIONATION OF GAS- EOUS MIXTURES WITH PRELIMINARY AND SPLIT STREAM HEAT EXCHANGE

Rudolf Becker, Munich, Germany, assignor to Linde  
Aktiengesellschaft, Wiesbaden, Germany  
Filed Mar. 31, 1967, Ser. No. 627,434  
Claims priority, application Germany, Mar. 31, 1966,  
L 53,250  
Int. Cl. F25j 5/00

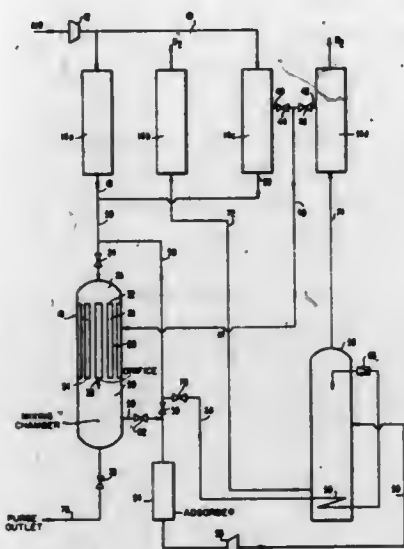
U.S. Cl. 62-13

15 Claims

In the low temperature separation of gases utilizing reversible heat exchangers for the cooling and cleaning of incoming gases, wherein a branch of partially cooled and cleansed air is withdrawn from the middle portion of the reversible heat exchangers, the improvement of completing the cooling and cleaning of said withdrawn gases in



a single countercurrent heat exchanger without interrupting the separation process, thereby avoiding the use of a



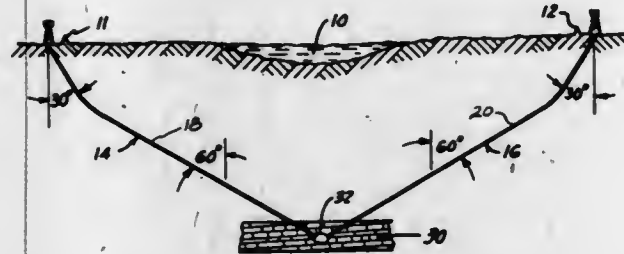
parallel countercurrent heat exchanger for cleaning purposes.

### 3,518,840 METHOD OF AND APPARATUS FOR CONNECTING A PIPELINE ACROSS AN OBSTRUCTION

R Valentine Mertz, Houston, Tex., assignor to Trunkline Gas Company, Houston, Tex.  
Filed Mar. 27, 1968, Ser. No. 716,462  
Int. Cl. F16l 1/00; E02g 3/00

U.S. Cl. 61-72.1

7 Claims



Two well bores are drilled from opposite sides of an obstruction, such as a river. The well bores are inclined from the vertical such that they will intersect or pass close to each other at a preselected depth below the obstruction. The preselected depth is such that the overburden equals or exceeds the operating pressure of the pipeline. A string of casing is cemented in each well bore and communication is established between the well bores below the casing strings, if the well bores did not intersect when drilled. The casing strings are then connected into the pipeline sections on each side of the obstruction to permit fluid to flow from one section of the pipeline to the other through the casing strings.

### 3,518,841 REFRIGERATION APPARATUS WITH VARIABLE INTERNAL DEFROST MEANS

Eugene L. West, Jr., Galesburg, Ill., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Oct. 25, 1968, Ser. No. 770,501  
Int. Cl. F25d 21/06

U.S. Cl. 62-153

9 Claims

Refrigeration apparatus of the household refrigerator type includes an evaporator automatically defrostable through the agency of an electric heating element energized at varying time intervals. The variation in time in-

tervals between defrost periods is a function of selective energization and deenergization of a dew point compensator, and may also combine the effects of compressor run time and number of door openings. The dew point compensator comprises an electric heater in the region of the breaker frame of the refrigerator, and energization



and deenergization of the compensator is achieved manually, by the user, according to conditions of relative humidity to which the refrigerator cabinet is subjected. The net effect is the shortening of intervals between defrost periods under conditions such that frost can be expected to accumulate rapidly.

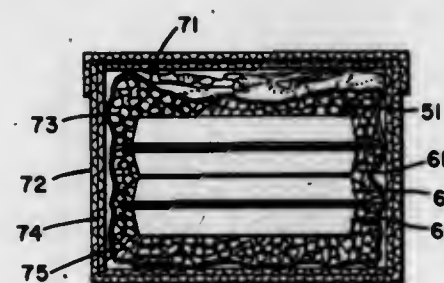
### 3,518,842 FISH PACKING SYSTEM

Robert L. Calder, Lennoxville, Quebec, Canada, assignor to General Plastics Company Limited, Cookshire, Quebec, Canada

Filed June 3, 1968, Ser. No. 734,158  
Claims priority, application Canada, Apr. 18, 1968, 17,769

Int. Cl. F25d 3/08; B65d 81/18  
U.S. Cl. 62-372

7 Claims



Fresh fish fillets are packed in flat boxes which hold them firmly while preventing loss of fish water and mixing with melting ice. A complete system adapted for cooling and shaping food products consists of one or more flat boxes in a loose waterproof overwrap bag together with ice in a protective box.

### 3,518,843 SPRINGLESS ADJUSTABLE RING GUARD

John H. Boening, 306 S. Main St., Frankenmuth, Mich. 48734

Continuation-in-part of application Ser. No. 610,311, Jan. 19, 1967. This application Jan. 26, 1968, Ser. No. 700,922

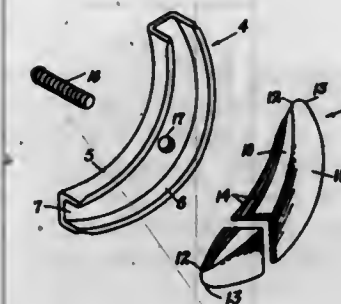
U.S. Cl. 63-15.6

Int. Cl. A44c 9/02

15 Claims

A ring guard having an arcuate channel receiving a finger ring loop and an arcuate clamp member accom-

modated in the channel and in clamping engagement with the ring loop, the channel having a flange adapted



to be accommodated with the ring loop so as to reduce the normal size of the finger ring.

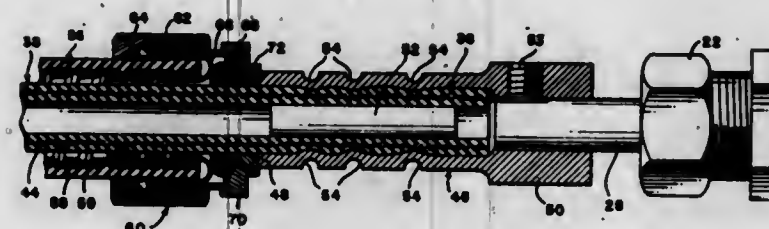
### 3,518,844 FLEXIBLE SHAFT

Lawrence J. Robbins, Collegeville, Pa., assignor to Flexadyne Corporation, Lansdale, Pa., a corporation of Pennsylvania

Filed Aug. 19, 1968, Ser. No. 753,348  
Int. Cl. F16c 1/06, 1/26

U.S. Cl. 64-4

6 Claims



A flexible shaft for linking rotatable members so that rotation of one rotatable member causes rotation of the other rotatable member. The shaft comprises an elongated core member which is connected between the rotatable members. The core member is substantially rigid torsionally and longitudinally flexible. An elongated sleeve is telescoped over the core member and is substantially co-extensive with the core member. The sleeve is longitudinally flexible and maintains a uniform inner diameter along the length of the sleeve. The inner diameter of the sleeve is substantially unchanged whether the sleeve is straight or curved. A lubricant is provided between the sleeve and the core member to facilitate movement of the core member with respect to the sleeve.

### 3,518,845 SELECTING DEVICE FOR INDIVIDUAL SELECTION OF THE KNITTING TOOLS IN VERY FINE GAUGE KNITTING MACHINES

Aymon de Cerjat, Neuchatel, Switzerland, assignor to Edouard Dubied et Cie (Societe Anonyme), Couvet, Neuchatel, Switzerland

Filed Nov. 14, 1967, Ser. No. 682,812  
Claims priority, application Switzerland, Nov. 14, 1966, 16,329/66

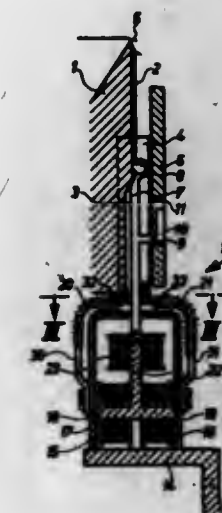
Int. Cl. D04b 15/78, 15/70

U.S. Cl. 66-50

10 Claims

The selecting device for individual selection of the knitting tools of a fine gauge knitting machine comprises a control electromagnet which is polarized by electric pulses according to a given programme for causing selective deviation of the knitting tools against one or the other of the pole faces of a magnet against which they are

maintained by magnetic adherence. The pushers of the needles are guided by partitions of non-magnetic material for the purpose of concentrating the magnetic flux to the pushers to be selected and preventing leakage across the partitions. The core of the control electromagnet has its end portion adjacent the needles relieved on the side of egress of the travelling tools, so that the pushers which



have left the selecting position will no longer be influenced by the magnetic control field. The upper end of the coil of the control electromagnet is disposed on the highest possible level in close proximity to the pole face of the magnet core, and auxiliary magnets are provided for increasing the force of magnetic adherence and provide a safe locking of the selected tools.

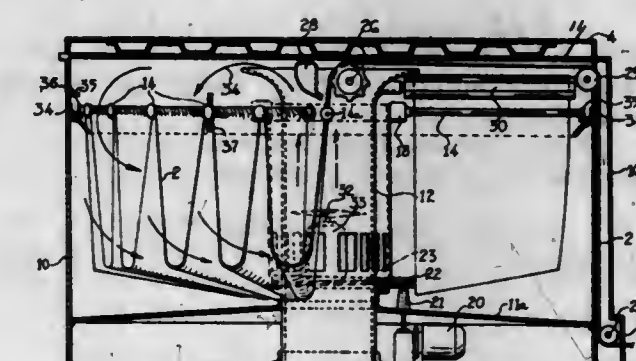
### 3,518,846 DEVICE FOR CARRYING LOOPED TEXTILES

Robert Vogel, Dusseldorf-Heerdt, and Alfred Korach, Krefeld, Germany, assignors to Gerber & Co., G.m.b.H., Krefeld, Germany, a corporation of Germany

Filed July 25, 1968, Ser. No. 747,521  
Int. Cl. D06f 37/00

U.S. Cl. 68-5

5 Claims



A device for carrying textiles in a looped position through a chamber, comprising a center vertical column, a chamber enclosing the column, a plurality of rod means radially extending from the column and adapted to rotate about the column in an essentially horizontal plane, inlet means attached to the chamber and adapted to feed textiles onto the rod means, and exit means attached to the chamber and adapted to remove the textiles. The textiles are removed after the textiles have traveled at least 180 degrees around the column from the direction of the inlet.



### 3,518,847 CONTINUOUS PROCESSING OF FLEXIBLE MATERIALS

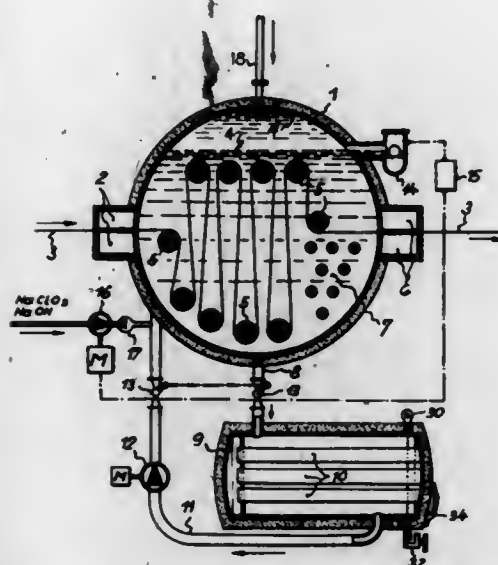
Herward Duis, Krefeld-Urdingen, Germany, assignor to Joh. Kleinewefers Sons, Krefeld, Germany, a corporation of Germany

Filed Apr. 14, 1967, Ser. No. 636,232  
Claims priority, application Germany, Feb. 18, 1966, K 58,483

Int. Cl. D06f 39/10

U.S. Cl. 68—18

2 Claims



An apparatus useful for the continuous processing of flexible materials such as cotton textiles which comprises a pressure chamber capable of holding a treating fluid at conditions in excess of 100 degrees C. and at a pressure above 1 atmosphere, wherein an inlet permits introduction of the flexible material into the chamber below the level of the fluid, and means are employed to convey the material through the chamber and out of the chamber continuously while maintaining the flexible material below the level of the fluid in the chamber. The apparatus additionally contains recirculating means for withdrawing the fluid from the chamber, filtering the fluid and recharging it back to the chamber while simultaneously supplying additional fluid to maintain the volume at any given level in the chamber.

### 3,518,848 DEVICE FOR THE CONTINUOUS TREATMENT OF A WEB OF FABRIC WITH FLUID

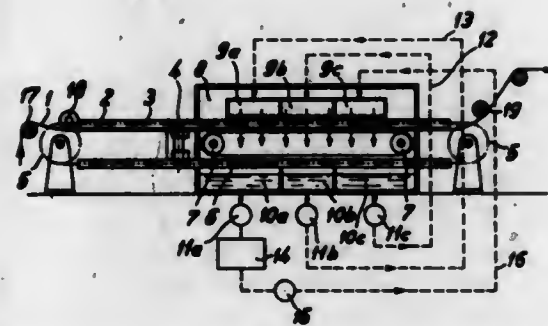
Arno Becker, Stuttgart-Vaihingen, Germany, assignor to Bruckner-Trockentechnik KG, Leonberg, Wurttemberg, Germany

Filed Sept. 23, 1968, Ser. No. 761,701  
Claims priority, application Germany, Sept. 27, 1967, 1,610,911

Int. Cl. D06c 3/02; D06f 35/00

U.S. Cl. 68—18

5 Claims



The device for the continuous treatment of a web of fabric with fluid comprises a pair of laterally spaced endless feeding and clamping members for holding the edges

of the fabric web. A belt conveyor comprising an endless fluid-permeable conveyor belt travels between the spaced endless feeding and clamping members and supports the web. A fluid spraying device is arranged above the conveyor belt.

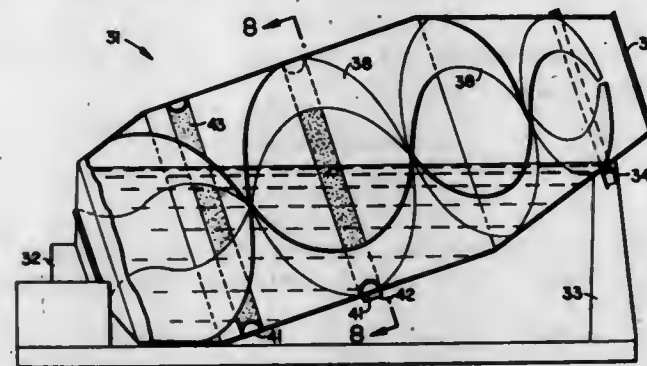
### 3,518,849 HIDE PROCESSING METHOD AND APPARATUS

William S. Eggleston, Menlo Park, Calif., assignor of ten percent each to Jon Legallet, Jok Legallet, Joe Legallet, and Paul Legallet III, Burlingame, Calif., and twenty percent each to Harvey T. Solveson, Menlo Park, and Harold Morgan, San Rafael, Calif.

Filed Nov. 26, 1968, Ser. No. 779,036  
Int. Cl. C14c 15/00

U.S. Cl. 69—30

23 Claims



Animal hides are processed in an elongated, internally finned drum rotated about an axis which is inclined from both the vertical and the horizontal to produce a spiral blending and kneading action on the hides.

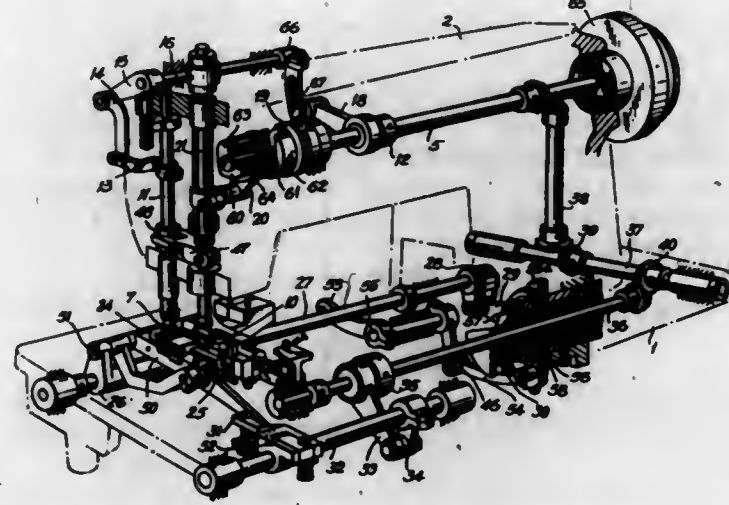
### 3,518,850 APPARATUS FOR HOT FORMING THE EDGES OF LEATHER WORKPIECES

Sofia Kemalevna Ashratova, Gollanovo, korp 34, kv. 58; Anatoly Alexandrovich Atkarsky, Derbenevskaya naberezhnaya 13/17, korpus 3, kv. 78; Vladimir Pavlovich Lapshin, Profsojuznaya ul. 32/10, kv. 178; and Vladimir Sergeevich Novikov, Ul. Dimitrova 27, kv. 28, all of Moscow, U.S.S.R.; Yan Iosifovich Dovalgo, Ul. Zelenaya 15, kv. 5; Ljudmila Alexandrovna Basova, Ul. Pionerskaya 20/7, kv. 24; and Viktor Alexandrovich Bogdanov, Rabochaya ul. 18/38, kv. 76, all of Podoesk, Moskovskaya Oblast, U.S.S.R.; and Mikhail Andreevich Kamanin, Ul. Novocheremushinskaya, kvartal 24, korpus 206, kv. 54; and Boris Grigorievich Khanin, Belyaev-Bogorodskae, ul. Butlerova 23, kv. 7, both of Moscow, U.S.S.R.

Filed Sept. 22, 1967, Ser. No. 669,833  
Int. Cl. C14b 11/00

U.S. Cl. 69—7.5

4 Claims



A machine for the hot forming of the edges of leather workpieces in which to raise the grain side of leather, the

leather workpiece is subjected on its flesh side to the action of a hot tool penetrating below the surface of leather, whereupon the grain side of the leather is pressed over the flesh side in the course of the periodic advance of said workpiece. The machine comprises a mechanism for intermittently moving the leather workpiece, a presser foot moving synchronously with the hot tool, a hammer and a plate, the heated tool performing a positive reciprocating motion in a vertical plane perpendicular to the direction of movement of the workpiece.

### 3,518,851 CONTROL MEANS FOR USE WITH A POSITIVELY GUIDED TOOL

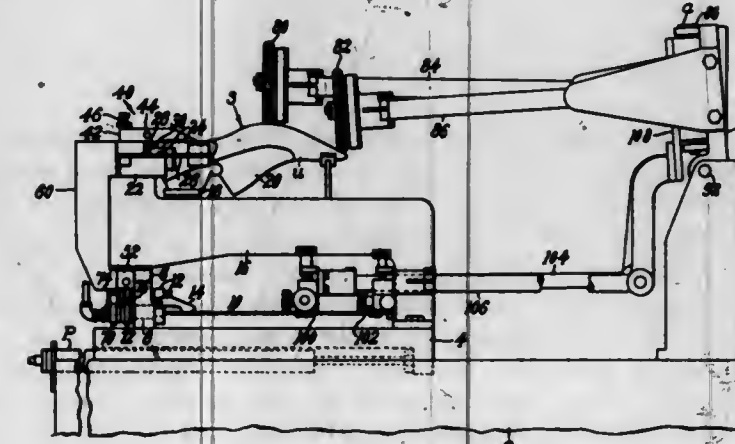
Herbert W. Boot and Allan C. Wood, Leicester, England, assignors to USM Corporation, Boston, Mass., a corporation of New Jersey

Filed Aug. 2, 1968, Ser. No. 749,862  
Claims priority, application Great Britain, Aug. 12, 1967, 37,139/67

Int. Cl. C14b 1/48

U.S. Cl. 69—6.5

7 Claims



A control means for a shoe machine that performs irregular operations upon a shoe clamped in the machine and which has an operating tool guided through irregular motions by means of a template. The control means comprises a sensing means to determine which one of a pair of shoes has been clamped in the machine and a sensing means to determine which of a plurality of particular templates is presently in the machine. If the two sensing means do not coincide in their determination, the machine is not operable until coincidence is present.

### 3,518,852 COMBINATION PADLOCK

John L. Orr, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., Rockford, Ill., a corporation of Delaware

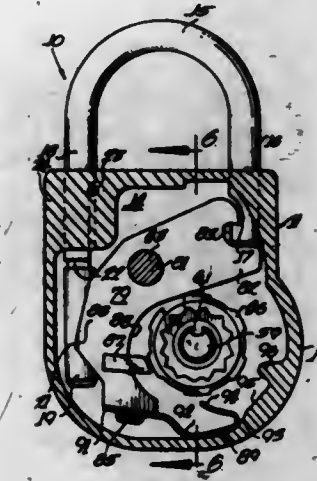
Filed Dec. 4, 1967, Ser. No. 687,675  
Int. Cl. E05b 37/00; 37/10, 1/00

U.S. Cl. 70—25

8 Claims

A combination padlock having a rotating dial and a fixed dial on a lock body of the vernier principle with an odd number of characters on one dial part and an even number of characters on the other part. A reciprocable and rotatable shackle is mounted in the lock body, and a bolt for locking the shackle is pivoted at a precise point to allow for locking of the shackle on both sides thereof. The combination lock utilizes a bottom combination disk, a middle disk and a top disk that is clinched onto and rotatable with the rotating dial and can be secured to the dial in any one of multiple positions to vary the combination of the lock. Also the bottom and middle disks have variably located embossments to vary the dial settings. A combination disk disperser is mounted on the

lower end of the bolt and has an end that is cammed into notches in the lower two combination disks when the shackle is withdrawn and, when the shackle is in-



serted, the bolt is pivoted to move a fence out of the gate in the disks and the dispersing member spins the two lower disks to upset the disk arrangement.

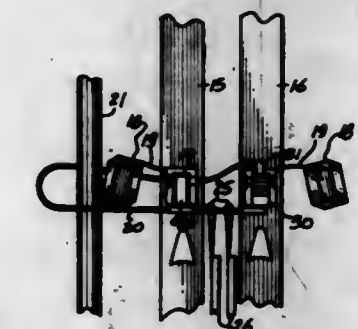
### 3,518,853 SKI LOCK

Allen N. Bolte, 8440 Kessler, Overland Park, Kans. 66212

Filed May 27, 1968, Ser. No. 732,166  
Int. Cl. E05b 73/00; A63c 11/02

U.S. Cl. 70—58

8 Claims



A ski lock, which includes brackets rigidly attached to two skis and a cable having mating and locking end portions which cooperates with the brackets, is described in detail. The brackets are designed to be rigidly attached to the cable and the cable is designed to be wrapped around a suitable stationary object such as a ski rack. When the cable is attached to the brackets, the screws which secure the brackets to the skis cannot be reached by a screwdriver and, therefore, the brackets cannot be removed from the skis.

### 3,518,854 PUSH-PULL ACTUATOR FOR DOUBLE LATCHED DOORS AND SINGLE BOLT LATCHED DOORS

Walter M. Krantz, Youngstown, Ohio, assignor to David Tod, trustee and mortgagee, Hubbard, Ohio

Continuation of application Ser. No. 670,580, Sept. 26, 1967. This application Dec. 31, 1968, Ser. No. 790,506

Int. Cl. E05b 55/06, E05c 1/12, 13/00

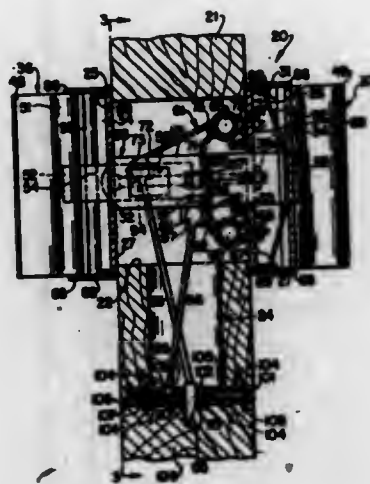
U.S. Cl. 70—149

22 Claims

A door latch actuator employing push-pull operating handles and mechanism operated thereby including a pair



of oppositely movable latch operating plungers respectively adapted for conjoint use to actuate a bolt latch carried by one plunger and a door frame mounted spring

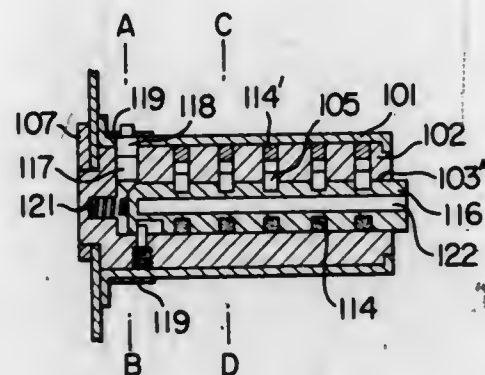


latch where a double latched door is desired or for respective independent use where a bolt latched door only is desired or a door frame mounted spring latch is desired.

**3,518,855**  
**MAGNETICALLY ACTUATED TUMBLER LOCK**  
Kiyoyasu Wake, Tokyo, Japan, assignor of one-half to Fuji Manufacturing Co., Ltd.  
Original application Mar. 30, 1967, Ser. No. 627,092, now Patent No. 3,393,541, dated July 23, 1968. Divided and this application June 21, 1968, Ser. No. 738,973  
Claims priority, application Japan, Aug. 26, 1966, 41/55,822; Jan. 10, 1967, 42/1,576  
Int. Cl. E05b 47/00

U.S. Cl. 70-276

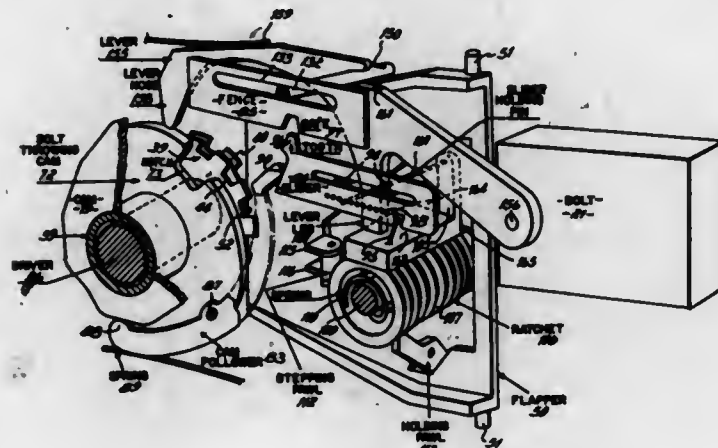
2 Claims



The combination of a lock and a key wherein at least one permanent magnet piece is provided in the key and, also, at least one permanent magnet piece is provided in the lock which is adapted to cooperate with the magnet piece in the key so as to be moved to unlock the lock by the permanent magnet piece in the key only when the proper key is inserted properly in the lock by the action of attraction or repulsion force acting between the magnet pieces in the lock and the key depending upon the orientation of the polarity of the permanent magnet pieces. An auxiliary permanent magnet is positioned in the lock to magnetically hold the movable magnet piece in the lock in its locking position until the magnetic attraction force of the auxiliary magnet is overcome by the magnetic force of the permanent magnet piece provided in the key to move the movable magnet piece to its unlocking position.

**3,518,856**  
**COMBINATION LOCK WITH CAM FOLLOWER POSITIONED, CUMULATIVELY ARRESTED TUMBLER ELEMENTS**  
Anthony J. Potzick, Cincinnati, Ohio, assignor to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York  
Filed Mar. 22, 1968, Ser. No. 715,435  
Int. Cl. E05b 37/00, 37/16  
U.S. Cl. 70-299

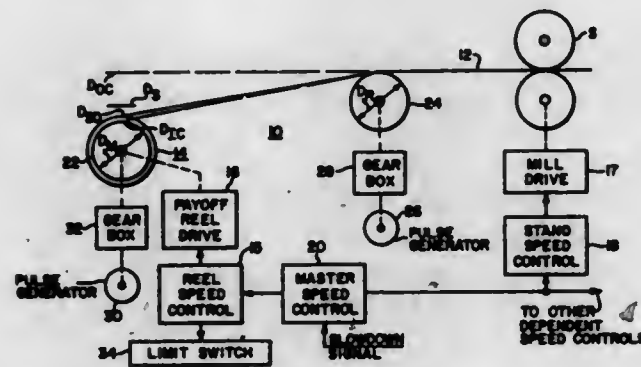
40 Claims



In this combination lock, the dial turns a rotatable cam the movement of which is followed by a set of cam followers. The motions of the respective cam followers are in turn followed by tumbler elements. The elements can be arrested and held against further movement by holding means which is engageable with the respective elements in accumulating sequence. Fence members are interfittable with the respective tumbler elements if the elements have been arrested by the holding means in predetermined positions of alignment with the respective fence members. The members are coupled to a lever which is connectable to a bolt thrower to withdraw the bolt, and they are moved toward the elements when the lever is moved. The elements and members must be interfitted before the lever can contact the bolt thrower. Combination changing structure is also provided, which selectively permits changing the relative position of the members when they are interfitted with the elements.

**3,518,857**  
**ROLLING MILL AUTOMATIC SLOWDOWN CONTROL**  
Charles O. Hancock, Cheektowaga, and Joseph A. McCarthy, Williamsville, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Sept. 28, 1967, Ser. No. 671,347  
Int. Cl. B21b 37/00  
U.S. Cl. 72-8

7 Claims

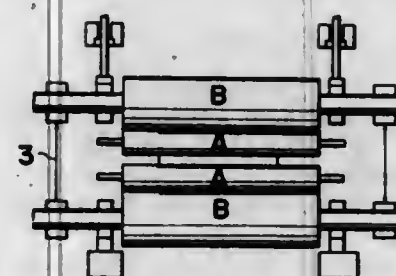


A strip mill automatic slowdown control includes an arrangement for detecting and comparing the speeds of a payoff reel and an entry deflector roll. When the two

speeds reach a predetermined relation, mill slowdown is initiated. A selector control is adjusted according to strip gauge and mill speed to allow delayed mill slowdown for lighter gauge and/or slower mill run speed to allow earlier mill slowdown for heavier gauge and/or faster mill run speed.

**3,518,858**  
**METHOD OF CONTINUOUSLY CONTROLLING THE CORRECTING APPARATUS FOR WORKPIECE SHAPE DURING ROLLING**  
Masamoto Kamata, Tokyo, Japan, assignor to Nippon Kokan Kabushiki Kaisha, Tokyo, Japan  
Filed Nov. 29, 1967, Ser. No. 687,287  
Claims priority, application Japan, Nov. 30, 1966, 41/77,976  
Int. Cl. B21b 29/00, 37/08  
U.S. Cl. 72-19

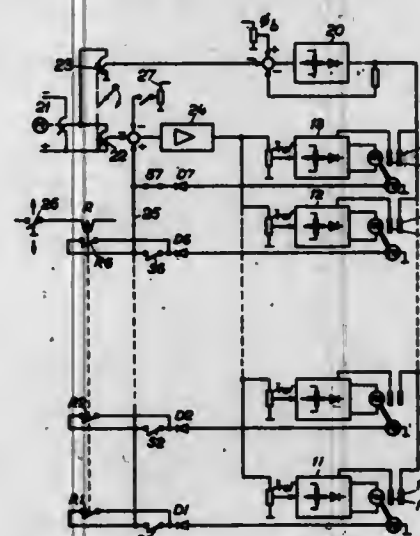
4 Claims



To control size of a workpiece in rolling mills, a signal representative of optimum bending force, as determined from experience tables and stored in a computer is converted to a force signal controlling force between the rolls; in continuous operation, sensed force signals from the computer are compared with optimum bending force signals, and error signals then control application of force between the rolls.

**3,518,859**  
**CONTROL EQUIPMENT FOR CONTINUOUS PRODUCTION LINES**  
Bertram Brinkeborn and Michael Henze, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation  
Filed June 5, 1968, Ser. No. 734,584  
Claims priority, application Sweden, June 14, 1967, 8,348/67  
Int. Cl. B21b 35/04; B21c 1/12  
U.S. Cl. 72-19

3 Claims



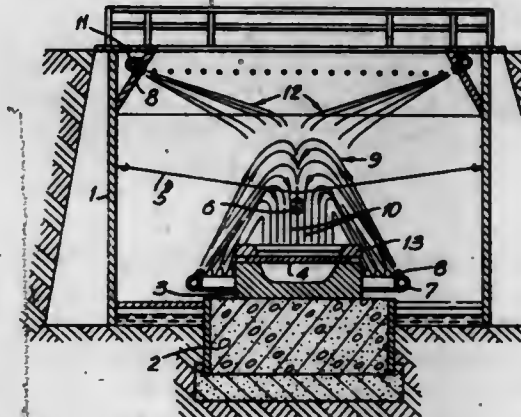
In wire drawing benches, continuous rolling mills and other equipment for continuous production lines, several motors are used operating in sequence. Said motors are provided with speed sensing means fed back to a control amplifier for controlling the motors via blocking means transmitting the strongest signal from the different sensing means and blocking the others.

**3,518,860**  
**SET-UP FOR EXPLOSIVE FORMING**  
Rostislav Vyacheslavovich Pikhovnikov, Prospekt Lenina 3, kv. 227; Alexei Alexeevich Gubsky, Ulitsa Ekonomicheskaya 7, kv. 19; Vladimir Karpovich Borisovich, Zhildon Khai 1, kv. 17; Lidia Rostislavovna Krichenko, Prospekt Pravdy 7, kv. 227; Albert Petrovich Barsukov, DMS, kv. 4; Arkady Fedorovich Pikhovnikov, Ulitsa Franze 15, kv. 9; Vladimir Ivanovich Shalygin, Zhildon Khai 1, kv. 31; and Georgy Arkadievich Repin, Ulitsa Summakhaya 45, kv. 11, all of Kharkov, U.S.S.R.; Anatoly Anatolevich Buzakov, Morskoi prospekt 36, kv. 28, Novosibirsk, U.S.S.R.; and Leonid Vsevolodovich Litovsky, Ul. 23 Avgusta 33, kv. 66; and Valery Ivanovich Eliseev, DMS, kv. 53, both of Kharkov, U.S.S.R.  
Filed Apr. 4, 1968, Ser. No. 718,700  
Int. Cl. B21d 26/08

4 Claims

U.S. Cl. 72-56

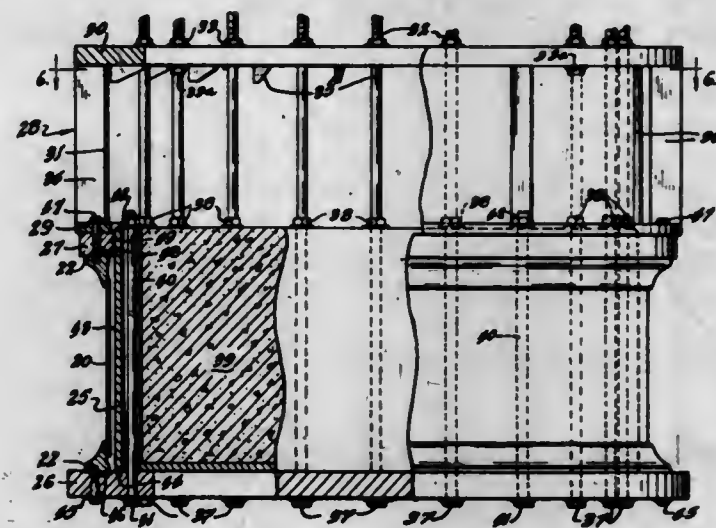
2 Claims



An apparatus for the explosive forming of sheet material. The sheet material is placed on a die within a chamber provided with a header surrounding the die. Fluid is sprayed out of the header to form a domed curtain over the die and workpiece. The spray constitutes the medium that transmits the explosive energy to the blank.

**3,518,861**  
**METHOD OF MAKING AN OMEGA-SHAPED ANNULUS**  
Lyle E. Genens, Mokena, and Robert Kleb, Downers Grove, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission  
Filed July 26, 1968, Ser. No. 747,904  
Int. Cl. B21d 15/06  
U.S. Cl. 72-59

1 Claim



An omega-shaped annulus is formed from a short tube of large diameter by alternate steps of expanding the tube by pressure fluid and of shortening the tube with the fluid at zero pressure. The apparatus for shortening the tube is of moderate size, because the pressure fluid is at zero pressure during the shortening steps.

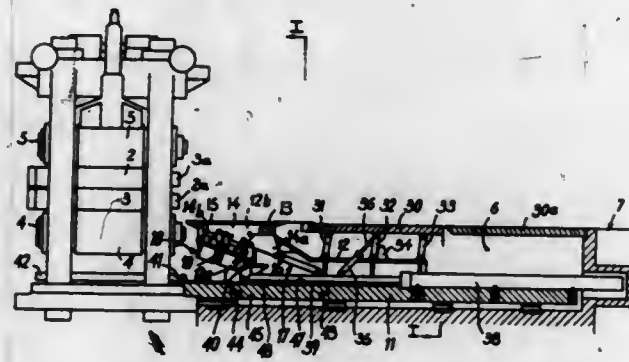


### 3,518,862 INSTALLATION FOR EXCHANGING THE ROLLERS OF A ROLLING MILL

Georges P. Dehaine, Thionville, Moselle, and Jacques M. Lebas, Metz, Moselle, France, assignors to Société Anonyme dite: Société Lorraine de Laminage Continu, Paris, France, a company of France  
Filed Dec. 7, 1967, Ser. No. 688,773  
Claims priority, application France, Dec. 26, 1966, 88,852

U.S. Cl. 72-238 Int. Cl. B21b 31/10

9 Claims



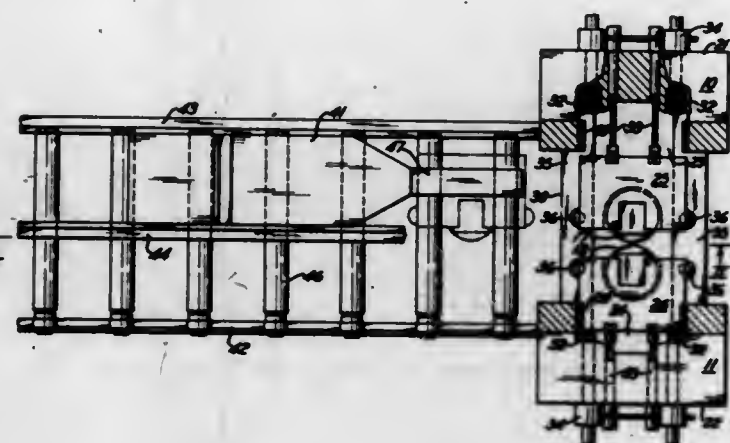
A device for exchanging the rollers in a rolling mill comprising, a manipulating member having several gripping members movable in a direction which is parallel to the longitudinal axes of the rollers and on a path which is slightly greater than the length of the rollers so as to occupy a first working position in which the gripping members are adjacent to the rollers and a second rest position in which the gripping members are retracted. Further including a transfer member disposed between the manipulating member and the housing of the rolling mill. The transfer member having a transfer carriage movable in a direction parallel to the axis of the rolling mill and including upper and lower platforms of which the upper platform is disposed at floor level and is adapted to receive the rollers while the lower platform is disposed at the level of the base of the housing.

### 3,518,863 VERTICAL ROLL ARRANGEMENT AND REMOVAL THEREOF IN A UNIVERSAL BEAM MILL

James Richard Adair, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed May 27, 1968, Ser. No. 732,229  
Int. Cl. B21b 31/10

U.S. Cl. 72-239

6 Claims



The disclosure of this invention relates to a universal wide flange beam mill and, more particularly, to the vertical roll arrangements of such a mill and a system for

quickly removing the vertical rolls from the mill. In the disclosure the vertical roll assemblies are received in upright, spaced-apart housings so formed that in the region of the pass line there is provided, at least on one side between the housing, an opening. The housings are provided with recesses for receiving one of the vertical roll assemblies, the recesses being of a relatively shallow depth such that the rolls themselves fall outside the recesses. The housings are separated sufficiently to allow one roll assembly to be moved toward the center of the mill entirely out of its recess without interference by the other roll assembly. The roll assemblies include bearing chocks having inner rigid portions constructed to resist deflection of the bearing chocks due to the rolling load. The rolls are actually removed and replaced once they have been advanced into the region of the mill opening by a porter bar that is conveyed to and from the mill by the agency of the mill table.

### 3,518,864 AUTOMOBILE REPAIR APPARATUS EXERTING A PULLING FORCE

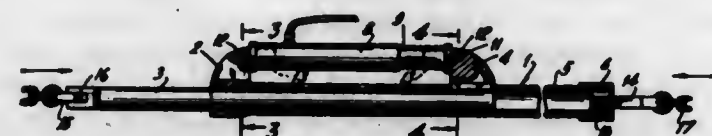
Joseph A. Pietronoto, 3231 Lafayette Ave., Bronx, N.Y. 10465, and Salvatore Giannetto, 35 Acorn Lane, Plainview, N.Y. 11803

Filed May 26, 1967, Ser. No. 641,630

Int. Cl. B21d 1/12

U.S. Cl. 72-302

6 Claims



An improved apparatus for providing a direct pulling force from a pushing force applied between projections extending from interslideable telescoping members. The linear force on the projections as applied, for example, by the expansion of an hydraulic ram, strongly pulls together the ends of the telescoping tube and anything attached to such ends.

### 3,518,865 MACHINE FOR MAKING TUBULAR RIVETS FROM A BAND AND INSTALLING THE RIVETS

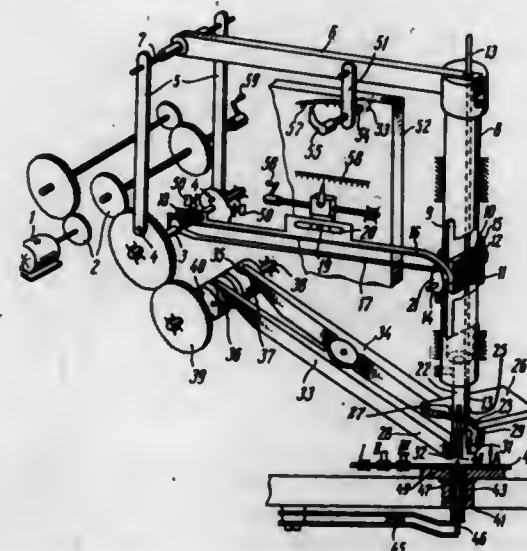
Konstantin Alexeevich Konstantinov, Scherbakovskaya ul. 32-7, kv. 291, Moscow, U.S.S.R.

Filed June 8, 1967, Ser. No. 644,711

Int. Cl. B21k 1/60; B21d 28/00, 53/00

U.S. Cl. 72-338

10 Claims



A machine for making and installing tubular rivets in a plate comprises a device engaging a continuous band of metal to preform the band to V-shape and intermittently

feed the preformed band to a forming and cutting device which cuts successive workpieces from the band and shapes the workpieces, as tubular rivets, on a pin which is slidably carried by a punch cooperating with a die. The punch is reciprocally moved towards and away from the die to successively install the rivets in openings in a plate of an electronic printed circuit and to upset the rivets.

### 3,518,866 FEED OR DISCHARGE MECHANISM FOR A FORMING PRESS

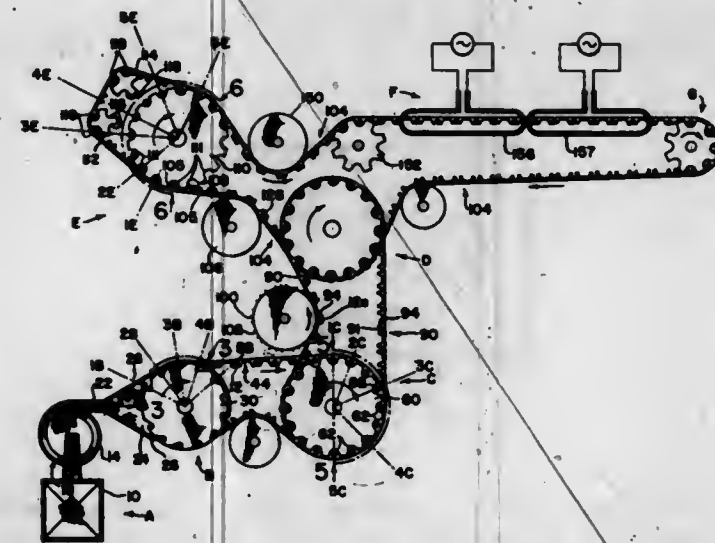
Mark Joseph Connor, Wilmington, Del., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Dec. 12, 1967, Ser. No. 689,935

Int. Cl. B21d 43/02

U.S. Cl. 72-361

11 Claims



The specification discloses an improved feed or discharge mechanism for a forming press of the type including a die and a ram which cooperate to form a workpiece positioned therebetween. The mechanism includes an endless flexible belt carrying spaced workpiece carrying or receiving openings. Guide means are provided to guide the belt adjacent the die and sequentially align the openings with the die and ram to engage a formed workpiece or deposit a workpiece to be formed depending on whether the mechanism is functioning as a feed or a discharge means.

### 3,518,867 FRAME AND UNIT BODY STRAIGHTENING MACHINE

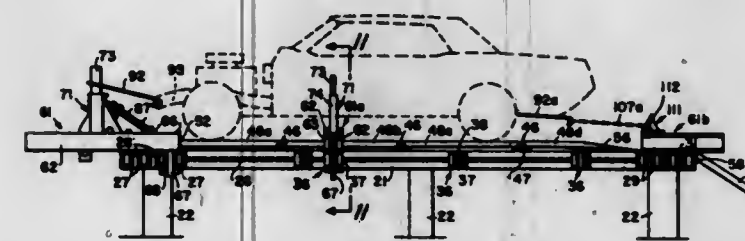
Robert J. Rouls, San Mateo, Calif. (% Align Rite Inc., 2277 Shafter Ave., San Francisco, Calif. 94124).

Filed Feb. 1, 1967, Ser. No. 613,274

Int. Cl. B21d 3/12

U.S. Cl. 72-389

5 Claims



A flat, rigid base frame comprises longitudinal side rails fixed to front and rear ends, the latter being formed with multiple transverse vertical slots. The side rails are formed with inward facing horizontal slots used to support the ends of transverse horizontal rails, which are

longitudinally movable in the horizontal slots and also transversely vertically slotted. Transverse supports are provided for longitudinal tread sections which support the vehicle wheels and are transversely slidable and also removable to adjust for wheel width and to improve access to the work. Fittings inserted in the vertical slots in the front and rear ends and in the transverse rails are connected to automotive frame or body locations by hooks or other means. Attachments may be connected to the frame to receive fittings at locations laterally or longitudinally displaced relative to the base frame. Hydraulic power applied to the fittings thereby applies longitudinal and transverse forces to the automotive frame, the construction of the base frame, attachments, and fittings achieving versatility in such force applications. Further, vertical forces may be applied at the front and rear ends and at the transverse rails in the various positions of their longitudinal adjustment.

### 3,518,868 STRAIGHTENING MACHINE AND METHOD

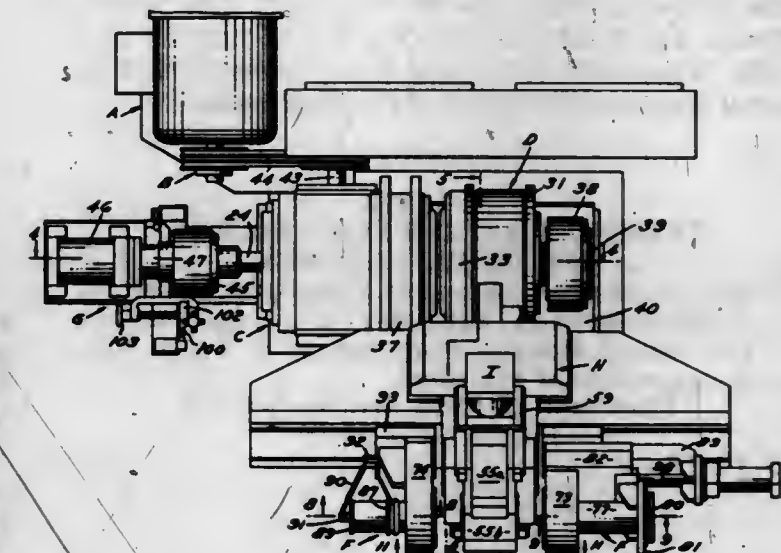
Don A. Cargill, 822 Fairfax, Birmingham, Mich. 48009

Filed Jan. 11, 1968, Ser. No. 697,076

Int. Cl. B21d 3/00

U.S. Cl. 72-389

18 Claims



A straightening machine and method in which a central portion of the neutral axis of a work piece is deflected beyond yield point in a gradually diminishing orbital path while the ends are restrained against radial movement including a crank arm clamped at one end to the work piece and at the other end to a crankshaft having a variable eccentric actuated by cam and roller elements through axial shifting of an hydraulic cylinder piston rod between maximum and zero eccentric positions and an intermediate bearing guide for the crank arm translating the variable eccentric movement at the crankshaft to a corresponding orbital movement of the work piece axis without rotation of the work piece about its own axis.

### 3,518,869 HYDRAULIC PRESS, MORE PARTICULARLY FOR TREATING METALS BY SHAPING

Gaston Sebastien Forichon, 177 Rue de Billancourt, Boulogne, France

Filed June 6, 1967, Ser. No. 643,903

Claims priority, application France, Mar. 30, 1967, 100,829

Int. Cl. B21j 9/12

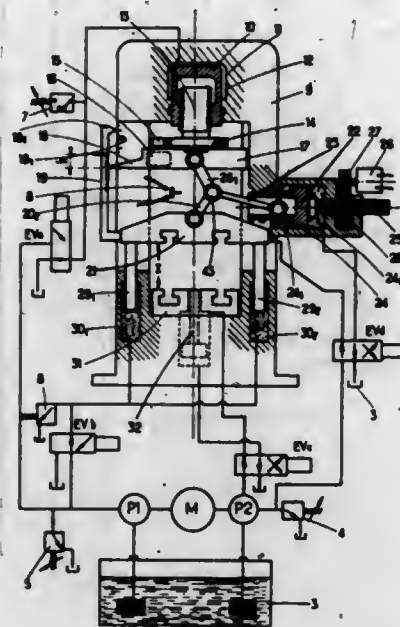
U.S. Cl. 72-453

6 Claims

Hydraulic press for treating metals comprising an upper punch holder plate and a lower female die holder



plate, one of these two plates being mobile in relation to the other by a hydraulic unit, mechanical means such as links or high speed screws replacing the fluid under pressure during the approach and recoil stages of the



press piston to reduce the working cycle time which up till now was consistent with the fact of time losses due to the voluminous filling and heavy pressure that must prevail in the work chamber of the press piston.

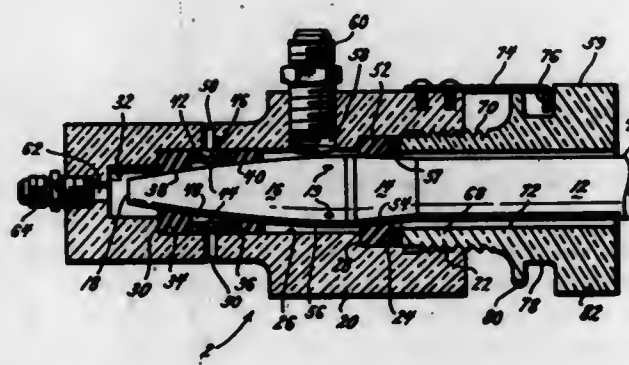
### 3,518,870 TESTING ADAPTER FOR AIRCRAFT PITOT-STATIC TUBES

Lester A. Shubert, Glendale, Mo., and Robert L. Scharringhausen, Belleville, Ill., assignors to McDonnell Douglas Corporation, St. Louis, Mo., a corporation of Maryland

Filed Sept. 18, 1968, Ser. No. 760,579  
Int. Cl. G01f 25/00

U.S. Cl. 73—3

11 Claims



A testing adapter for aircraft pitot-static tubes isolates the forwardly opening dynamic port and the rearwardly presented laterally opening static ports from ambient pressure conditions. The adapter constructed from a unitary body has an elongated cavity that opens outwardly at one end of the body for axial insertion of the pitot-static tube into the cavity. A pressure chamber is formed in the cavity by positioning a first resilient seal against the body and tube, intermediate the dynamic and static ports. A vacuum chamber is formed in the cavity by positioning a second resilient seal against the body and tube, rearwardly from the static ports. The body is formed from a transparent material so that the seals and their position with respect to the ports on the tube can be observed. A pressure source is connected through a pressure

port into the pressure chamber so that a pressure above ambient pressure can be induced. A vacuum source is connected through a vacuum port into the vacuum chamber so that a pressure below ambient pressure can be induced. Thus, the dynamic and static lines can be placed at known pressures which will render predetermined readings on the aircraft instruments.

### 3,518,871 PRESSURE GAUGE CONTAINING CALIBRATION MEANS

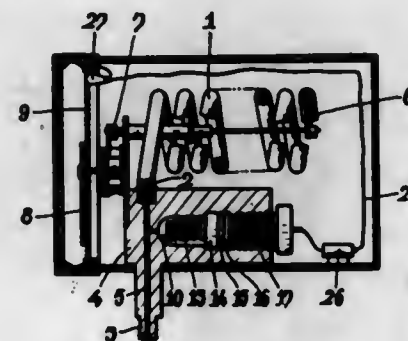
Ryosaku Kaneda, Tokyo, Shojiro Yamamoto, Tokorozawa-shi, Saitama-ken, and Kesakatsu Kotzumi, Tokyo, Japan, assignors to Agency of Industrial Science & Technology, Tokyo, Japan, a corporation of Japan

Filed Mar. 5, 1969, Ser. No. 804,524  
Claims priority, application Japan, Mar. 8, 1968, 43/14,654

Int. Cl. G01l 27/00

U.S. Cl. 73—4

2 Claims



The calibration of a pressure gauge is accomplished by connecting a retractile container, in which a phase transition substance such as ammonium fluoride is hermetically sealed, to the same pressure as the pressure gauge. The detection of the discontinuous change in volume due to the phase transition of the substance when the pressure to be measured reaches the phase transition pressure and ascertaining simultaneously whether the pointer of the pressure gauge indicates the phase transition pressure will indicate the need for correcting the pressure gauge.

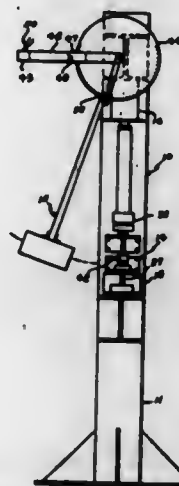
### 3,518,872 IMPACT FRICTION TESTER

Nathan A. Timer, Laguna Beach, Lon E. Bell, Pasadena, and Stephen M. Toy, Orange, Calif., assignors to the United States of America as represented by the Secretary of the Air Force

Filed June 27, 1969, Ser. No. 837,070  
Int. Cl. G01n 19/02

U.S. Cl. 73—9

5 Claims



A friction impact tester having a pin specimen which is rotated on a plate specimen has the energy supplied to

the test system from a pendulum by means of an arm and latch mechanism which controls the angle through which the pin specimen is rotated. The pin and plate specimens are placed in a double moat with the liquid propellant, to be tested, placed in the first moat surrounding the specimens and with a liquid coolant supplied to the second moat which surrounds the first moat.

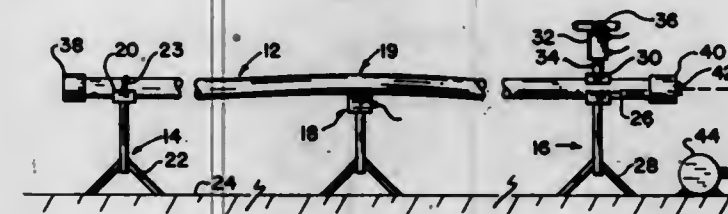
### 3,518,873 METHOD OF TESTING PIPE

Jesse H. Iglehart and Hilary H. Iglehart, both of 4958 Andrews Highway, Odessa, Tex. 79760

Filed Feb. 2, 1968, Ser. No. 702,589  
Int. Cl. G01m 3/24, 7/00

U.S. Cl. 73—49.5

3 Claims



A method of testing pipe and the like by utilizing both hydrostatic pressure and vibrational energy. The pipe is connected to a suitable source of pressurized fluid which increases the internal pressure of the pipe to a predetermined value. While holding the pressure within the pipe constant, the pipe is subjected to vibrational energy which may extend over a considerable range of frequencies. The vibrational energy causes any hidden defects within the pipe to fail, due to the work which is performed upon the pipe by the vibrational energy in proximity of the defect. The source of vibrational energy may be induced into the fluid contained within the pipe or into the pipe wall structure itself, such as exemplified by application of a mechanical vibrator adjacent the outer peripheral surface of the pipe being tested.

### 3,518,874 APPARATUS FOR ANALYZING MIXTURES OF SUBSTANCES IN ONE OR A PLURALITY OF CHROMATOGRAPHIC COLUMNS

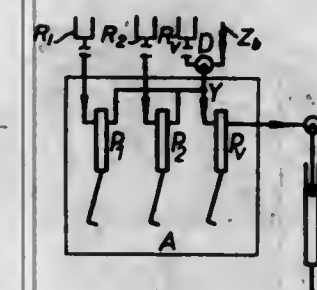
Jiří Hrdina, Prague, Czechoslovakia, assignor to Československá akademie věd, Prague, Czechoslovakia, a corporation of Czechoslovakia

Filed Apr. 28, 1965, Ser. No. 451,518  
Claims priority, application Czechoslovakia, May 26, 1964, 3,036/64

Int. Cl. G01n 31/08

U.S. Cl. 73—61.1

5 Claims



In a series of pumps working in parallel each pump draws eluent from its own operatively associated reservoir and pumps it into a common line leading towards the column or columns. Samples are delivered thereto in controllable manner either by the last pump in said series or by a pressure charger.

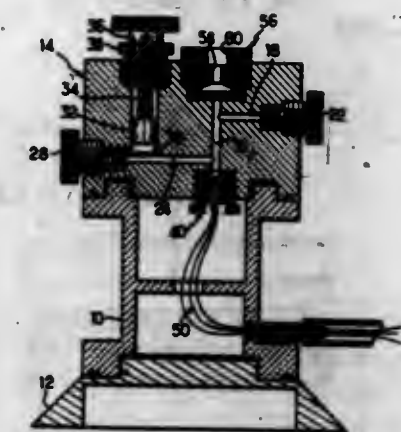
### 3,518,875 OSMOMETER

René Casimir Auguste Charmasson, Marseille, France (92 Impasse Raymond, Rue Carreterie, 84 Avignon, France)

Filed Feb. 26, 1968, Ser. No. 708,177  
Int. Cl. G01n 13/04

U.S. Cl. 73—64.3

2 Claims



In an osmometer comprising, on each side of a semi-permeable diaphragm, an open chamber and a closed, so called measurement chamber with a pressure detector in its confining wall, a constant-volume measurement chamber is obtained by applying the semipermeable diaphragm against a rigid supporting grid. The confining wall of said chamber has a movable portion and an adjustment member permits the position of this movable portion to be modified.

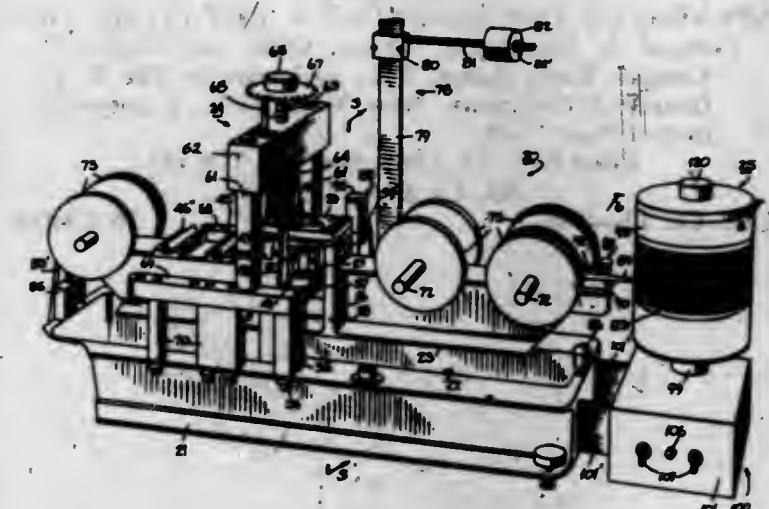
### 3,518,876 MECHANICAL OSCILLOGRAPH

Felix L. Yezley, Verona, N.J., assignor to Yezley & Co., Newark, N.J., a corporation of New Jersey

Filed Aug. 8, 1968, Ser. No. 751,293  
Int. Cl. G01b 5/30

U.S. Cl. 73—88

14 Claims



The oscillograph is provided with knife edges which make point-to-point contact with a bearing groove formed by digitated engaging bearing blocks. In addition, the chronograph drum is mounted in fixed bearings at top and bottom so as to rotate in a fixed vertical axis. The supply of ink to the recording pen is delivered from a reservoir which is adjustable in height with respect to the pen so that ink supply to the tip of the pen is controlled. A plurality of knife edges are arranged along the beam so as to provide different mounting points for a test specimen. Additional, a linkage assembly in parallel form is used to maintain the specimen support in a horizontal plane at all times substantially without friction.



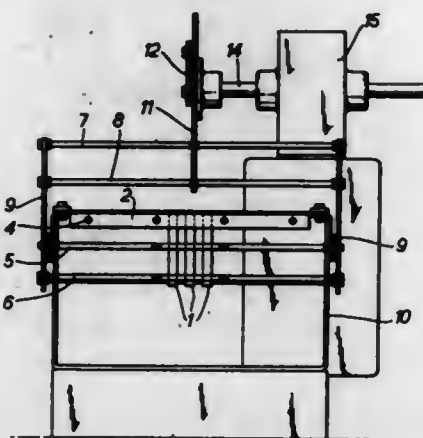
3,518,877

**APPARATUS FOR TESTING PLASTIC MATERIALS**  
 Alan Collier, Westhumble, Dorking, Surrey, Denis Sidney Ward, Walton-on-Thames, and Christopher Ronald Pout, Staines, Middlesex, England, assignors to The British Petroleum Company Limited, London, England  
 Filed Oct. 8, 1968, Ser. No. 765,911  
 Claims priority, application Great Britain, Oct. 10, 1967, 46,173/67

Int. Cl. G01n 3/32

U.S. Cl. 73-100

2 Claims



Apparatus for testing the flexibility of waxes and other flexible materials comprises fixed means for holding a strip of the material to be tested at an extremity thereof, a fixed guide having a smooth curved surface which contacts the strip when in place at a position along its length, and a movable guide which contacts the strip when in place at a position near the other extremity to that by which it is held. The movable guide is capable of oscillating in an arc in a plane perpendicular to that of the strip when in place, thereby causing the strip to flex about the fixed guide.

3,518,878

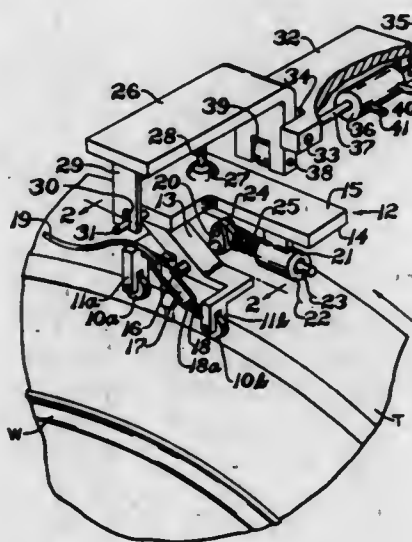
**APPARATUS FOR MARKING A ROTATING TIRE**  
 Clifford A. Landness, Akron, Ohio, and Ralph F. Cooper, Boca Raton, Fla., assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Nov. 25, 1968, Ser. No. 778,461

Int. Cl. B60c 19/00

U.S. Cl. 73-146

10 Claims



An apparatus for making a mark on a rotating tire at the location corresponding to the place of maximum of the fundamental frequency of radial force variation comprising an arcuately oscillable marker mounted on a shaft

having an actuator operatively connected to the shaft for rotating the marker to contact the sidewall of the tire. Rollers contacting the sidewall of the tire support the apparatus on the rotating tire.

3,518,879

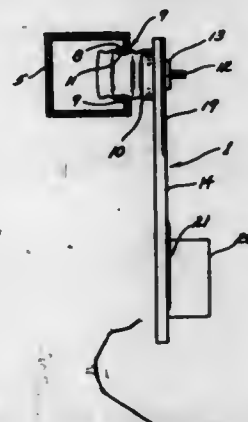
**APPARATUS FOR TESTING COATINGS**  
 Ronald N. Farnam, Arnold, Mo., assignor to Superior Plastics and Coatings Company, St. Louis, Mo., a corporation of Missouri

Filed Mar. 27, 1968, Ser. No. 716,575

Int. Cl. G01b 19/08

U.S. Cl. 73-150

2 Claims



An apparatus for testing coatings, and in particular, coatings such as paints, varnishes, resins, plastics, and the like, that are used in preserving surfaces of materials subject to deterioration. The apparatus is formed as a plate having a surface which may be intentionally subjected to imperfective action to simulate inferior conditions, and joining with said surface may be various projecting parts. This apparatus is coated and exposed to various degrees of the elements and atmospheric conditions to determine the rate of deterioration of the tested coating. A framework is provided for mounting the apparatuses. The device to mount the apparatus to the framework is constructed of electrically insulated material.

3,518,880

**METERING APPARATUS**

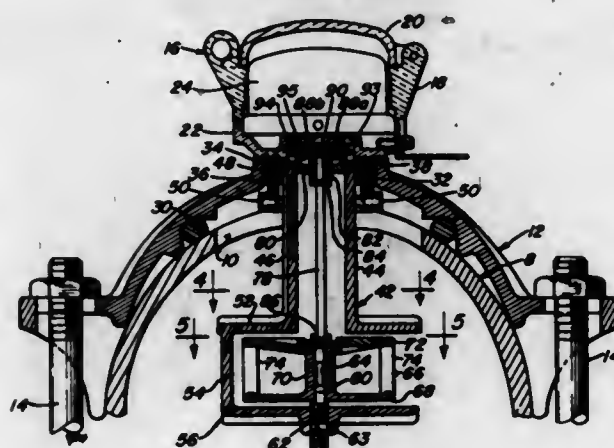
Donald J. Kullmann, Fox Point, and Bernard M. Silverberg, Glendale, Wis., assignors to Badger Meter Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Filed July 13, 1967, Ser. No. 653,215

Int. Cl. G01f 1/100, 1/06

U.S. Cl. 73-229

17 Claims



A flowmeter having an impeller which is partially shielded, the shield being adjustable to effect calibration of the meter, and a drive shaft and a parallel support extending axially of the impeller to a register drive on a

saddle adapted to be clamped to a conventional conduit over an opening in the conduit wall through which the impeller is inserted to be submerged in the flow stream.

3,518,881

**ROTOR BALANCE SYSTEM FOR TURBINE FLOWMETER**

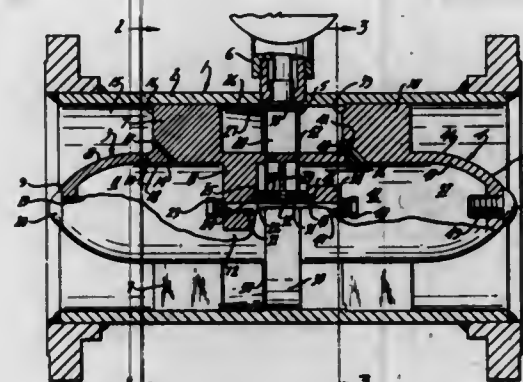
Charles D. Erickson, Erie, Pa., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Apr. 4, 1968, Ser. No. 718,836

Int. Cl. G01f 1/10; G01d 3/02

U.S. Cl. 73-231

7 Claims



An improved turbine flowmeter having a highly sensitive rotor balance system particularly well adapted to accurately meter low viscosity fluids such as gasoline. The rotor balancing intakes in both the upstream and downstream side of the rotor are disposed out in the rotor mounting shield support vanes in the areas of greatest velocity in the flowing stream. In this way, the maximum available pressure resulting from velocity head effect positions the rotor between the rotor mounting shields with highly sensitive fluid balance, thereby assuring maximum fluid metering accuracy over a wide range of fluid flow rates, and with low viscosity fluids.

3,518,882

**POSITIVE DISPLACEMENT LIQUID METER**

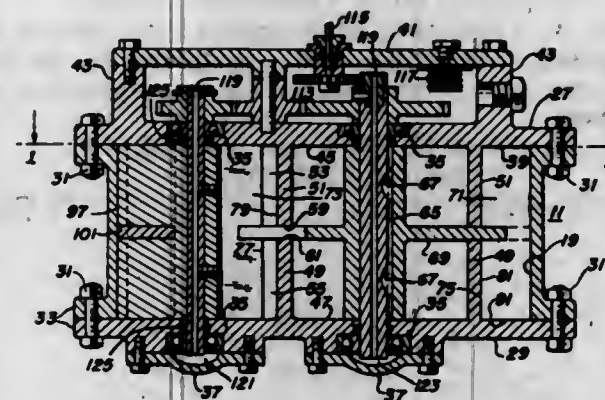
Albert J. Granberg, 6001 Rockwell St., Oakland, Calif. 94618

Filed Jan. 24, 1966, Ser. No. 522,480

Int. Cl. G01f 3/08

U.S. Cl. 73-253

3 Claims



An apparatus for the measurement of liquid flow rates and utilizing a vaned rotor having a centrally disposed flange supporting vertically disposed rotor vanes. An escapement rotor having a concavity for receiving the vanes of the vaned rotor continuously seals between the inlet and outlet ports of the measuring chamber of the meter.

3,518,883

**PROCESS FOR MEASURING HIGH TEMPERATURES AND APPARATUS FOR CARRYING OUT THIS PROCESS**

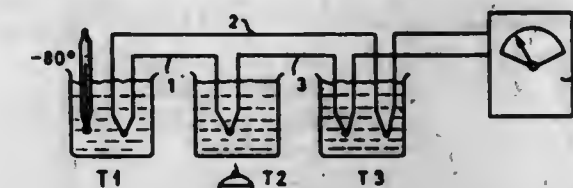
Rolf Meler, Mol, Belgium, assignor to European Atomic Energy Community (Euratom), Brussels, Belgium  
 Filed Dec. 27, 1967, Ser. No. 694,013

Claims priority, application Germany, Jan. 12, 1967, E 33,192

Int. Cl. G01k 7/04

U.S. Cl. 73-359

8 Claims



A method and apparatus for measuring high temperatures by determining the change in electrical characteristics of a wire affected by the high temperature. A length of cold-worked electrically conductive metal wire is exposed to heat and placed in a differential thermocouple circuit with each end in a different temperature zone. The thermoelectric voltage developed is measured to determine the unknown high temperature to which the wire has been exposed.

3,518,884

**MAGNETIC THERMOMETER MOUNTING STRUCTURE**

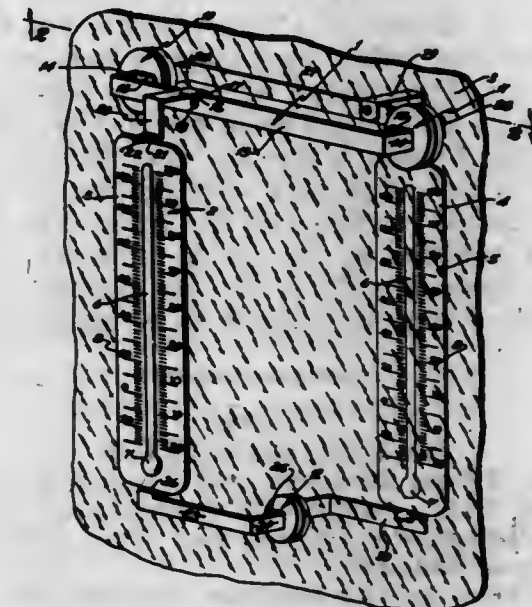
Charles P. Wood, Jr., Cincinnati, Ohio, assignor to Midwest Research & Development Corporation, Cincinnati, Ohio, a corporation of Ohio

Filed Nov. 21, 1968, Ser. No. 777,823

Int. Cl. G01k 1/14

U.S. Cl. 73-374

6 Claims



A magnetic mounting structure for thermometers, whereby an outside thermometer may be mounted in spaced relation to a window glass so as to provide an indication of the outside temperature from the inside of the building. The mounting structure comprises a bracket for supporting a thermometer with reference to a window glass but at a sufficient spacing therefrom to prevent the temperature reading from being influenced by the heat inside the building. The mounting bracket is secured with reference to the window glass by means of pairs of magnets of opposed polarity which are seated against opposite sides of the window glass so as to secure the bracket, and the thermometer which is attached thereto, to the window glass without requiring holes to be drilled through the glass or other attachment means.



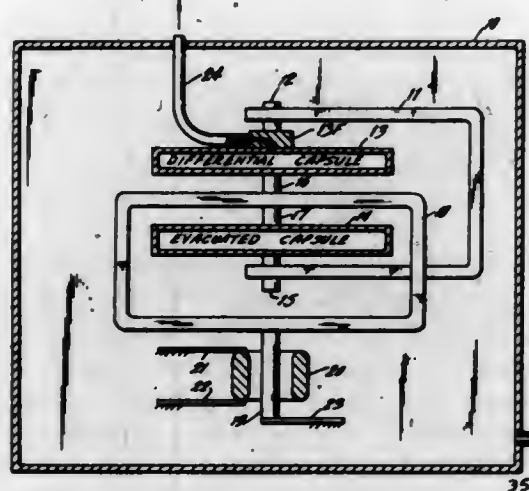
3,518,885

**EXTREME ENVIRONMENT PRESSURE SENSOR**  
James W. Angus, Baldwin, N.Y., assignor to Kollsman Instrument Corporation, Syosset, N.Y., a corporation of New York

Filed Oct. 24, 1968, Ser. No. 770,234  
Int. Cl. G011 9/10

U.S. Cl. 73—398

8 Claims



An absolute pressure sensor is formed of two expandable capsules, one of which is a differential capsule having its interior connected to the pressure to be measured and the other of which is evacuated. Both capsules are exposed to a common external pressure. The opposite end walls of the capsules are rigidly mounted on a support shell and their opposing walls are directly connected together to one another with a motion pickup connected at the junction between the opposing walls. The assembly of the capsules is, therefore, rigidly mounted, and is resistive to shock or extreme vibration. The capsules may be formed of a high strength, low hysteresis nickel alloy steel welded by a tungsten inert gas process, or other suitable technique, whereby the capsules can be used in a high temperature environment. The capsules are then contained within a stainless steel housing which is filled with a first gas pressure while the interior of the differential capsule is filled with the pressure to be measured. The deflection of the central connection point between the opposing walls of the two capsules will move in accordance with the pressure to be measured.

3,518,886

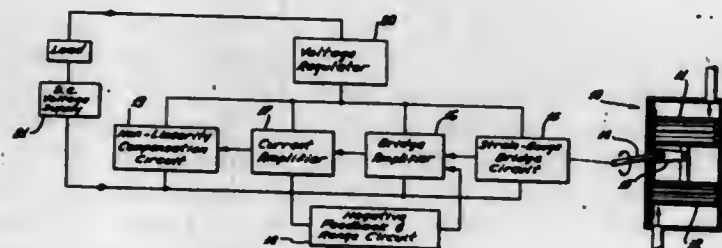
**ANALOG CONVERTER**

Robert E. Talmo, Pasadena, and Thomas H. Lee, Los Angeles, Calif., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 13, 1967, Ser. No. 630,574  
Int. Cl. G011 9/04

U.S. Cl. 73—407

2 Claims



The mechanical displacement, or other movement, to be converted to an electric signal analog is directly linked to a special beam for deflecting it an amount correspond-

ing to the displacement. Strain gauges mounted on the beam are arranged in a bridge circuit. Deflection of the beam places the gauges in strain thereby unbalancing the bridge circuit to provide an imbalance signal. Additional circuit apparatus converts the bridge signals to a D.C. current signal, and further provides compensation for non-linearity of the mechanical displacement system.

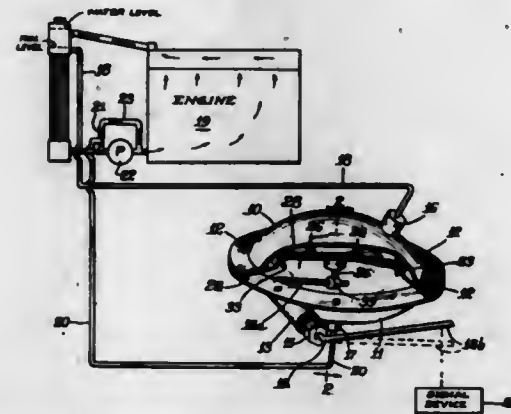
3,518,887

**FLOW-SENSING APPARATUS**  
Roy J. Armbrust, 28501 Oaklawn,  
Glen Ellyn, Ill. 60137

Filed Mar. 21, 1968, Ser. No. 715,055  
Int. Cl. G011 7/16; F01p 5/14

U.S. Cl. 73—419

8 Claims



A fluid pressure or flow-sensing apparatus is formed by a piston and a cylinder contained in a housing. The cylinder walls define a frustum of a cone and the piston has a cylindrical skirt. The closed end of the cylinder has fluid openings therethrough communicating with the one part of the housing connected to the high pressure side and the open end of the cylinder communicates with the second portion of the housing connected to the low pressure fluid side. The piston is affixed to an axial rod guided in the housing and the closed end of the cylinder. A spring is in compression between the closed end of the cylinder and an abutment on the rod in said one part of the housing to urge the piston towards the closed end of the cylinder. The rod is connected to a signaling device. The restriction of the flow in the space between the skirt and the cylinder walls results in a back pressure at the head of the piston which back pressure forces the piston in a direction out of the cylinder against the resistance of the spring.

3,518,888

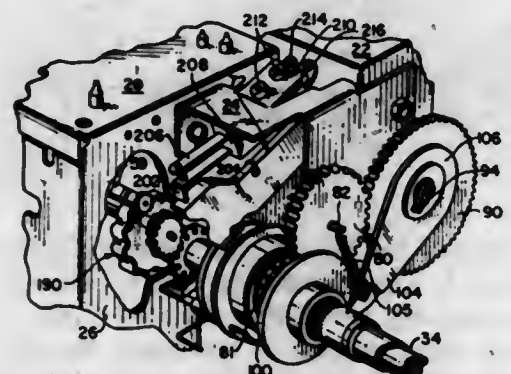
**COMBINATION VHF-UHF TUNER**

Alarico A. Valdetaro, Bloomington, and Jimmie E. Warthan, Stinesville, Ind., assignors to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana

Filed Oct. 11, 1968, Ser. No. 766,916  
Int. Cl. F16h 35/18

U.S. Cl. 74—10.8

14 Claims



A combination VHF-UHF television tuner is provided in which the UHF dial shaft is rotatably mounted on the

VHF station selector shaft in such manner that the intermediate, concentric fine tuning shaft may be used for memory VHF fine tuning without interference due to side thrust exerted on the UHF dial shaft.

helix angle of both members is within a specific controlled range. The thread angle of both members is within a specific controlled range. The thread to shaft diameter is relatively large. The details of these and related features are set forth hereinafter.

3,518,889

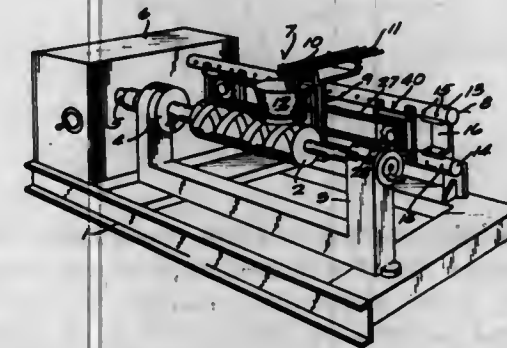
**CARRIAGE MOUNTING CONSTRUCTION FOR A FILAMENT WINDING MACHINE**

William G. McClean, Milwaukee, Wis., assignor to McClean-Anderson, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 10, 1968, Ser. No. 696,915  
Int. Cl. F16h 7/14

U.S. Cl. 74—37

10 Claims



The invention relates to a filament winding machine for winding a fiber reinforced plastic article, and particularly to a construction for supporting and driving the winding head or carriage in reciprocating movement along the length of the rotating mandrel.

3,518,890

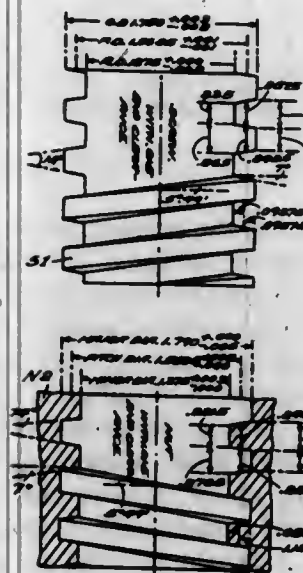
**SCREW HOIST, ESPECIALLY FOR TRAILER LANDING GEAR**

Budd Eastman, Holland, Mich., assignor to Holland Hitch Co., Holland, Mich., a corporation of Michigan

Filed Dec. 18, 1967, Ser. No. 691,603  
Int. Cl. F16h 1/18, 55/22, 57/04

U.S. Cl. 74—424.8

12 Claims



A special screw and nut assembly for operation under compression, especially as a hoist in a haulage vehicle landing gear, having substantially increased load supporting capacity and substantially greater ease of operation for elevating heavy loads, as a result of a combination of structural relationships. The threaded nut inner surface acts as a bearing bushing for the screw shaft by reason of minimal clearance between the screw core diameter and the nut root diameter, or less preferably between the nut thread full diameter and the screw outside diameter. The

3,518,891

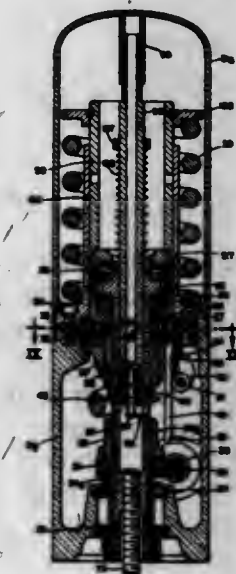
**FAIL-SAFE VALVE OPERATOR**

Walter J. Denkowski, King of Prussia, Pa., assignor to King of Prussia Research and Development Corporation, King of Prussia, Pa., a corporation of Pennsylvania

Filed Oct. 26, 1966, Ser. No. 589,610  
Int. Cl. F16h 31/05, 31/10

U.S. Cl. 74—89.15

22 Claims



A fail safe valve operator is disclosed in which a valve stem is driven longitudinally by a rotatable nut. The nut is connected to a thrust sleeve which is preloaded in a fail-safe direction by a heavy coil spring. Secured to the thrust sleeve is a carriage having ball detents therein which project into a recess in the housing. A releasable retaining sleeve is provided for retaining the ball detents in the housing recess for preventing the release of the energy stored in the coil spring while nevertheless allowing the nut to be power driven rotationally to cause longitudinal movement of the valve stem. Latch means triggered by power failure release the ball-detent retaining sleeve to allow the energy stored in the spring-loaded thrust sleeve to discharge the ball detents from the housing recess, whereby the valve stem is quickly pulled to a fail-safe position by the spring-loaded thrust sleeve.

3,518,892

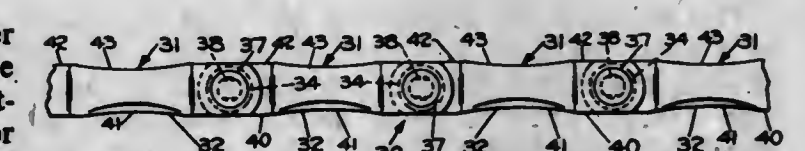
**CHAIN IN WHICH THE SIDE BARS ARE FORMED WITH CURVED BEARING SURFACES**

Frl W. Nicholson, Columbus, Ohio, and Gifford E. Rauberts, Morristown, Tenn., assignors to Jeffrey Gallon Manufacturing Company, a corporation of Ohio

Filed May 27, 1968, Ser. No. 732,384  
Int. Cl. F16g 13/06

U.S. Cl. 74—250

12 Claims



Chain in which the side bars of the chain links have inwardly curved bearing surfaces that are formed by mechanical deformation and the bearing surfaces may also be laterally expanded by the mechanical deformation.



3,518,893

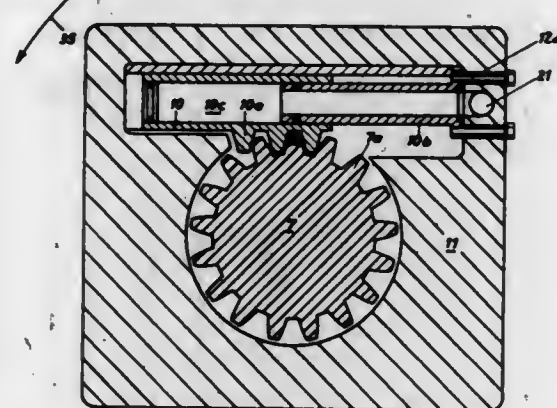
**APPARATUS FOR TRANSMITTING TORQUE**

Alfons Goeke, Solingen, Germany, assignor to Th. Kleserling & Albrecht, Solingen, Germany  
Filed Feb. 18, 1969, Ser. No. 800,233  
Claims priority, application Germany, Mar. 7, 1968, 1,652,592

Int. Cl. F16h 57/00

U.S. Cl. 74-405

10 Claims



A draw bench wherein the shaft of the sprocket wheels for the chains which reciprocate the carriage for pinchers is driven by a gear through the intermediary of an annulus of teeth provided on the shaft and a toothed cylinder whose teeth normally mesh with teeth of the shaft but can be disengaged therefrom in response to a predetermined resistance of the shaft to rotation with the gear. The cylinder is reciprocable in the hub of the gear and receives pressurized fluid through a conduit containing a pressure relief valve which opens when the resistance of the shaft to rotation with the gear reaches a predetermined value.

3,518,894

**RANGE COMPUTER**

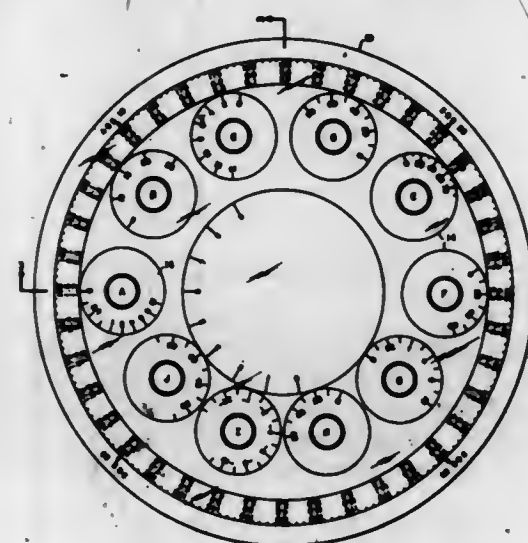
Daniel Barron, 6223 Springfield Court, Greenbelt, Md. 20770

Filed Oct. 30, 1968, Ser. No. 771,804

Int. Cl. G06c 27/00; F16h 1/06

U.S. Cl. 74-413

2 Claims



This device is for determining the range of a target by a sonar operator. This device comprises a plurality of small wheels each of which are adapted to be engaged with a larger wheel to set in specific information with respect to wave height, sea surface temperature, layer depth, etc. in order to convert oceanographic parameters into power limited range. A different set of gears are used to determine sonar range when the target is submerged than when the target is on the surface of the water.

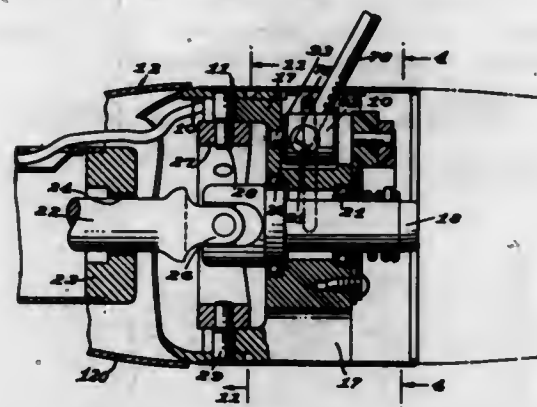
3,518,895

**STEERING COLUMN MECHANISM**

William R. Buechler, Birmingham, and John D. Crossman, Livonia, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Filed Oct. 22, 1965, Ser. No. 500,554  
Int. Cl. B62d 1/18

U.S. Cl. 74-493

12 Claims



A movable steering column mechanism for vehicles having upper and lower column portions each pivotally connected to an intermediate member. One of the pivotal connections permits tilt adjustment of the driving position of the steering wheel and the other pivotal connection permits the steering wheel to swing out of the driver's way at an inclined angle for easy access to the driver's seat.

3,518,896

**REMOTE CONTROL ASSEMBLY HAVING AN ALL METAL CASING**

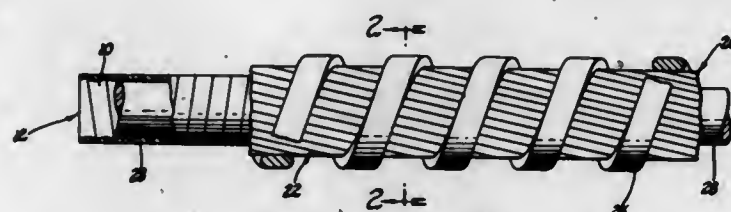
George M. Zieher, Jr., King of Prussia, and Fred Machate, Harleysville, Pa., assignors to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware

Filed July 24, 1968, Ser. No. 747,176

Int. Cl. F16h 1/10

U.S. Cl. 74-501

12 Claims



In a preferred form, the present disclosure relates to an outer casing or conduit adapted for use with a motion transmitting remote control assembly wherein the outer casing is composed entirely of metal. This metal casing generally comprises a D-shaped wire wound in a short lead to form a monocoil, a plurality of lay wires wrapped onto the monocoil, and an outer metal strip wrapped on the lay wires on a long lead to form the composite structure. The innermost metal strip is preferably formed of phosphor bronze and presents the only surface contacted by a core element adapted to slide in the metal casing.

3,518,897

**REDUCTION GEARING ASSEMBLY**

Leo A. Bixby, Niles, Mich., assignor, by mesne assignments, to Rockwell-Standard Company, Pittsburgh, Pa., a corporation of Delaware

Filed Oct. 28, 1968, Ser. No. 771,118

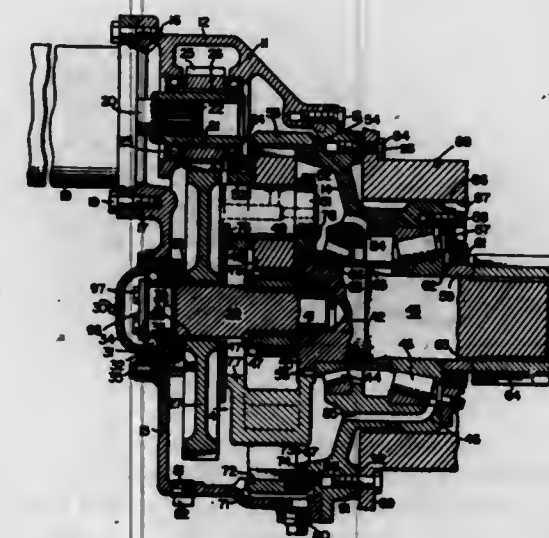
Int. Cl. F16h 1/28, 37/06

U.S. Cl. 74-661

10 Claims

A compact universally positionable double reduction spur-planet reduction gearing assembly provides an auxiliary drive system between one or more hydraulic motors

and a device to be driven such as a winch, turntable, backhoe, coal boring equipment and the like. The assembly comprises a spur gear combination set consisting of a relatively small pinion driving a much larger bull gear, in series with a planet reduction gear set consisting of an axially and radially floating ring gear and an axially and radially floating planet gear carrier, both gear sets being capable of a wide variation in relative gear size for optimum drive ratio flexibility. The gearing is mounted in



a two-part housing with the ring gear of the planetary set splined upon the housing part in which the output shaft is rotatably supported and the planet carrier splined on the output shaft. The assembly is adapted to be mounted in various positions, with provision for oil filling, draining and sealing in all of them. The assembly housing has a pilot fit into the housing of the device it drives and the housings are rigidly connected by a row of bolts located for optimum torque reaction absorption.

3,518,898

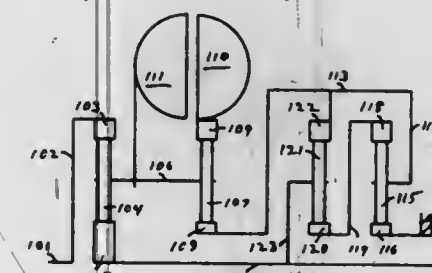
**TORQUE-SPEED CONVERTER**

Jerome Wagner, 23 Clinton St., New York, N.Y. 10002  
Continuation-in-part of application Ser. No. 713,445, Mar. 15, 1968. This application Aug. 26, 1969, Ser. No. 853,039

Int. Cl. F16h 3/74, 5/52, 47/08

U.S. Cl. 74-682

3 Claims



An automatic mechanical power transmission that continuously converts power to the most efficient speed in the range of speeds that varies from the slowest ("infinite" torque) to the fastest ("infinite" speed), in infinitely variable gradations, in a "flexible" manner, in either direction, without any adjusting of the transmission. The "flexibility" is achieved by utilizing plural power paths through as few as three planetary gear sets, without the use of friction brakes.

3,518,899

**SYSTEM FOR ACCURATE POSITIONING OF ROTARY TABLES**

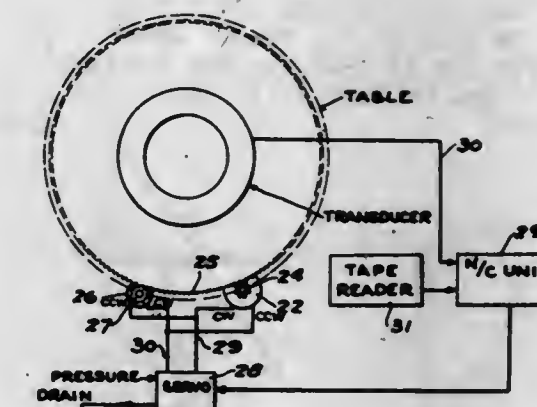
Myron L. Greenberg, Union Lake, and Phillip J. Rosen, Oak Park, Mich., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 5, 1968, Ser. No. 773,527

Int. Cl. B23q 17/00

U.S. Cl. 74-816

12 Claims



A system for accurate positioning of rotary tables wherein a motor of predetermined capacity is utilized to drive the rotary table in either of two directions and a second motor of lesser capacity is provided. The second motor is caused to tend to drive the rotary table in the opposite direction from that in which the first motor is driving the table with a magnitude of torque having a predetermined proportion with respect to the torque applied by the first motor.

3,518,900

**HOLDER FOR A ROUND FILE, PARTICULARLY SUITABLE FOR USE IN SHARPENING A CHAIN SAW**

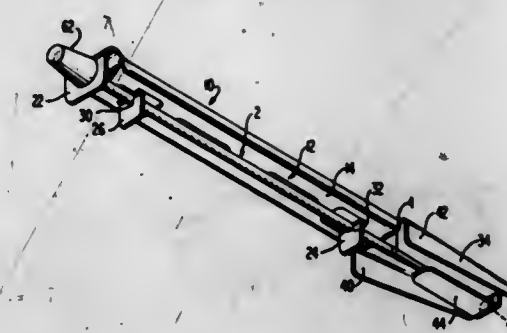
Jack William Ehlen, Torrance, William Lavier Garner, Gardena, and Donald Samse, Playa del Rey, Calif., assignors to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin

Filed Aug. 27, 1968, Ser. No. 755,525

Int. Cl. B23d 63/08

U.S. Cl. 76-36

10 Claims



A holder for a round file, which is particularly suitable for use in sharpening a cutter tooth of a saw chain. The holder includes a longitudinally extending, rigid body adapted to overlie the file in abutting contact therewith along at least a portion of the file length. Connecting means releasably connects the file with the body. The connecting means is further adapted to mount the file for rotation about the longitudinal axis thereof relative to the body. A handle is fixedly connected with one longitudinal end of the body and is adapted to be grasped by one of a user's hands for manual reciprocation of the file in a longitudinal direction. Turning means adapted for releasable connection with an end of the file adjacent



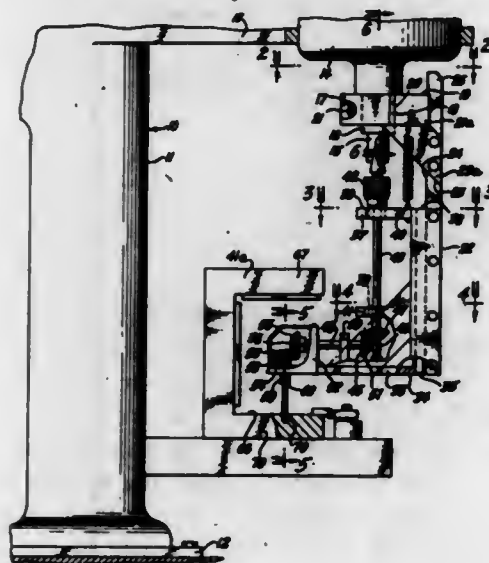
the other end of the body is adapted to be grasped by the other of the user's hands. The user is thereby enabled to rotate the file about its longitudinal axis relative to the file body while the file is being reciprocated, or between reciprocation strokes, thus providing an improved cutting and clearing action for the file.

**3,518,901**  
**PORTABLE HEAVY DUTY OFFSET DRILLING ATTACHMENT**

Howard C. Wright, 27935 Vogt,  
St. Clair Shores, Mich. 48081  
Filed July 22, 1968, Ser. No. 746,668  
Int. Cl. B23b 39/12, 47/00

U.S. Cl. 77-27

2 Claims



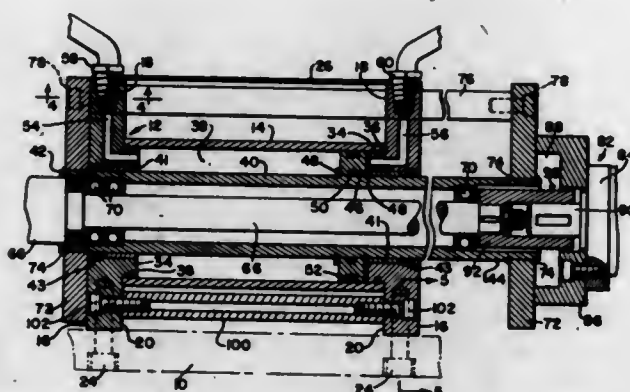
This disclosure relates to a portable heavy duty offset drilling attachment for use with electric drills, and more particularly for use with the heavier floor mounted heavy duty drilling apparatus such as radial drill presses and boring mills.

**3,518,902**  
**RECIPROCATING ROTARY TOOL CARRIER**

Carl G. Matson, 401 E. Central Blvd.,  
Kewanee, Ill. 61443  
Filed Feb. 12, 1968, Ser. No. 704,675  
Int. Cl. B23b 39/00

U.S. Cl. 77-33.5

4 Claims



A tool carrier adapted to be mounted on a table or like support and having a fluid power cylinder for reciprocating a hollow piston rod within which is journaled a shaft for driving a variety of tools such as drills, taps, etc. The shaft is driven by a motor and the reaction torque of the motor is taken by the table-mounted structure that includes the cylinder.

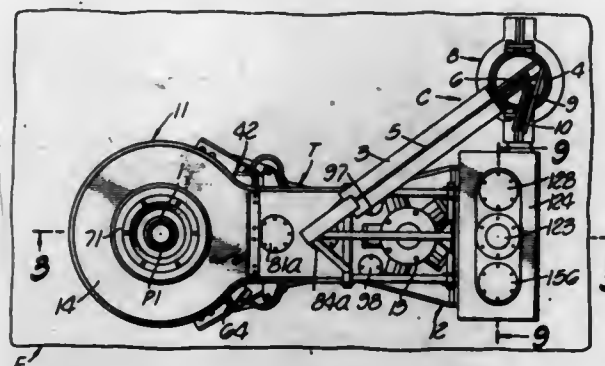
**3,518,903**  
**COMBINED POWER TONG AND BACKUP TONG ASSEMBLY**

John E. Ham, Long Beach, and Garth F. Nicolson,  
Huntington Beach, Calif., assignors to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693,374  
Int. Cl. B25b 17/00

U.S. Cl. 81-57.16

18 Claims



A combined power well pipe tong and backup tong assembly in which the backup tong is actuated into gripping engagement with one pipe joint when the power tong is driving the other pipe joint in either direction at low speed and high torque, the backup tong being released from said one pipe joint when the power tong is driving said other pipe joint at high speed and low torque, but the backup tong being optionally engageable with said one pipe joint when the power tong is driving the other pipe joint at high speed and optionally disengageable when the power tong is driving the other pipe joint at low speed.

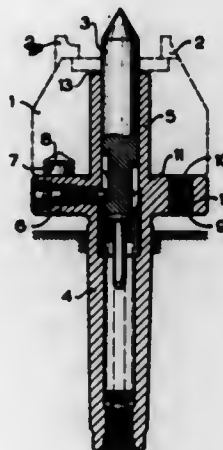
**3,518,904**  
**LATHE CARRIER CENTER**

Günter Horst Röhm, Sontheim (Brenz), Germany, assignor to Rohm-Gesellschaft m.b.H., Sontheim (Brenz), Germany

Filed June 4, 1968, Ser. No. 734,326  
Claims priority, application Germany, Mar. 6, 1968, R 37,082  
Int. Cl. B23b 23/02

U.S. Cl. 82-33

2 Claims



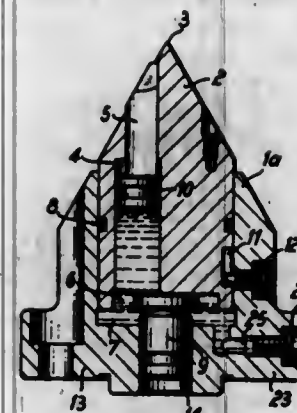
A lathe carrier center with an exchangeable work-carrier head, wherein the shank of the lathe center has a radial flange intermediate its ends and the carrier head which has an axial bore is slipped over the front part of the shank and is held in connection with the flange by at least one permanent magnet which is mounted in a bore in the flange.

**3,518,905**  
**LATHE CARRIER CENTER**  
Günter Horst Röhm, 6 Franziska Weg,  
7927 Sontheim (Brenz), Germany  
Filed June 5, 1968, Ser. No. 734,758  
Claims priority, application Germany, July 8, 1967, R 46,435  
Int. Cl. B23b 33/00

U.S. Cl. 82-40

5 Claims U.S. Cl. 83-12

15 Claims

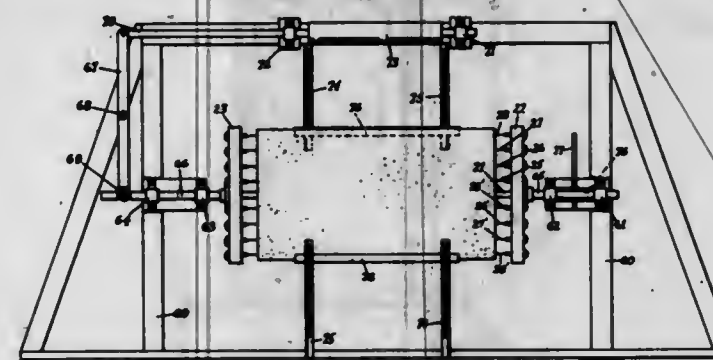


A lathe carrier center with spring means opposing the rearward movement of the center element within its housing and with a hydraulic transmission of this rearward movement to the work-carrier pins to move them in the opposite direction against the workpiece. These carrier pins are slidable in bores in the center element and the pins together with the center element form a structural unit which may be easily exchanged in the housing for another unit. The housing together with this unit and the hydraulic pressure chamber, in turn, form another self-contained unit which is removably secured to the tubular shank of the tool which contains the spring means and adjusting means for varying their pressure which the spring means exert upon the center element through an intermediate piston which forms a part of the center head and extends through the pressure chamber and seals the same so that no hydraulic fluid can escape.

**3,518,906**  
**APPARATUS FOR MAKING A TUBULAR ARTICLE**  
Helge Ragnar Albrektson, Covington, Ky. (% Robin Machine Products, Inc., 8901 Blue Ash Road, Cincinnati, Ohio 45242)  
Original application Mar. 29, 1965, Ser. No. 443,466.  
Divided and this application Sept. 8, 1969, Ser. No. 856,136  
Int. Cl. B23d 57/00; B26d 1/34, 3/00

U.S. Cl. 83-1

11 Claims

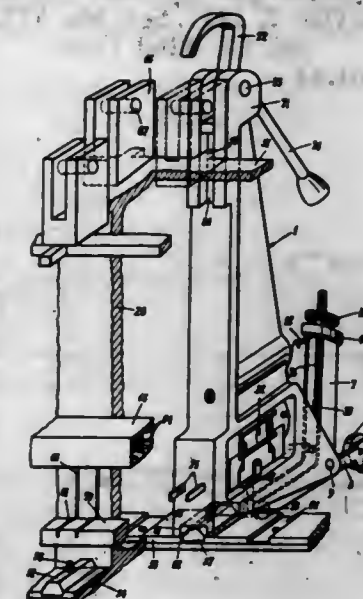


Apparatus for forming semi-cylindrical articles wherein a cutting means having several parallel straight blades is inserted between two blocks of cuttable material which are in substantially face-to-face contact and the cutting means is rotated with respect to the blocks about an axis parallel to the blades.

**3,518,907**  
**GLASS-CUTTING MACHINE**  
Francois Pinel, Maubeuge, France, assignor to Bonasols Souchon Neuvesel, Paris, France, a French company  
Filed Mar. 21, 1968, Ser. No. 714,986  
Claims priority, application France, Apr. 14, 1967, 182,772  
Int. Cl. B26d 3/08, 5/08

U.S. Cl. 83-12

15 Claims

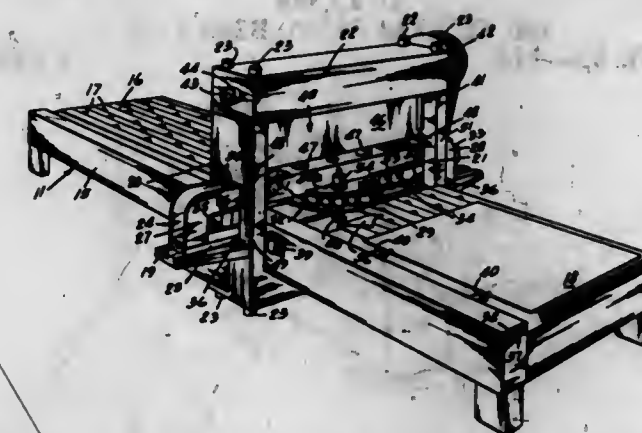


A machine for cutting sheet-glass comprising a wheel-carrier frame on which is pivotally mounted a tool-holder lever which is urged elastically towards a stop position and an electromagnetic control system for actuating said tool-holder lever. The wheel-carrier frame carries a rocker-arm bracket which is pivotally mounted coaxially with said tool-holder lever and urged elastically towards a stop position defined with respect to said wheel-carrier frame. The tool-holder lever is in turn urged elastically towards a stop position defined with respect to said rocker-arm bracket which is subjected to the action of said electromagnetic control system.

**3,518,908**  
**PUNCH PRESS**  
Dennis Daniels, Williamsville, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan  
Original application Feb. 6, 1967, Ser. No. 629,335, now Patent No. 3,449,991, dated June 17, 1969. Divided and this application Jan. 14, 1969, Ser. No. 791,052  
Int. Cl. B26d 5/08, 5/30

U.S. Cl. 83-137

13 Claims



A numerically controlled punching machine feeds the workpiece in the X-axis over a stationary base, the base also supporting a D-shaped frame for movement in the Y-axis. Means are provided to support tooling of more than one envelope size. A power-driven bolster allows for use of dies having various outside diameters. The base supports a driven ram which has fluid-pressurized means



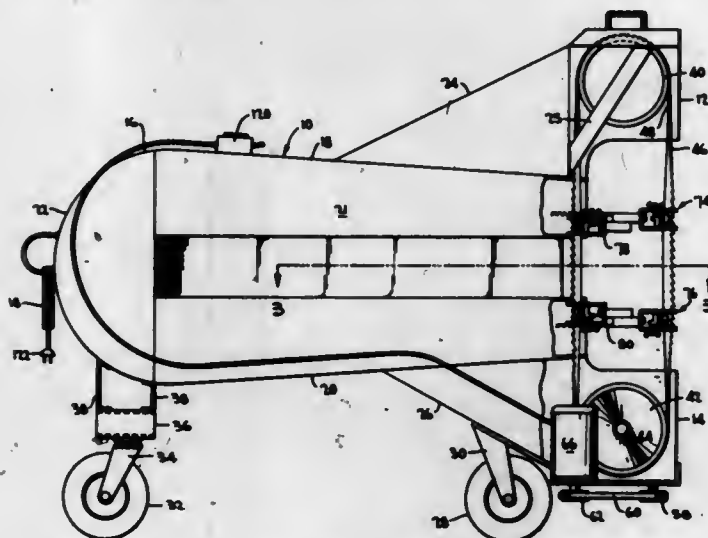
for actuating a stripping element associated with the punch, and the numerical control means further controls workpiece cut-off means adjacent to one end of the base.

3,518,909

**PORTABLE BAND SAW**  
Donald E. Blue, 1717 6th St. NW.,  
Albuquerque, N. Mex. 87107  
Filed Oct. 2, 1967, Ser. No. 672,212  
Int. Cl. B26d 1/46

U.S. Cl. 83—201.04

11 Claims



A portable band saw for completing cuts made in an article by a circular saw that leaves uncut corners and comprises a frame for supporting a driving pulley and an idler pulley about which a saw band extends; the saw frame supports a pair of front guide means and a pair of rear guide means that twist sections of the front travelling portion of the saw band and sections of the rear travelling portion of the saw band so that these sections lie in the same plane and in the plane of a thin guide element that is mounted on the frame and extends rearwardly from the saw band. The arrangement is such that both the section of the rear travelling portion of the saw band and the thin guide element enter the cut in an article made by a section of the front travelling portion of the saw band.

3,518,910

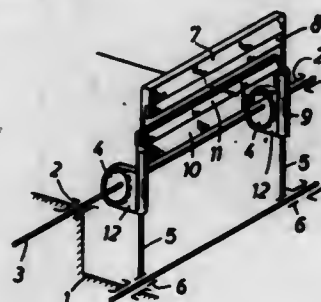
**FLYING SHEARS FOR CUTTING SHEET MATERIAL**

Curt Münchbach, Sonnenberg, Pforzheim, Germany, assignor to Irma Ungerer, Pforzheim, Germany  
Filed Dec. 20, 1967, Ser. No. 692,163  
Claims priority, application Germany, Dec. 24, 1966, U 13,394

Int. Cl. B23d 25/06; B26d 1/56

U.S. Cl. 83—316

6 Claims



Flying shears for cutting continuously advanced sheet material including a first cutting blade fixedly mounted on a pair of members oscillating in and against the direction of sheet feed, a second cutting blade affixed to a support slidably mounted on said members and moved thereon towards and away from the first blade by eccentrics which at the same time cause oscillation of said members in and against the direction of sheet feed.

3,518,911

**CUTTING MECHANISM FOR TOBACCO OR THE LIKE**

Helmut Niemann, Hamburg, and Dietrich Bardenhagen, Hamburg-Lohbrügge, Germany, assignors to Hauni-Werke Korber & Co., KG., Hamburg-Bergedorf, Germany

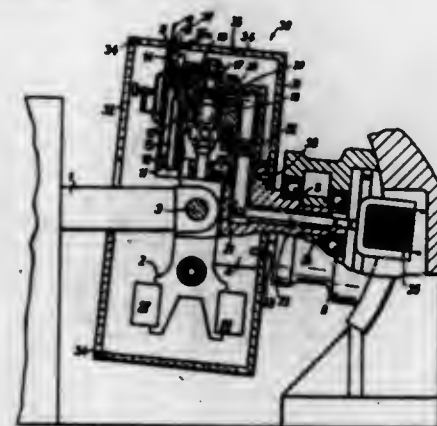
Filed Dec. 22, 1967, Ser. No. 692,969

Claims priority, application Great Britain, Dec. 29, 1966, 58,175/66

Int. Cl. B23d 1/56

U.S. Cl. 83—338

8 Claims



A cutting mechanism for travelling tobacco rods comprises a knife which orbits at a high speed about a first axis and moves back and forth with reference to a second axis so as to travel in the same direction and at the same speed as the rod when its cutting edge forms a cut. The parts which support, move and feed the knife are accommodated in a noise-reducing envelope which shares rotary movements of the knife and is configured with a view to minimize turbulence in the surrounding atmosphere. The envelope resembles a hollow cylinder having a circumferential wall provided with an opening through which the cutting edge of the knife extends.

3,518,912

**CUTTING MECHANISM FOR USE WITH APPARATUS FOR FORMING AND CUTTING THREE-DIMENSIONAL PLASTIC ARTICLES**

Thomas W. Winstead, Baltimore, Md.

(Williamson Lane, Cockeysville, Md. 21030)

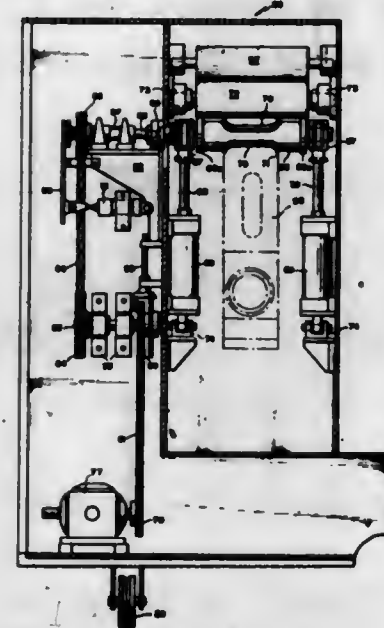
Original application Aug. 19, 1965, Ser. No. 480,917.

Divided and this application Oct. 30, 1968, Ser. No. 798,826

Int. Cl. B26d 1/56, 5/04

U.S. Cl. 83—344

6 Claims



A cutting unit for use with an integrated system for continuously extruding a strip of foamed thermoplastic material, forming articles from the advancing strip, and cutting the formed articles therefrom. The unit consists

of a cutting roll having a peripheral article receiving cavity bounded by a raised cutting edge having a contour complementary to the boundaries of the formed articles. A back-up roll is arranged in peripheral contact with the cutting edge, and means are provided for regulating the peripheral pressure between the cutting roll and back-up roll.

3,518,913

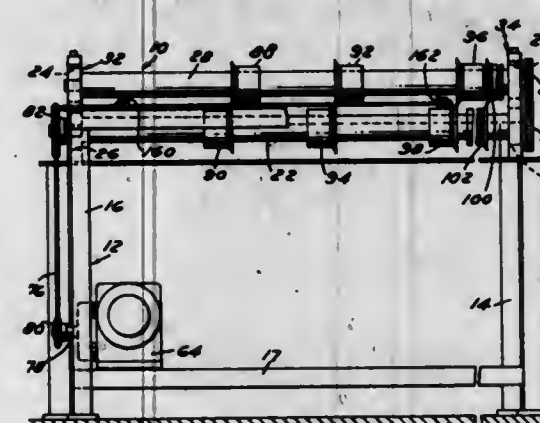
**MACHINE FOR MAKING BUILDING PANELS**  
Sherman E. Fountain, Jr., Marlette, Mich., assignor to Marlette Homes, Inc., Marlette, Mich., a corporation of Michigan

Filed Oct. 16, 1967, Ser. No. 675,448

Int. Cl. B23d 19/06

U.S. Cl. 83—449

5 Claims



A machine is provided for cutting composite panels, such as plywood, high pressure laminates and compressed hard board. The panels may be of substantial thickness, for example, 1/4" thick. The machine comprises a pair of shafts which are arranged horizontally, one above the other. A motor is provided to rotate the shafts. Each shaft has at least one circular cutting knife. The knives on the shafts are oppositely disposed and have overlapping cutting edges. A platform is provided adjacent the shafts for feeding a panel between the cutting knives. The platform has guide means for sliding contact with the panel edges to direct the panel between the shafts for cutting by the knives.

3,518,914

**SENSING APPARATUS FOR SETTING A TOOL FOR TRUING A WHEEL**

Theodor Dombrowski and Max Lazina, Erkelenz, Germany, assignors to Wilhelm Hegenscheidt Kommanditgesellschaft, Erkelenz, Germany

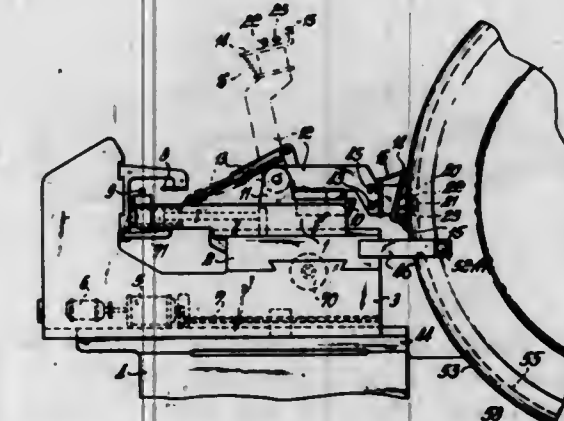
Filed Nov. 27, 1967, Ser. No. 685,799

Claims priority, application Germany, Nov. 26, 1966, H 61,111

Int. Cl. B23b 5/28

U.S. Cl. 82—3

11 Claims



A lathe for truing railroad wheels has a cutting tool mounted on carriage means. In order to automatically set the tool to an operative position for cutting worn off

surfaces of the wheel, feeler means are mounted on the carriage means and open switch means to stop the motors of the carriage means, and thereby the carriage means with the tool when the same is in the desired operating position.

3,518,915

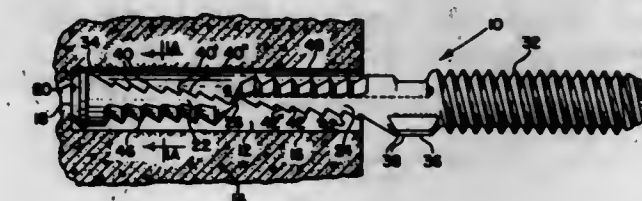
**ONE-PIECE EXPANDABLE ANCHOR FASTENER**  
Charles E. Gutshall, Roselle, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Nov. 1, 1968, Ser. No. 773,373

Int. Cl. F16b 13/04

U.S. Cl. 85—72

8 Claims



One-piece fastener for use in pre-drilled holes in materials such as concrete, has a pair of axially spaced wedge-like cooperable shank portions which are frangibly connected to each other and positioned within the hole when the forward tip of the fastener is engaged with the bottom of the hole. A percussive blow applied to the rear end of the fastener causes the frangible connection to fracture and permits ratchet toothed sections formed on the spaced shank portions to ride over and partially past one another so as to force each other radially outwardly into locking engagement with the walls of the hole. A knurled section on the shank may be provided to hold and maintain the ratchet teeth engaged under vibratory conditions. A method of making the fastener is also disclosed wherein a head portion is formed on the wire stock material to facilitate the manufacture of the fastener, the head being removed after the wedge-like portions are formed.

3,518,916

**METHOD FOR PRODUCING REINFORCED SOLID PROPELLANT GRAINS**

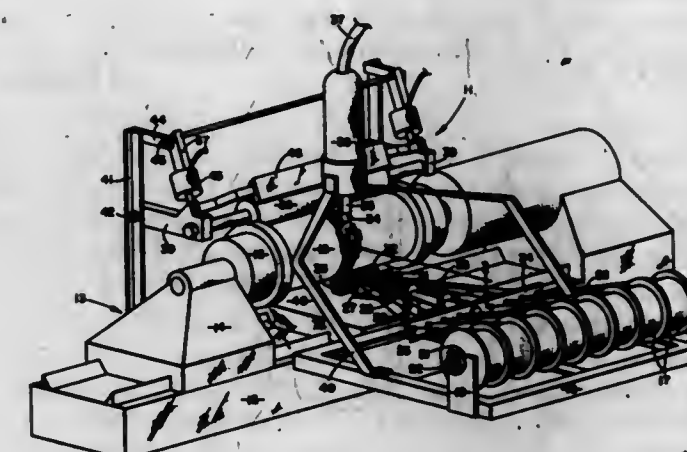
Basil H. Minnich, Simi, and Earl L. Alexander, Chatsworth, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Mar. 19, 1962, Ser. No. 179,466

Int. Cl. C06b 21/02

U.S. Cl. 86—1

2 Claims

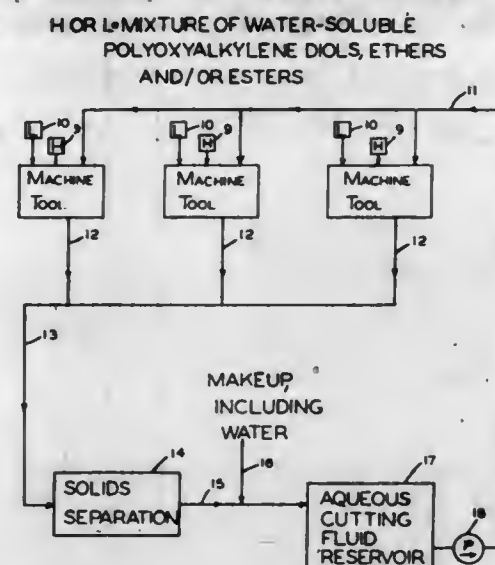


A solid propellant grain manufacturing process, including placing a propellant matrix and reinforcing wire on a rotatable support to build up the propellant grain, wherein the wire is moved transversely to the rotatable support and a constant pressure is maintained on the grain outer surface as the grain is being formed.



### 3,518,917 METHOD OF SUPPLYING FLUIDS TO MACHINE TOOLS

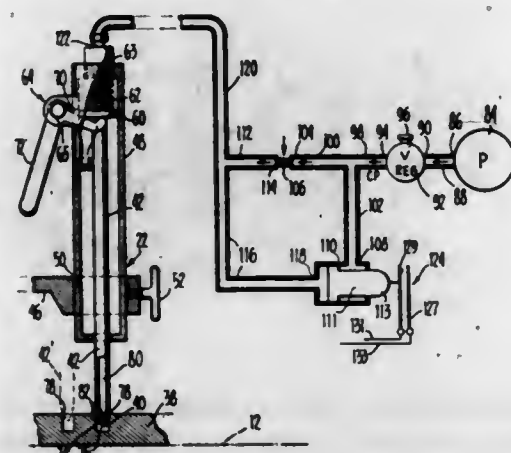
Clyde A. Sluhan, Perrysburg, Ohio, assignor, by mesne assignments, to Metal Chemicals Incorporated, Perrysburg, Ohio, a corporation of Ohio  
Filed Feb. 7, 1969, Ser. No. 797,486  
Int. Cl. B23c 1/00; F16n 39/00; B24b 55/07  
U.S. Cl. 90—11 3 Claims



In the operation of at least one machine tool having at least one cutting tool, at least one spindle, at least one slide and at least one hydraulic system, a fluid lubricant is fed to the spindle and to the slide, while a hydraulic fluid is supplied to the hydraulic system. Each such fluid consists essentially of a mixture of substances of the class consisting of water-soluble polyoxyalkylene diols and their water-soluble esters and ethers. At the same time, an aqueous cutting or grinding fluid is fed to the cutting tool. The overflow of the fluid lubricant and the leakage of the hydraulic fluid are mingled with the overflow of the aqueous fluid, and the commingled fluids are collected. Then solids and insoluble materials are removed from the commingled fluids to regenerate an aqueous cutting fluid. The composition of the regenerated aqueous fluid is adjusted by adding ingredients thereto, and the regenerated aqueous fluid is then recirculated to the cutting tool.

### 3,518,918 PRESSURE DIFFERENTIAL CONTROL SYSTEM FOR ACTUATION OF A MOVABLE MEMBER

Lyndon L. Keown, San Leandro, Calif., assignor to The Singer Company—Friden Division, a corporation of New Jersey  
Filed Apr. 11, 1967, Ser. No. 630,017  
Int. Cl. F15b 13/04, 15/17; B23b 39/00  
U.S. Cl. 91—47 3 Claims

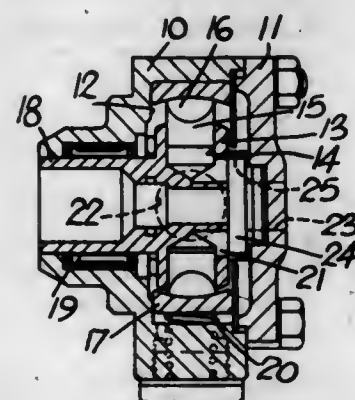


A multibit drilling apparatus having a horizontally movable drill positioning unit which includes a master

probe for vertical movement into predrilled holes of a master template. A switch for commencing the lowering of the plurality of drill bits is controlled by the pressure of fluid in a bore provided in the master probe, which pressure is controlled by the depth of insertion of the probe into the template's predrilled holes.

### 3,518,919 RADIAL PISTON PUMPS

Frank George Freeman, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England  
Continuation of application Ser. No. 699,680, Jan. 22, 1968. This application Mar. 24, 1969, Ser. No. 810,924  
Int. Cl. F04b 1/10, 49/00, 21/02  
U.S. Cl. 91—475 1 Claim



A pump comprising a body part containing a rotor with radially reciprocable pistons in bores thereof, a ring against an internal surface of which the pistons bear, an inlet and an outlet for liquid to be pumped and a part between an apertured side face of the rotor and the portion of the body part in which the outlet is formed, said part having a port through which liquid flows from the bores, to the outlet and said part being disposed so that the port occupies a plane which is inclined to the line of action of the biasing means.

### 3,518,920 FLUID POWER MOTOR WITH NON-ROTATING PISTON ROD

Charles W. Bimba, Crete, Ill.  
(101 Main St., Monee, Ill. 60449)  
Filed July 17, 1968, Ser. No. 745,573  
Int. Cl. F16j 15/18, 9/08  
U.S. Cl. 92—168 1 Claim



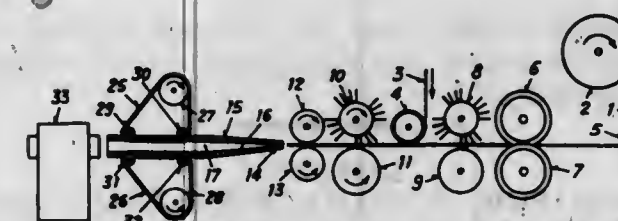
A fluid power cylinder assembly using a polygonal-shaped piston rod so as to preclude rotation of the rod during operation. Improved seal means around the rod comprises a combination of an inner seal ring of polyurethane which is impregnated with molybdenum disulfide, and a long sleeve-type liner which is formed from a flat sheet of fiber filled Teflon. The latter is cut and bent

at one end so that resulting sections form means equivalent to a flange that can be clamped between sections of an end closure for the one end of the cylinder housing and thereby hold the liner in a locked position.

### 3,518,921 METHOD AND APPARATUS FOR PRODUCING A TOBACCO FILTER ROD OR CORD FROM A WEB OF FIBROUS MATERIAL

Paul A. Müller, Triesenberg, Liechtenstein, assignor to Celfil Company Establishment, Vaduz, Liechtenstein, a corporation of Liechtenstein  
Original application Sept. 1, 1959, Ser. No. 841,918, now Patent No. 635,470, dated Jan. 22, 1957. Divided and this application Feb. 8, 1967, Ser. No. 614,595  
Claims priority, application Switzerland, Aug. 4, 1953, 95,066/53; Feb. 15, 1955, 16,102/55; Jan. 25, 1956, 291,188/56  
Int. Cl. B31d 9 Claims

U.S. Cl. 93—1

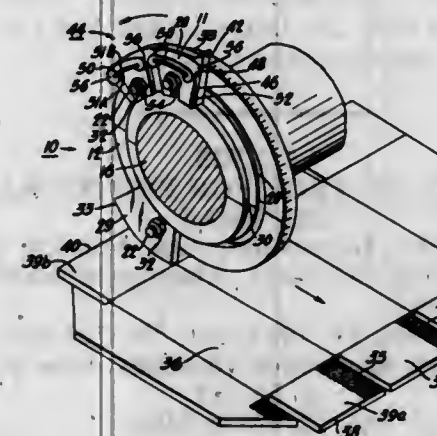


Method and apparatus for treating an elongated sheet of fibrous material, e.g. paper, to render it especially suitable to be made into plural sectional filters for cigarettes. The material, while being continuously advanced, is first moistened, then passed through the nip between a pair of intermeshing heated rolls which form closely-spaced longitudinal corrugations in the sheet and simultaneously laterally stretch it to loosen and expose its fibers. The sheet then is mechanically treated, e.g. as by perforating it to form ragged openings, to alter its filtering characteristics in different ways in successive transverse zones.

### 3,518,922 BLANK STRIPPING APPARATUS FOR ROTARY CUTTERS

Frederick R. Kuehn, Baltimore, Md., assignor to Koppers Company, Inc., a corporation of Delaware  
Filed Oct. 23, 1967, Ser. No. 682,707  
Int. Cl. B31b 1/14 3 Claims

U.S. Cl. 93—58.2



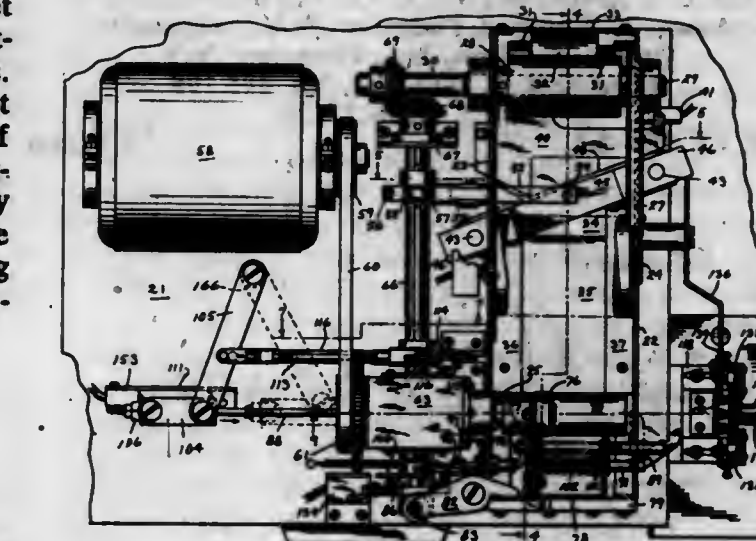
Apparatus for stripping corrugated paperboard blanks from rotary cutters used to slot blanks during their manu-

facture by storing, as latent energy, the pressure exerted against the blanks during the cutting of the slot and releasing the energy to overcome the tendency of the blanks to adhere to the slotter blade on one of the cutters, comprising a stripper assembly fixed to the slotter blade so that the tendency to smear any printed material on the blanks is eliminated because the stripping apparatus contacts the blank only during cutting of the slot. In a preferred embodiment, the stripper assembly comprises an angle clip having one leg mounted on the side of the slotter blade and its second leg extending axially and perpendicularly to the slotter blade and extending circumferentially substantially the length of and parallel to the slotter blade, and an elastomeric material secured to the second leg and extending radially outward therefrom and adjacent to the slotter blade and into the tangential plane of blanks passing between the rotary cutters during the slotting operation.

### 3,518,923 PRE-CRIMPED COIN WRAPPER FORMING APPARATUS

Arnold R. Buchholz and Arnold J. Krause, Watertown, and George V. Johnson, Oconomowoc, Wis., assignors to Brandt Automatic Cashier Co., Watertown, Wis., a corporation of Wisconsin  
Filed Aug. 11, 1967, Ser. No. 659,935  
Int. Cl. B31c 13/00 4 Claims

U.S. Cl. 93—77



A web of wrapper stock is continuously withdrawn from a roll by mating driven and idler rollers and moved along a track. A knife blade and cutting die are disposed intermediate of the track and cooperate, when actuated, to sever the web to form wrapper blanks. The leading edge of a wrapper blank is introduced through a tangential opening in a hollow forming cylinder at the end of the track as the web is severed. The blank is formed into a tube about a mandrel disposed in the cylinder and continuously rotated by an electric motor which also drives the driven roller. A spindle is slidably received in the mandrel and includes a spindle head which normally forms an extension of the mandrel. A crimping blade is movable from an idle position to a working position to cooperate with the spindle head to crimp one end of the formed tube. The spindle is extended to extract the formed and pre-crimped wrapper from the mandrel and actuate a removal mechanism which grips the wrapper so that the spindle can retract. The next actuation of the knife blade deactuates the removal mechanism and the wrapper drops from the apparatus.



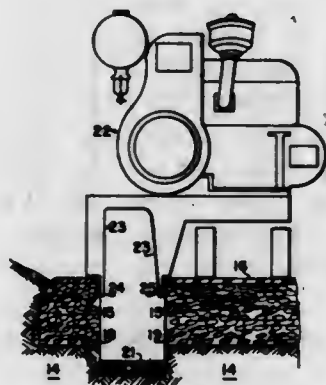
### 3,518,924 METHOD OF CONSTRUCTION FOR STREETS AND THE LIKE

Ralph R. Gray, Rte. 2, Box 189H,  
San Antonio, Tex. 78228

Filed Mar. 14, 1967, Ser. No. 623,105  
Int. Cl. E01c 21/00

U.S. Cl. 94-22

5 Claims



A method of construction for streets and the like of any width wherein the subgrade and base courses are first prepared and a trench provided in at least one side of such prepared foundation, a concrete curb being extruded and embedded in said trench.

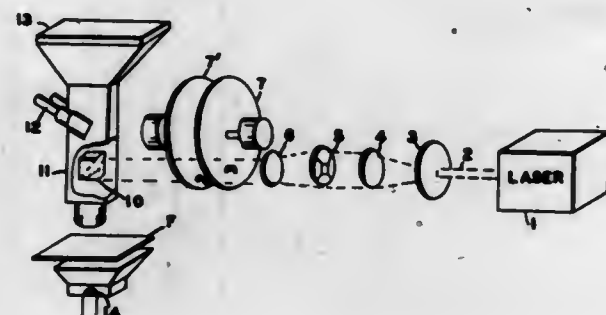
### 3,518,925 MEANS AND METHODS OF MARKING FILM

Anwar K. Chitayat, Plainview, N.Y., assignor to  
Optomechanisms, Inc., Plainview, N.Y.

Filed Sept. 7, 1965, Ser. No. 485,198  
Int. Cl. G03b 17/24

U.S. Cl. 95-1.1

1 Claim



The invention provides a microscope for accurately indicating an object and marking the object with a laser beam. The laser beam is focused and is reflected by a beam splitter in the microscope and onto the object which may be a film, so that the beam forms a permanent mark on the object.

### 3,518,926 PHOTOGRAPHIC EXPOSURE CONTROL APPARATUS

Herbert A. Bing, Wayland, Mass., assignor to Polaroid  
Corporation, Cambridge, Mass., a corporation of  
Delaware

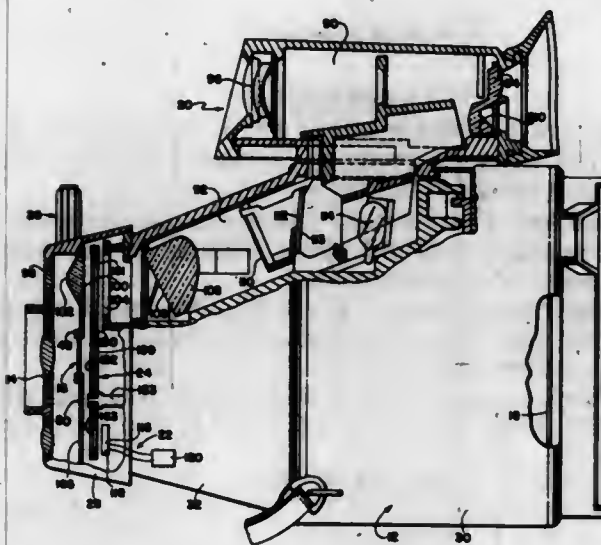
Filed Aug. 1, 1967, Ser. No. 657,667  
Int. Cl. C01j 1/04

U.S. Cl. 95-10

9 Claims

Exposure control apparatus for a photographic camera includes a first photoresponsive device for influencing the selection of exposure aperture size in accordance with the light level of the scene being photographed and a second photoresponsive device for influencing exposure

interval duration as a function of scene light level and the selected aperture size. A second aperture for controlling the amount of light incident upon the second



photoresponsive device and the exposure aperture are adjusted concurrently with adjustments to the first photoresponsive device.

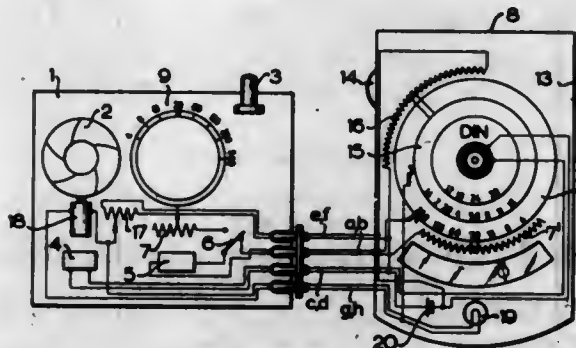
### 3,518,927 PHOTOGRAPHIC CAMERA WITH ELECTRONIC SHUTTER AND REMOTE CONTROL DEVICE AT- TACHABLE THERETO

Dieter Mehlitz, Stuttgart-Mohringen, Hans Ruhle, Stutt-  
gart, and Heinz Thiele, Leinfelden, near Stuttgart, Ger-  
many, assignors to Zeiss Ikon Aktiengesellschaft, Stutt-  
gart, Germany, a corporation of Germany

Filed Dec. 7, 1966, Ser. No. 599,925  
Claims priority, application Germany, Dec. 9, 1965,  
Z 11,911

Int. Cl. G03b 7/08, 9/58; G01j 1/46  
U.S. Cl. 95-10

8 Claims



A photographic camera equipped with an electronic shutter is detachably connected with a remote control device including a photoelectric exposure meter capable of adjusting not only the shutter speed but also the diaphragm of the photographic camera.

### 3,518,928 EXPOSURE CONTROL FOR PHOTOGRAPHIC CAMERAS

Fritz Bestenreiner, Gruenwald, near Munich, Germany,  
assignor to Agfa-Gevaert Aktiengesellschaft, Lever-  
kusen, Germany

Filed June 18, 1968, Ser. No. 738,066  
Claims priority, application Germany, June 30, 1967,  
A 56,133

Int. Cl. G03b 7/08  
U.S. Cl. 95-10

20 Claims

An exposure control for photographic cameras wherein the shutter is moved to open position on movement of a diaphragm vane from closed position to a given second position in which the diaphragm defines an aperture whose

size is a function of scene brightness. The vane returns to closed position with a delay which is a function of the aperture size in the given second position of the vane. A pawl holds the vane in second position and is mounted on an adjusting member which disengages the shutter from a retaining lever when the pawl engages with one of a set of teeth on the vane or its lever so that the shutter is then free to open. The means for moving the vane from closed position comprises an impeller, and the extent of move-

shaft extending through the film spools of all the camera units. The film spools are situated along the length of the straight shaft and are pivotal relative to the axis of the shaft thereby permitting the axes of the spools to assume a perpendicular attitude relative to the optical axis of the camera unit with which the spool is associated. A single shutter drive mechanism is employed for all camera units.

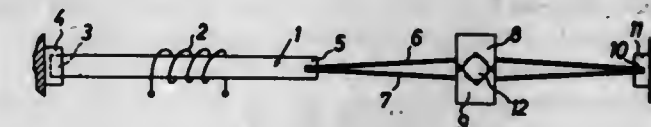
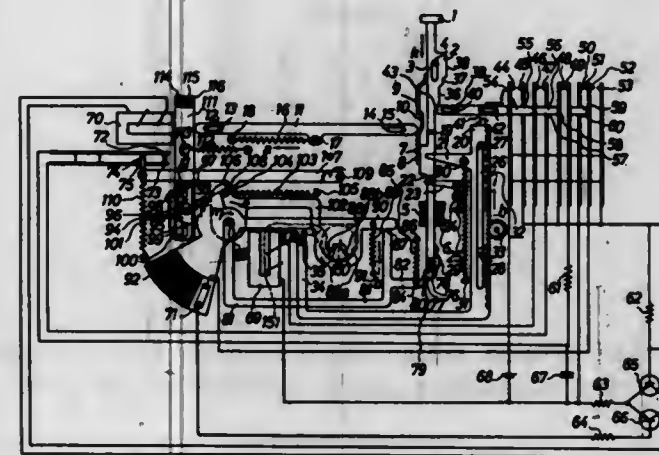
### 3,518,930 CAMERA LIGHT CONTROL ARRANGEMENT

Hans Thiele and Erwin von Wastelewski, Munich, Ger-  
many, assignors to Firma Agfa-Gevaert Aktiengesell-  
schaft, Leverkusen, Germany

Filed Feb. 16, 1968, Ser. No. 706,035  
Claims priority, application Germany, Feb. 23, 1967,  
A 54,988

Int. Cl. G01j 1/00; G02f 1/30; G03b 9/02  
U.S. Cl. 95-64

11 Claims



ment of the vane under the action of the impeller is determined by the field of an electromagnet which is in circuit with a photosensitive receiver. The vane carries an auxiliary diaphragm which reduces the amounts of scene light reaching the receiver proportionally with the extent of movement of the vane from closed position, and the thus changed resistance of the receiver determines the exposure time by influencing the delay with which the vane is released for movement back to closed position.

An arrangement for controlling the light exposure in photographic cameras. An electrical circuit having a light-sensitive element produces a current which is a function of the prevailing light conditions. The current is applied to an electrophysical responsive member having either magnetostrictive or electrostrictive properties. As a result of the signal applied by the electrical circuit to the electrophysical responsive member the latter undergoes a dimensional change which is translated to a diaphragm member mechanically linked to the electrophysical responsive member. The diaphragm of the camera is, as a result, increased or decreased, in opening which serves to constrict the light path in a predetermined manner. The dimensional change incurred by the electrophysical responsive member may be magnified through the application of lever arrangements or by connecting mechanically a number of such electrophysical responsive members in series. In this case these members are connected to each other end-to-end and the dimensional change of each member is added to the changes of all other members. Compensating mediums may also be included so as to compensate for any dimensional changes of the electrophysical responsive member resulting from thermal effects.

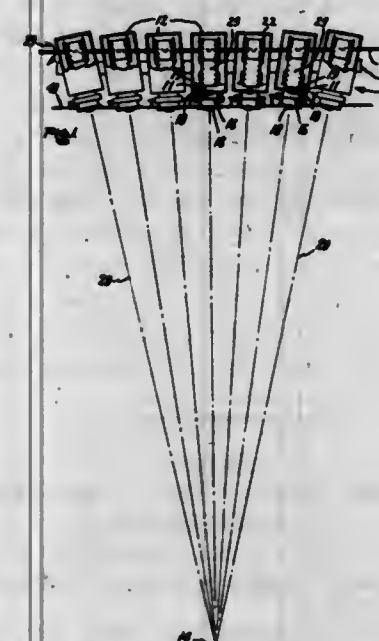
### 3,518,929 THREE DIMENSIONAL CAMERA

William E. Glenn, Jr., Scotia, N.Y., assignor to General  
Electric Company, a corporation of New York

Filed Mar. 6, 1967, Ser. No. 620,844  
Int. Cl. G03b 35/08

U.S. Cl. 95-18

7 Claims



A parallax stereogram camera composed of a plurality of camera units having optical axes convergent upon the scene to be photographed is provided with a common film transport mechanism in the form of a single straight

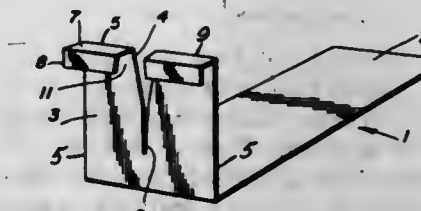
### 3,518,931 HOLDER, SERVER AND SEALER

Herbert Levon Moore, 4507 N. Magnolia,  
Chicago, Ill. 60640

Continuation-in-part of application Ser. No. 574,176,  
Aug. 22, 1966. This application Aug. 15, 1968, Ser.  
No. 752,832

Int. Cl. A47j 47/00  
U.S. Cl. 99-234

4 Claims



In this specification, the gist of the technical disclosure resides in a unitary holding, serving and sealing tray for products sold in flexible sheet enclosures such as cellophane or waxpaper having an openable end for removal



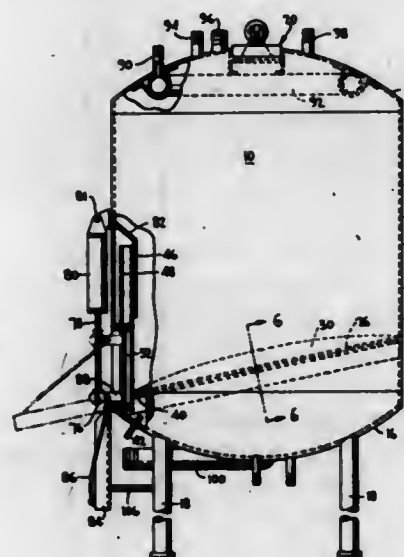
of the contents. The tray has a base and an upright end wall, with means to hold in closed position a previously opened end of the enclosure and seal against air. Such means may include a notch extending from an edge of the end wall and tapering inwardly from the edge to a narrow slot portion. When desired to close the flexible sheet enclosure, its opened end is gathered, placed through the notch at the edge and drawn inwardly from the edge wedging securely and air-sealingly in the narrow slot portion of the notch, with the sealed enclosure and contents resting on the base. The gathered end of the enclosure wedged in the notch not only seals against air but holds the enclosure and contents on the tray adjacent the end wall.

3,518,932

**RETORT FOR PROCESSING CANNED PRODUCTS**  
Grover F. Howard, P.O. Box 5, Westville, Okla. 74965  
Filed Sept. 30, 1968, Ser. No. 763,600  
Int. Cl. B65b 55/06

U.S. Cl. 99—251

40 Claims



A retort or cooker for processing canned products which has its longitudinal axis vertically disposed and is provided with an inlet opening that is located at its upper end through which cans may be introduced. The cans may be removed through the inlet opening or through a separate outlet opening located adjacent the lower end of the retort. The opening or openings are closed by closure members located within the retort and are forced into fluid tight engagement with the wall of the retort by wedge means associated with the retort and closures. When the retort is provided with an independent outlet, it is also provided with a false bottom that slopes from the rear and sides of the retort toward the outlet opening.

## ERRATUM

For Class 99—256 see:  
Patent No. 3,519,442

3,518,933

## COFFEE MAKER

Robert L. Weber, Clapboard Hill Road,  
New Canaan, Conn. 06840

Original application Nov. 23, 1965, Ser. No. 509,278, now  
Patent No. 3,423,209. Divided and this application July  
5, 1968, Ser. No. 765,718

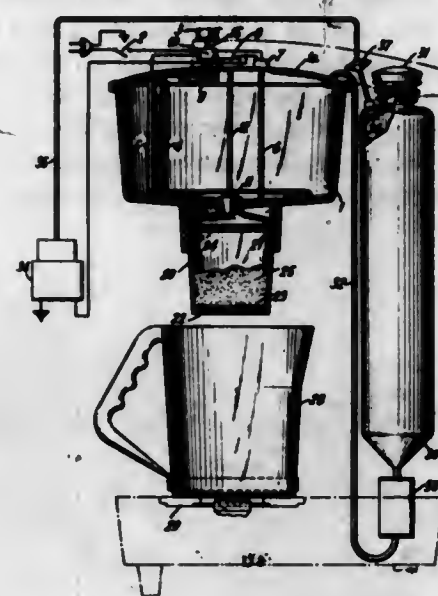
Int. Cl. A47j 31/32

U.S. Cl. 99—283

13 Claims

Apparatus for brewing selectively variable quantities  
of coffee while maintaining a uniform infusion time. Hot  
water is forced from a reservoir through the ground coffee

in an infusion cup at a rate selected in accordance  
with the quantity of coffee to be brewed such that the



water and ground coffee always infuse for a constant  
time period irrespective of the quantity of the brew.

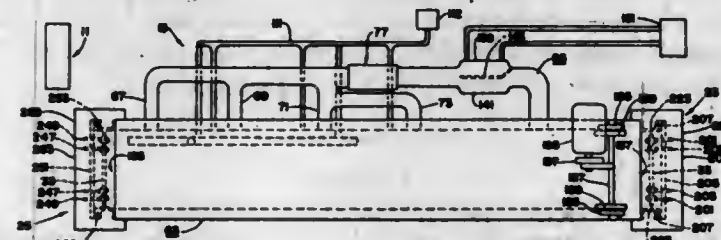
3,518,934

## CONTINUOUS PROCESSING APPARATUS FOR LINKED SAUSAGES

Benjamin I. Davis, Ellendale, and Thomas A. Klyce,  
Memphis, Tenn., assignors to Ranger Tool Co., Inc.,  
Ellendale, Tenn., a corporation of Tennessee  
Filed Oct. 22, 1968, Ser. No. 769,526  
Int. Cl. A23j 3/00

U.S. Cl. 99—443

16 Claims



The apparatus including a long sausage cooking tunnel unit having a series of cooking zones of conditioned air with each cooking zone having heat and humidity control means for maintaining the heat and humidity of each conditioned air zone at a desired range. The apparatus including a long sausage cooling tank unit arranged underneath the cooking tunnel unit and includes conveyor means in the cooking unit and cooling unit with the conveyor means having a ratchet-like action or an intermittently operative action for conveying the linked sausages supported on a sausage rod through the sausage cooking unit and cooling unit. The apparatus also includes conveyor means including lowering mechanism having an intermittently operative action for lowering the sausage laden sausage rods from the outfeed end of the cooking unit to the infeed end of the sausage cooling unit.

3,518,935

## PRESS FOR DEWATERING OF FIBROUS MATERIALS

Johan C. F. C. Richter, St. Jean Cap Ferrat, France,  
assignor to Aktiebolaget Kamyr, Karlstad, Sweden, a  
company of Sweden

Continuation of application Ser. No. 652,265, July 10,  
1967. This application May 19, 1969, Ser. No. 851,510  
Claims priority, application Sweden, July 15, 1966,  
9,677/66

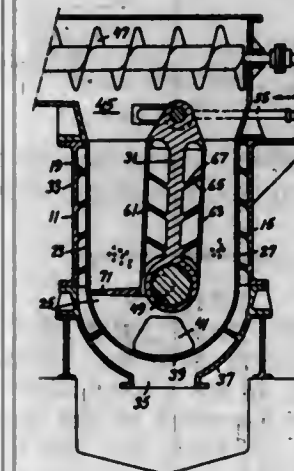
Int. Cl. B30b 9/06

U.S. Cl. 100—116

9 Claims

A press for pressing water out of a moist fibrous material, such as bark or sawdust, or for pressing liquid

out of cellulose pulp after the digestion or bleaching thereof. The material is fed up through a vertical shaft having screen walls and divided by a central partition into two halves. Said partition is moveable sidewise in order to press the material contained in one half of the shaft at a time towards the screen wall thereof. The press beam may also be formed with screen surfaces and cavities be-



hind the same for letting out liquid. The press beam is pivoted at its lower end and rocked at its upper end. The liquid pressed off runs by gravity in the direction opposite to the direction of feed of the material. Successive batches of material are fed alternately to one and the other half of the shaft by a flap located at the lower end of the press beam and swinging through an angle of approximately 180 degrees.

3,518,936

## MECHANICAL SCREW PRESS

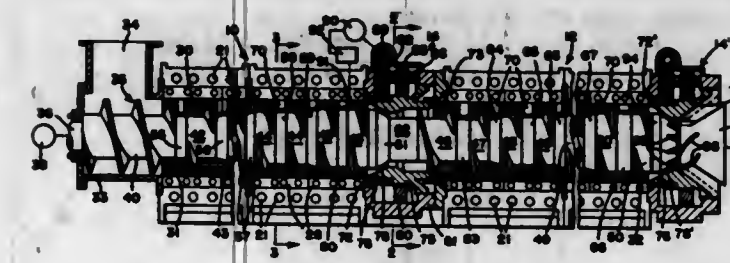
Dean K. Bredeson, Piqua, Ohio, assignor to The French  
Oil Mill Machinery Company, Piqua, Ohio, a corporation  
of Ohio

Filed Sept. 9, 1968, Ser. No. 758,300

Int. Cl. B30b 9/12, 15/00

U.S. Cl. 100—117

10 Claims



A screw press has a cage with spaced screen bars defining drainage slots therebetween. A rotatable screw extends through the cage and includes a shaft supporting a plurality of worms with axially spaced helical flights, and breaker bars are mounted on the cage projecting between the flights to resist rotation of the material with the screw. An annular choke member is connected to the cage intermediate the inlet and discharge ends and has a tapered inner surface which cooperates with a collar mounted on the shaft between a set of adjacent flights to define an intermediate restrictive orifice. The choke member is adjustable axially or interchangeable with other choke members for varying the size of the orifice to obtain the optimum progressive expression of liquid from the material.

3,518,937

## NULL PRESSURE HAY BALER PRESSURE PLATE EQUALIZER

Albert M. Westerman, E. 10122 Broadway,

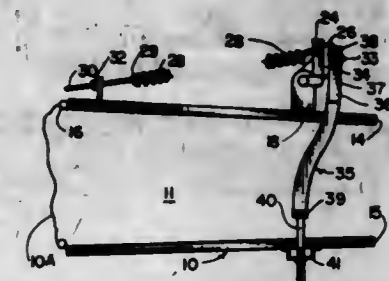
Spokane, Wash. 99206

Filed Sept. 8, 1967, Ser. No. 666,356

Int. Cl. B30b 1/00

U.S. Cl. 100—192

1 Claim



A bell-crank operated tensioning device for a hay baler having relatively movable opposed pressure plates regulating bale density, with mechanical linkage communicating therebetween to provide pressure between said plates. The bell-crank is mechanically biased to present lessened pressure between the pressure plates upon their extension and greater pressure upon their compression, with substantially no component of pressure between the plates at their outwardmost extension. The pressure-compression function is variable within limits by adjustable positioning of the bell-crank arms and by means of adjustable linkages communicate with the pressure plates.

3,518,938

## STENCILING APPARATUS WITH TRAVELING SQUEEGEE FOR DECORATING CONTINUOUSLY MOVING WARE

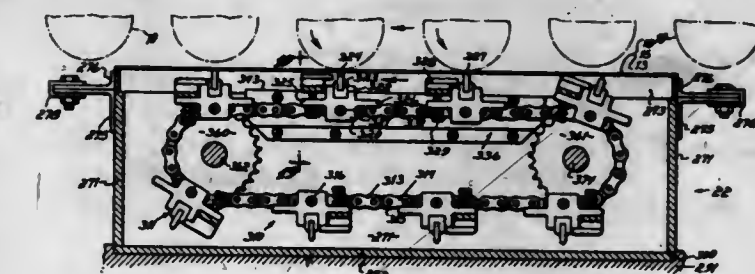
Edmund B. Donner and Gerald E. Ellis, Washington, Pa.,  
assignors to Solar Engineering and Equipment Co.,  
Beaver, Pa., a corporation of Pennsylvania

Filed Aug. 15, 1967, Ser. No. 660,799

Int. Cl. B41f 17/18; B41i 13/02

U.S. Cl. 101—40

23 Claims



An automated machine and method for decorating cylindrical or partially cylindrical ware. According to this method, a continuously moving stream of ware is rolled over a membrane which has a portion pervious to a decorative medium. As the ware rolls over the top of the membrane, the decorative medium is forced upwardly through the pervious portion of the membrane so as to deposit a decorative pattern on each item of ware.

3,518,939

## GLASS BOTTLE DECORATING MACHINE

Edmund B. Donner and Gerald E. Ellis, Washington, Pa.,  
assignors to Solar Engineering and Equipment Company,  
Beaver, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 660,799,  
Aug. 15, 1967. This application May 23, 1968, Ser.  
No. 731,459

Int. Cl. B41f 17/18

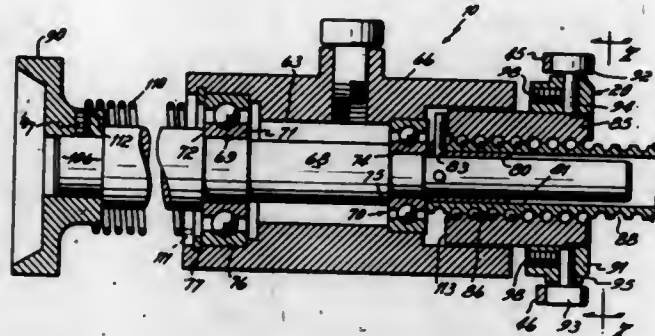
U.S. Cl. 101—40

12 Claims

Apparatus for decorating cylindrical bottles by forcing  
a decorative medium upwardly through a stationary pervious  
membrane onto continuously moving bottles passing



over the top of the membrane. The apparatus includes an indexing and rotating mechanism for effecting controlled rotation of the bottles as they move over the top of the

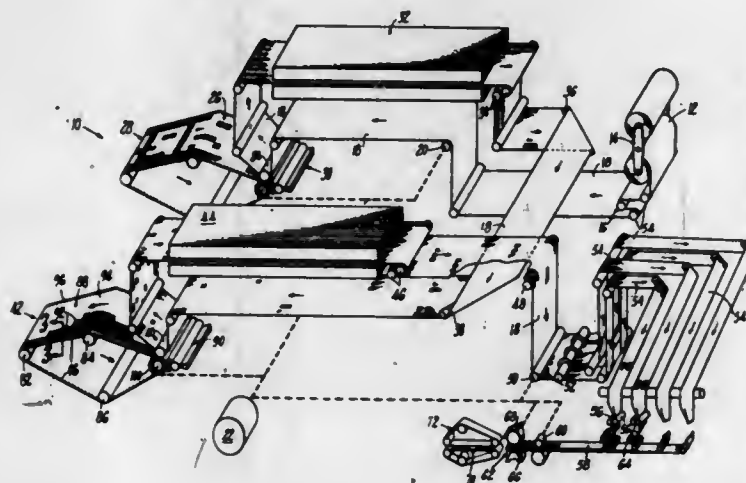


membrane. This indexing and drive mechanism comprises a cam actuated non-rotatable nut movable axially over a screw connected to a rotatable portion of a bottle chuck.

3,518,940

**ENDLESS BELT PRINTING MACHINE**

Edward A. Stroud, Wharton, and Charles Aaron, West Caldwell, N.J., assignors to Cameron Machine Company, Dover, N.J., a corporation of New York  
Filed June 30, 1967, Ser. No. 650,338  
Int. Cl. B41f 5/04, 13/02  
U.S. Cl. 101-223 20 Claims



The apparatus of this invention embodies a printing mechanism comprising an endless belt formed of polyethylene terephthalate and carried by an idler roll and a plate cylinder, a drive engaging the belt, the plate cylinder being free wheeling relative to the drive during normal high speed operation to permit independent belt travel over the free wheeling plate cylinder, and an adjustable tensioning assembly for selectively positioning the idler roll relative to the plate cylinder and tensioning the endless belt irrespective of its length.

3,518,941

**ACOUSTIC MINE FIRING CONTROL SYSTEM**

Joseph F. Keithley, 418 Rittenhouse St. NW., Washington, D.C. 20011  
Filed May 15, 1945, Ser. No. 593,902  
Int. Cl. F42b 22/04  
U.S. Cl. 102-18 21 Claims

This invention relates to firing control systems for marine mines and more specifically to an acoustic mine firing control system wherein the system operates to detonate and explode the mine associated therewith in re-

sponse to sound signals transmitted through the surrounding water by sound emitting bodies such, for example, as a surface vessel, submarine or the like, and the

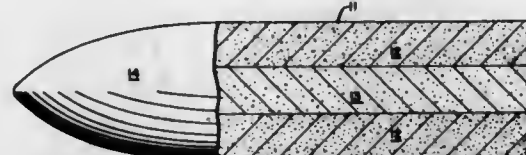


system operates to prevent detonation of the mine in response to countermining explosions occurring within the vicinity thereof.

3,518,942

**ANTIAIRCRAFT PROJECTILE**

Vasil Philipchuk, North Scituate, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed Oct. 14, 1960, Ser. No. 62,815  
Int. Cl. F42b 13/12, 13/14, 13/18  
U.S. Cl. 102-56 4 Claims

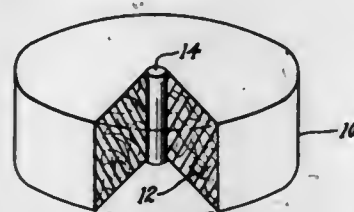


1. an anti-aircraft projectile comprising an outer generally cylindrical casing, an explosive charge disposed within said casing and coaxial therewith, and an annular inert filler comprised of a mixture of inert powder and a titanium powder disposed about said charge and substantially filling the casing, the charge to total projectile mass ratio being in the range of from .010 to .020.

3,518,943

**STABLE ELECTRICALLY IGNITABLE EXPLOSIVE CHARGES**

Jacques J. Meers and Frederic C. Merriam, Danvers, Mass., assignors to USM Corporation, Boston, Mass., a corporation of New Jersey  
Filed Mar. 11, 1968, Ser. No. 712,012  
Int. Cl. F42b 9/08, 9/16, 5/16  
U.S. Cl. 102-70.2 8 Claims



A solid deflagrating charge of fibrous nitrocellulose has continuous burning surfaces defined by interconnected interstitial air spaces and includes firing means desirably in the form of an appropriate central electrical heating element leaving little or no residue on combustion. The element is illustrated as of fine metal wire or graphite which, on carrying electrical energy, initiates ignition of the charge. The charge will have been compacted to disc shape or other predetermined configuration suitable for sealing its firing chamber. The cartridge, though contemplated for use in explosively actuated stud driving tools or the like, is not limited to this field.

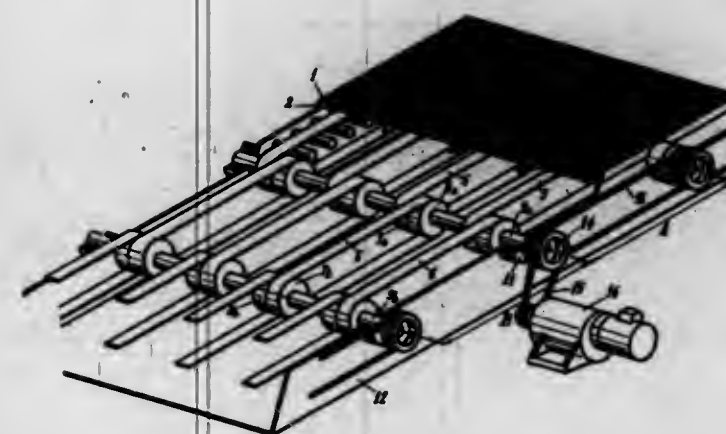
3,518,944

**STEPPLESSLY VARIABLE-SPEED CONVEYOR**

Pierre Patin, 58 Rue de Sevres, Boulogne-sur-Seine, Hauts-de-Seine, France  
Filed Nov. 12, 1968, Ser. No. 775,036  
Claims priority, application France, Nov. 20, 1967, 128,807  
Int. Cl. B65g 13/02

U.S. Cl. 104-25

8 Claims



The invention concerns a roller conveyor, particularly for passengers, comprising bearing rollers arranged in a top row in the gaps of a grating from which they project slightly. These bearing rollers are friction-driven by drive rollers disposed in a bottom row and rotated at progressively variable speed from any roller to the next. The conveyor is mainly characterized in that each roller of a row is in contact with two rollers of the other row, the drive rollers have sections whose diameter varies from any roller to the next and which are in contact with a number of moving endless belts and in that the bearing rollers have sections which are in contact with sections of the drive rollers, whose diameters are such that the bearing rollers run at peripheral speeds varying substantially stepplessly from any roller to the next.

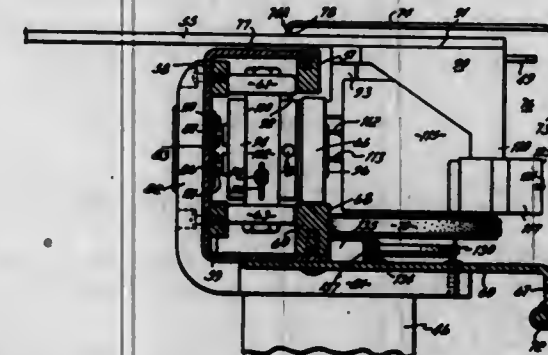
3,518,945

**TRANSFER APPARATUS**

Melvin A. Raney, Cincinnati, Clifford L. Elmore, Loveland, Donald D. Brown, Cincinnati, and Richard C. Young, Lebanon, Ohio, and Harold H. Krueger, South Fort Mitchell, Ky., assignors to Precision Welder & Flexopress Corporation, Cincinnati, Ohio, a corporation of Ohio  
Filed Feb. 28, 1968, Ser. No. 714,157  
Int. Cl. E01b 26/00

U.S. Cl. 104-119

10 Claims



An improved automatic transfer system for transporting workpieces between multiple stations at which manufacturing or assembling operations are performed upon the workpiece. The apparatus comprises a track over which single or multiple workpiece supporting pallets or

cars are movable between stations. Each pallet is self-propelled by motor or motors which drive one or more friction drive wheels engaged with the track so that each pallet moves over the track whenever the movement of the pallet is unimpeded by other pallets or stops located on the track.

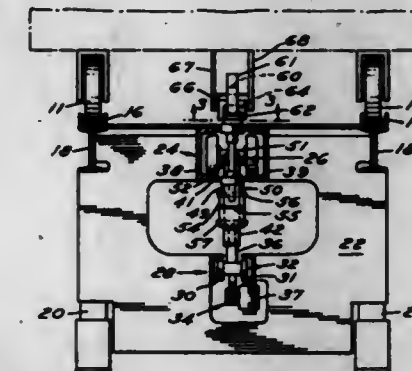
3,518,946

**PUSHER CONVEYOR FOR WHEELED CARRIERS**

Shelden M. Kavieff, Farmington, Mich., assignor to Jervis B. Webb Company, a corporation of Michigan  
Filed Jan. 24, 1968, Ser. No. 700,086  
Int. Cl. B61b 13/00

U.S. Cl. 104-172

15 Claims



A conveyor for wheeled carriers wherein a tow trolley unit, supported on a track intermediate the track of a pusher conveyor and the support for the carriers, has a releasable driving dog engageable by a pusher of the pusher conveyor and a drive member engageable with a driven member on a carrier to transmit movement from the pusher conveyor to the carrier. The releasable driving dog is movable to non-driving position to stop and accumulate the tow trolley units and carriers, and means are provided for transferring a carrier between a conventional pusher line and a tow trolley unit, and for transferring a tow trolley unit and carrier between pusher lines.

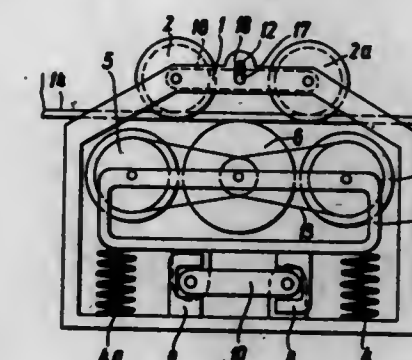
3,518,947

**GRIPPING LOCOMOTIVE FOR SUSPENDED RAILWAY**

Adolf Hermann Borst, Alte Steige, Altenriet, Germany  
Filed Nov. 8, 1967, Ser. No. 681,339  
Claims priority, application Germany, Nov. 8, 1966, B 89,728  
Int. Cl. B61b 3/02, 13/06; B61c 13/08

U.S. Cl. 105-30

7 Claims

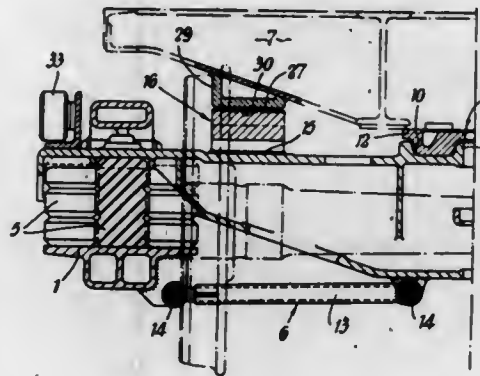


The invention relates to mechanism for suspension travel on a railway. The structure includes a group of drive rollers and is designed for high-speed travel by means of a medially disposed friction roller in the group in a horizontal plane on the railway and is arranged to be tilted when traveling in an inclined or vertical direction during which time its speed is reduced by reason of engagement of another in the group of friction rollers with the railway.



### 3,518,948 RAILWAY TRUCKS WITH ELASTOMERIC BIASED SIDE BEARINGS

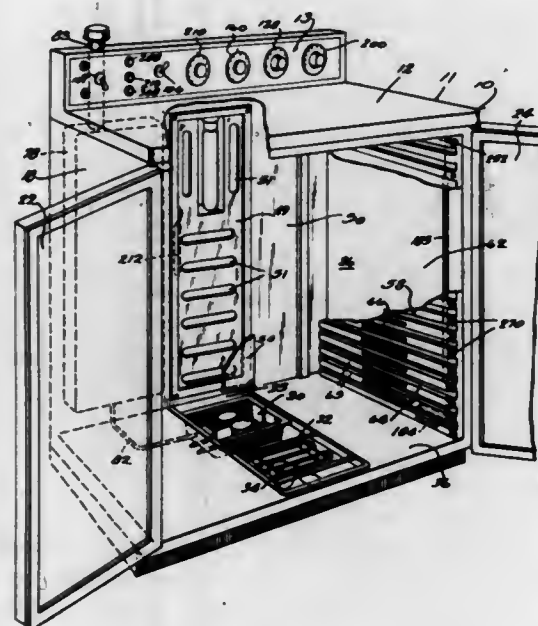
Brian Leonard King, Allestree, and Ronald Arthur Herbert, Littleover, England, assignors to British Railways Board, London, England  
Filed Apr. 20, 1967, Ser. No. 632,376  
Claims priority, application Great Britain, Apr. 26, 1966, 18,267/66  
Int. Cl. F16c 17/00; B61f 5/08, 5/14  
U.S. Cl. 105—199 2 Claims



A railway vehicle having a vehicle body mounted on a truck through a vertical pivot and through resilient pads which provide an elastic constraint to relative rotation of the vehicle body and truck about the pivot, the vehicle body being tied to the truck through a stiff elastic connection restraining the vehicle body from transverse movement relative to the truck. The stiff elastic connection is provided by one or more transverse radius rods having resilient bushings at their ends by which the one or more radius rods are mounted to the vehicle to provide the required elasticity. The ride characteristics of the vehicle are further improved by giving the truck wheels a tire profile which simulates a worn tire profile.

### 3,518,949 APPARATUS FOR CONDITIONING DOUGH AND BAKED GOODS

Arnold H. Stock, Rte. 1, Newton, Wis. 53063  
Filed Feb. 19, 1968, Ser. No. 706,548  
Int. Cl. A21c 13/00  
U.S. Cl. 107—7 8 Claims



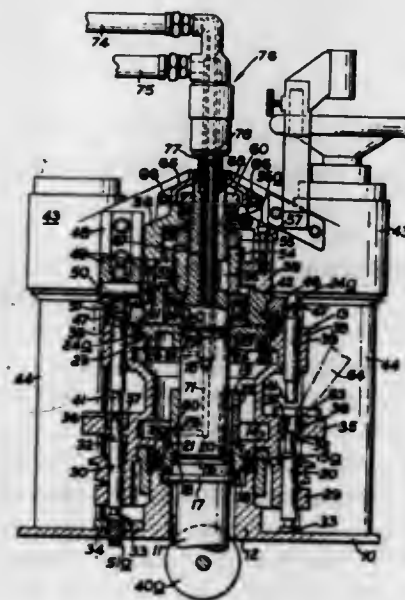
Disclosed herein is a method and apparatus for defrosting and proofing dough and holding baked goods at serving temperature for extended periods. The apparatus

includes a cabinet containing a water vapor generator, a heater and a fan for circulating heated air and water vapor through the cabinet. A circuit containing first and second temperature controls and a humidity responsive switch is operatively connected to the heater and water vapor generator to maintain the temperature and humidity levels at predetermined values during the use of the cabinet for the various processes. The circuit also includes timers to maintain the preselected temperature and humidity conditions for preselected periods.

### 3,518,950 ROTARY TABLET-MAKING MACHINES

Jack Crossley, Liverpool, England, assignor to Manesty Machines Limited, Liverpool, England, a British company

Filed Jan. 10, 1968, Ser. No. 700,669  
Claims priority, application Great Britain, Jan. 13, 1967, 1,906/67  
Int. Cl. B29b 1/02  
U.S. Cl. 107—17 2 Claims



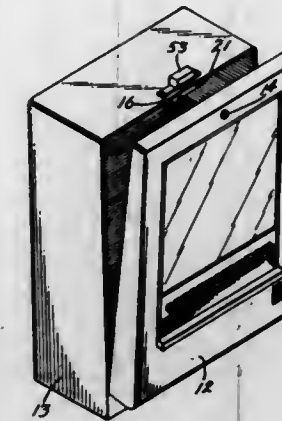
Rotary tablet-making machines of the type incorporating a rotary turret having a die plate or table and formed with top and bottom punch guides accommodating respective punches cooperating with corresponding dies in the die plate and means for supplying granular or pulverulent material to the dies to be compressed into tablet form by the punches, the turret of the machine being hollow and having means to permit circulation of a cooling fluid therethrough, said means comprising, a bore extending axially of the drive shaft and connecting, by way of a rotary coupling, with feed and return pipes, a tube extending within the bore of the drive shaft and defining therewith feed and return passages connected with the feed and return pipes and with the interior of the turret.

### 3,518,951 PROTECTIVE DEVICE FOR VENDING MACHINES

Lester J. Wolf, Westmont, N.J., assignor to Gas-Guard Corporation of America, Haddon Heights, N.J., a corporation of New Jersey  
Continuation-in-part of application Ser. No. 782,581, Dec. 10, 1968. This application July 9, 1969, Ser. No. 840,443  
Int. Cl. E05g 3/00; G08b 15/02  
U.S. Cl. 109—32 10 Claims

A protective device for vending machines and the like having a closure which includes a latch cooperable with a strike to lock the closure. The strike is resiliently

mounted so that if the closure is attempted to be opened without releasing the key-operated latch, the attempt at forcible entry will displace the strike to trigger an alarm.



The resilient mounting of the strike also operates to trigger the alarm if an attempt is made to dismantle the protective device.

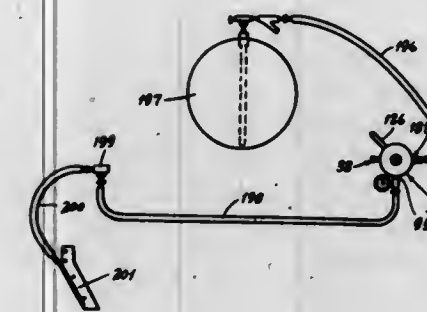
### 3,518,952 METHOD OF SUBSURFACE BURNING OF QUANTITIES OF REFUSE MATERIAL

John A. Francisovich, Aberdeen, Wash., assignor to Fibre-Weld, Inc., Aberdeen, Wash.  
No Drawing. Filed Apr. 28, 1967, Ser. No. 634,463  
Int. Cl. F23g 5/00 7 Claims

U.S. Cl. 110—8  
The incineration of quantities of refuse material by subsurface burning at high temperatures is attained by injecting fuel in the refuse and igniting it to heat nitrogenous gases to the point of self-sustained burning.

### 3,518,953 LIQUID FLOW CONTROL STRUCTURE

Douglas Johnston, Rte. 5, Box 336C, Athens, Ala. 35611  
Original application Dec. 30, 1964, Ser. No. 422,217. Divided and this application Aug. 12, 1968, Ser. No. 751,853  
Int. Cl. A01c 23/02, 15/00; B05b 9/06; G05d 13/10  
U.S. Cl. 111—7 11 Claims



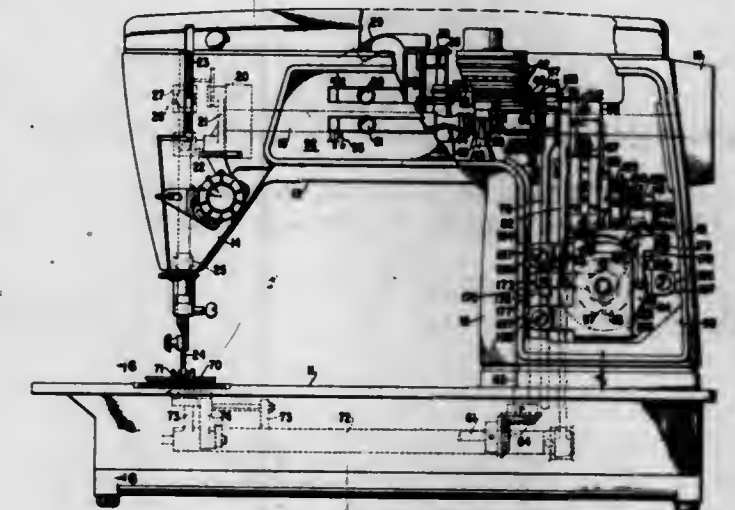
A flow control structure adapted to be mounted on a wheeled applicator to receive and discharge anhydrous ammonia, and the like, in predetermined quantities proportional to the speed of the applicator, comprising a housing, a diaphragm in the housing separating a space into an upper chamber and a lower chamber, the upper chamber receiving anhydrous ammonia at substantially tank pressure, a passage communicating the upper and lower chambers having an adjustable calibrated valve therein for controlling the flow, a discharge valve in the lower chamber connected to the diaphragm for movement therewith, and a governor mounted in the housing below the lower chamber operatively connected to the

discharge valve and the diaphragm for exerting a force upon the diaphragm proportional to the square of the speed of the applicator on which the structure is mounted, the governor including a pulley adapted to be connected to the wheels of the applicator so that the speed of the governor is proportional to the speed of the applicator, the governor initially opening the valve in the lower chamber on movement of the applicator, the operating position of the valve thereafter at a given speed of the applicator being determined by a balance of the force of the governor on the diaphragm and the pressure drop across the diaphragm through the valved connecting means, the pressure drop depending upon the speed of the governor.

### 3,518,954 ROUND END BUTTONHOLE MECHANISM FOR ZIGZAG SEWING MACHINES

John Blackwood, Linden, John Patricia, Elizabeth, and Danilo P. Buan, Old Bridge, N.J., assignors to The Singer Company, Rockefeller Plaza, N.Y., a corporation of New Jersey  
Filed June 21, 1968, Ser. No. 739,051  
Int. Cl. D05b 3/02 7 Claims

U.S. Cl. 112—158



A compact buttonholing assembly is provided separate and remote from the needle jogging mechanism of a household zigzag sewing machine. The buttonholing assembly, upon operator initiation of each half of a buttonhole stitching operation, is driven by the sewing machine actuating mechanism to shift a single operating member. By the setting of a single switching device, the operating member may be coupled to all of the sewing machine controls requiring variation during the stitching of the buttonhole.

### 3,518,955 PATTERN STITCH SEWING MACHINE

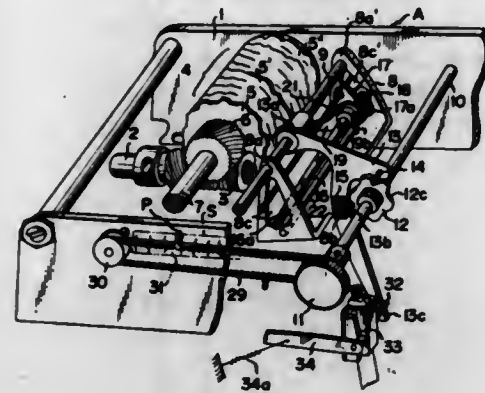
Atsuo Ohira, Kariya, Japan, assignor to Aisin Seiki Kabushiki Kaisha, Kariya, Japan

Filed Nov. 18, 1968, Ser. No. 776,367  
Claims priority, application Japan, Nov. 25, 1967, 42/99,347  
Int. Cl. D05b 3/02 4 Claims

U.S. Cl. 112—158  
A pattern stitch sewing machine provided with a plurality of stitch pattern cam discs, a cam follower selectively engaging one of said pattern cam discs, a means for switching-over said cam follower from one pattern cam disc to another selected pattern cam disc, and means for



transmitting movement of said cam follower to the needle bar of the sewing machine for transversal movement thereof. In such sewing machine, the stitch pattern selecting device comprises a manipulating dial shaft, a releasing cam fixed to said dial shaft, an oscillatable link engaging with said releasing cam, a screw shaft having a screw



flute on which said cam follower is oscillatably and axially movably mounted, a change-over element having a pin engaging with said screw flute and axially movable along said screw shaft, and said change-over element is associated with said dial shaft through an intermittently rotatable wheel.

3,518,956

**BUBBLE HULLS**

Marius Georges Henri Girodin, 20 Place de la Madeleine, Paris, France

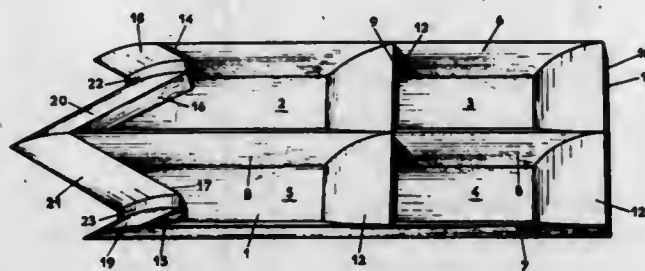
Filed May 16, 1968, Ser. No. 729,714

Claims priority, application France, May 26, 1967, 107,999

Int. Cl. B63b 1/34

U.S. Cl. 114-67

6 Claims



A hull for a water vehicle of the captured air bubble type wherein the lower exterior surface area of the hull is divided into at least four symmetrically disposed compartments for capturing air bubbles.

3,518,957

**ANCHORS**

Robert A. George, 175 W. 92nd St., New York, N.Y. 10025

Filed Apr. 16, 1968, Ser. No. 721,663

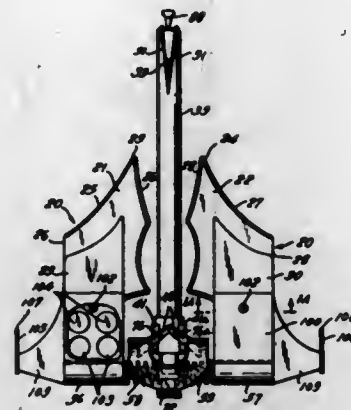
Int. Cl. B63b 21/38

U.S. Cl. 114-208

16 Claims

An anchor with multiple ground-gripping blades, jet and impact means for releasing the anchor from its holding position, and weight adjusting means. The anchor is provided with main and auxiliary blades, the latter being in fixed relation to a cylinder shank, the former being pivotally movable with respect thereto within preset limits. The cylinder shank is provided with a spring-loaded plunger, operable from the boat, for forcing water out-

wardly through forwardly facing orifices to provide a rearward reactive releasing force, said plunger also serving as impact means for engagement with an anvil at the



rear of the anchor to provide a supplementary releasing force. The body portions of the main blades have compartments adapted to house removable weighted members.

3,518,958

**ROWLOCKS**

Stanley McCarthy, Gatley, England, assignor to The Dunlop Company Limited, London, England, a British company

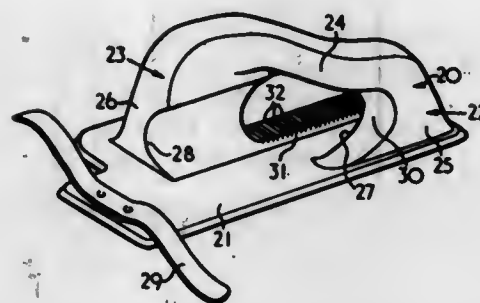
Filed May 16, 1969, Ser. No. 825,171

Claims priority, application Great Britain, May 25, 1968, 25,100/68

Int. Cl. B63h 16/06

U.S. Cl. 115-24.5

13 Claims



A rowlock for a small craft comprises a base member and two integrally formed abutment members extending from the base member. The base portions of the two abutment members are arranged to be spaced apart in the fore-and-aft and transverse directions to define a passage for an associated oar, to enable the shaft of the associated oar to be accommodated between the abutment members in a longitudinally aligned stowed position.

3,518,959

**ARCHERY BOW DRAW CHECK CLICKER**

Robert L. Bunker, 429 Crow's Mill Road, Fords, N.J. 08863

Filed July 8, 1969, Ser. No. 839,961

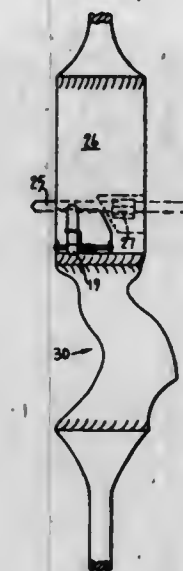
Int. Cl. G08b 3/00

U.S. Cl. 116-67

7 Claims

An archery bow draw check and clicker comprises a plate attachable to the side of the bow in the arrow area and has forwardly-projecting lugs which are provided with seating means, such as indentations, for holding the ends of a shaft which may be readily removed, when desired. A narrow upwardly extending lever is mounted at

its bottom to the shaft so as to swivel outwardly and move sidewise. A spring mounted around the shaft serves to press the lever against the plate, and also against an arrow which may be disposed between the lever and the plate, with enough force to cause a clicking sound when



the arrow is pulled free of the lever, and serving as a signal to release the string of the bow. The lever is moved along the shaft to allow for changes in target distance, and a forwardly-projecting finger tab on the bottom of the lever facilitates separation of the lever from the plate.

3,518,960

**SPEED MODIFYING AND WARNING DEVICE FOR AUTOMOBILES**

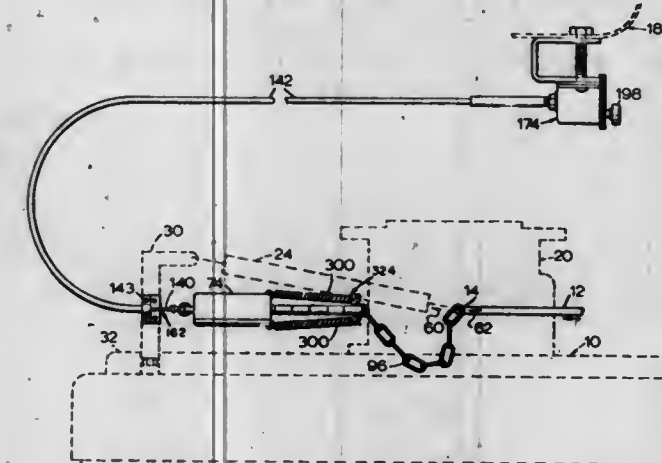
Fred A. Donaldson, 2068 South St., Blair, Nebr. 68008

Continuation-in-part of application Ser. No. 516,220, Dec. 22, 1965. This application Nov. 13, 1967, Ser. No. 699,275

Int. Cl. G01d 21/00

U.S. Cl. 116-114

7 Claims



An automobile having an engine provided with an accelerator pedal and having in combination means for providing an impedance to freedom of accelerator pedal depression which can be abruptly sensed by the operator through the accelerator pedal at a certain point of accelerator pedal depression so as to provide a speed warning device, the impedance means being also at least partially abruptly overcomable so that this can be easily sensed by the operator also through the accelerator pedal.

3,518,961

**TEMPERATURE INDICATING DEVICE**

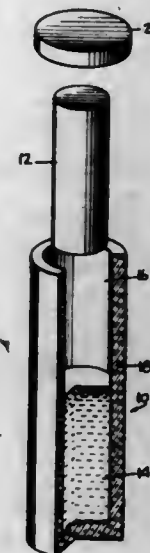
Lewis R. Kovac, Berkley, Mich., assignor to Atomic Power Development Associates, Inc., Detroit, Mich., a corporation of New York

Filed May 14, 1968, Ser. No. 728,952

Int. Cl. G01d 21/00

U.S. Cl. 116-114.5

4 Claims



A temperature indicating device embodying a sealed capsule containing a fusible member and a high density pin frozen in place in the fusible member. The structure permits determining whether or not the temperature of fusion of the fusible member has been obtained without destruction of the capsule. Upon melting of the fusible member, the force of gravity causes the high density pin to sink to the bottom of the capsule. The change in position of the pin is determined by the change in the center of gravity of the capsule, or by radiographic examination.

3,518,962

**OIL GAUGE FOR PILLOW BLOCKS**

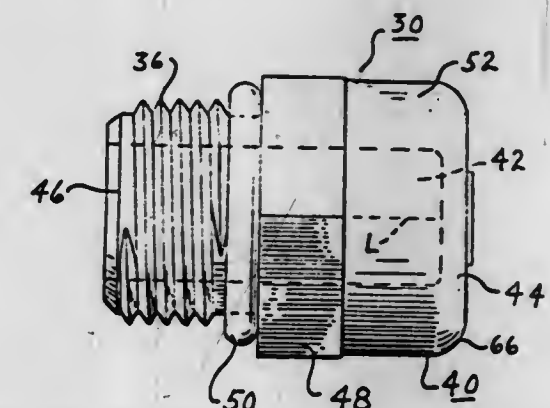
Robert P. De Leu, South Bend, Robert E. Strang, North Liberty, and Thayne K. Garberick, South Bend, Ind., assignors to Reliance Electric Company, a corporation of Delaware

Filed Mar. 14, 1968, Ser. No. 713,193

Int. Cl. G01f 23/02

U.S. Cl. 116-118

9 Claims



An oil level gauge for pillow blocks and the like in which a body of generally cylindrical shape and constructed of transparent material contains a cavity for receiving oil from the pillow block reservoir to indicate the level of oil therein. The outer end of the cylindrical portion contains a circle or other type of indicator to assist in determining the level of the oil in the pillow block.

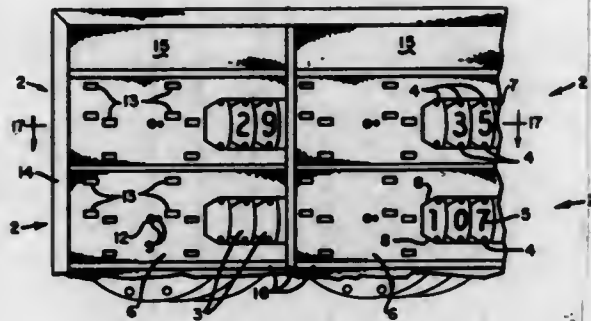


**3,518,963**  
**SCHEDULING PANELS INCORPORATING ROTATABLE DIALS AND FLEXIBLE IDENTIFICATION MEDIA**

Hartwell F. Tucker, Santa Clara County, Calif., assignor to Small Business Administration, an agency of the United States Government  
 Filed Apr. 26, 1965, Ser. No. 455,668  
 Int. Cl. G09F 9/00

U.S. Cl. 116—133

11 Claims



A scheduling panel is provided having a backing member of sheet material covered by an information holder frame which cooperates with a rotatable substantially circular information dial to display for ready observation a variety of information on many different subjects in which the information pertaining to any one subject is varied from time to time in relation to the other subjects.

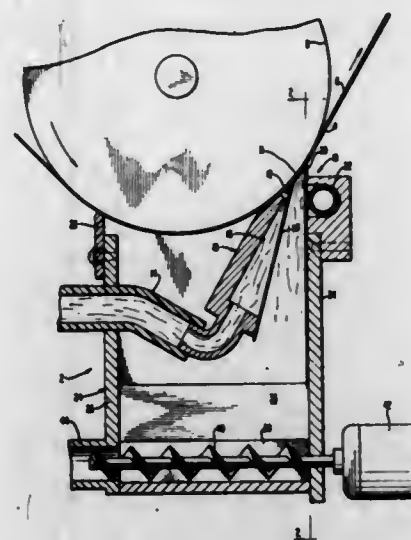
**3,518,964**  
**COATING APPLICATOR WITH SURROUNDING CHAMBER**

Robert T. Nagler, Prairie du Sac, Wis., assignor, by mesne assignments, to Bergstrom Paper Company, a corporation of Wisconsin

Filed May 2, 1968, Ser. No. 726,145  
 Int. Cl. B05c 3/18

U.S. Cl. 118—65

3 Claims



An applicator comprising an elongate slit nozzle for extruding a coating of pasty consistency onto a paper web is disposed beneath the web as the latter passes under a back-up roll. The nozzle is located closely adjacent a doctor so as to limit the residence time of the undocored coating on the web. In order to eliminate pile-up and hardening of excess coating material, which contains a volatile solvent, on the applicator, the doctor, and in the space therebetween, the nozzle and the upstream side of the doctor are enclosed in a housing which

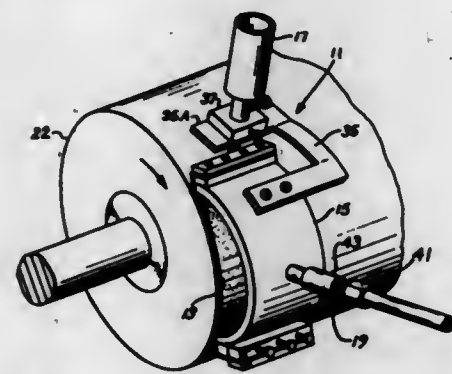
becomes saturated with solvent vapors and maintains the coating material sufficiently plastic so that it drops by gravity to a trough in the bottom of the housing, from whence it is returned for remixing with the coating supply material.

**3,518,965**  
**APPARATUS FOR APPLYING A COATING ON PRINTING CYLINDER**

Alfred B. Poschel, 1220 N. State St., Chicago, Ill. 60610  
 Filed Mar. 18, 1969, Ser. No. 808,200  
 Int. Cl. B05c 11/02

U.S. Cl. 118—106

6 Claims



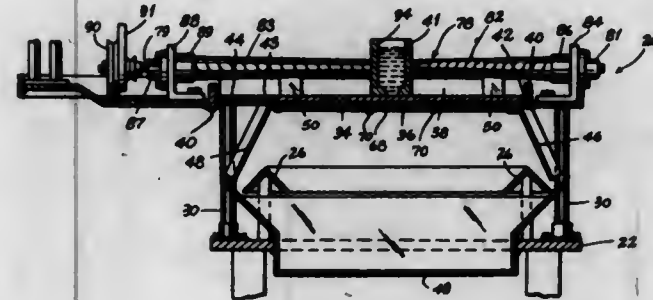
An apparatus for applying a coating on a rotating cylinder including an elastic blanket having a series of minute protrusions on one face thereof, the face of the blanket being positioned to contact the surface of the cylinder, means for moving the blanket in a direction along the axis of the cylinder, and means for providing a flow of liquid onto the cylinder adjacent the blanket such that the blanket spreads and smooths the liquid on the cylinder as a smooth even coating.

**3,518,966**  
**GLUING MACHINE WITH PROTECTED ADVANCING MECHANISM**

Thomas K. Hutchinson, 4649 Levis Lane, Godfrey, Ill. 62035  
 Filed Mar. 6, 1968, Ser. No. 711,068  
 Int. Cl. B05c 5/00

U.S. Cl. 118—301

12 Claims



A gluing machine for dispensing droplets of glue through a pattern provided with glue holes in which a glue trough is advanced and retracted by a protected lead screw mechanism. The lead screw is connected at one end to the gluing machine frame and through the gluing trough and to a motor at the other end to provide a positive smooth operation free from jerking movement. Protection is afforded by a telescopic spring sleeve sur-

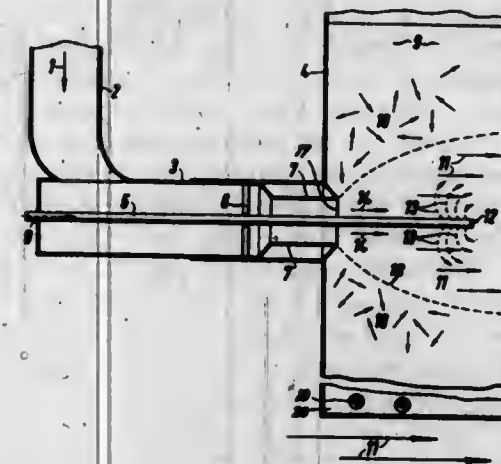
rounding the lead screw such that the screw shaft is never exposed to contamination by glue or other foreign matter. The pattern plate is provided with specially designed support means to prevent warping and to effect rapid change-over of pattern plates for new job set ups. The gluing machine is especially adapted for dispensing glue to shell molds.

**3,518,967**  
**FLUIDISED BED COATING APPARATUS**

Stanley Horrocks, The Mill House, Lamplugh, Workington, Cumberland, England  
 Filed Oct. 17, 1966, Ser. No. 587,149  
 Claims priority, application Great Britain, Oct. 29, 1965, 45,860/65  
 Int. Cl. B05c 5/02; B05b 17/00

U.S. Cl. 118—303

2 Claims



An apparatus is provided comprising means for producing a zone of ordered, solid particles in a fluidised bed and a spray nozzle positioned in the fluidised bed.

**3,518,968**  
**ADHESIVE APPLYING DEVICE FOR SHOE LASTING MACHINES**

George C. Barton, Frank R. Smith, and Peter L. Stapleton, Leicester, England, assignors to USM Corporation, Boston, Mass., a corporation of New Jersey  
 Filed Nov. 28, 1967, Ser. No. 686,089  
 Int. Cl. B05b 3/14

U.S. Cl. 118—302

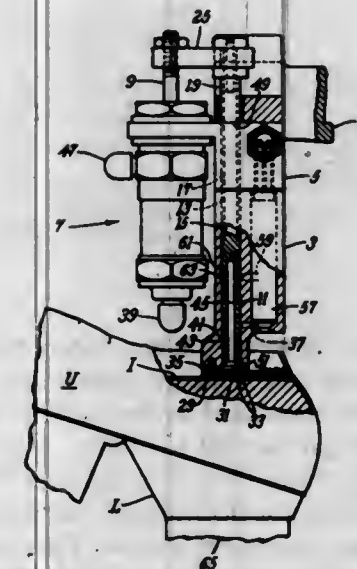
6 Claims

**3,518,970**  
**PAINT ROLLER AND METHOD AND APPARATUS OF MANUFACTURE**

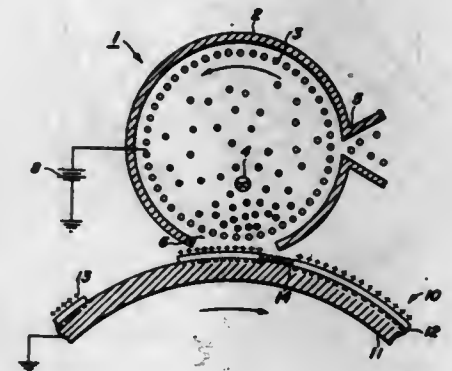
Frederick B. Burns, South Milwaukee, and Erik Henningsen, Milwaukee, Wis., assignors to E Z Paints Corporation, a corporation of Delaware  
 Original application Dec. 3, 1964, Ser. No. 415,624, now Patent No. 3,411,931. Divided and this application May 17, 1968, Ser. No. 753,311  
 Int. Cl. B05b 5/00

U.S. Cl. 118—640

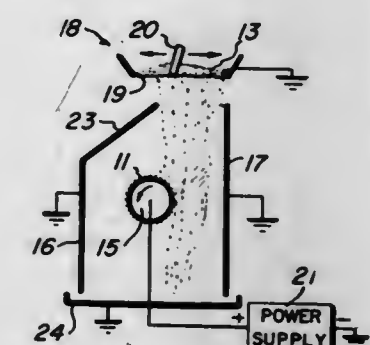
7 Claims



An adhesive applying device for shoe lasting machines in which adhesive is fed into a chamber in a nozzle and



A novel development apparatus is disclosed. The apparatus comprises an enclosed chamber having at least two openings in its outer walls one for introducing developer material and one for the exodus of said developer material. A biased screen is located within the inner cavity of said chamber along with a means for applying a charge to the developer material.



A flocked paint roller sleeve having the flock fibers generally at a uniform acute angle with respect to the sleeve surface, in one form inclined peripherally and in another inclined axially of the roller. A method and apparatus for manufacturing such sleeves provides a radial electrostatic field and effects relative movement between the roller sleeve and fibers which has an unidirectional component peripheral of the sleeves.



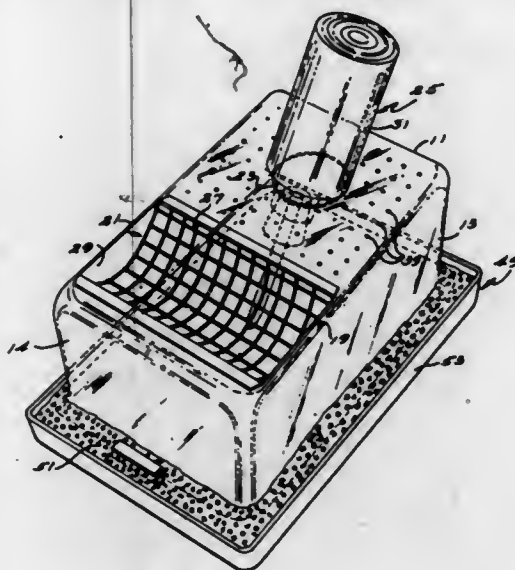
3,518,971

**CAGE FOR LABORATORY ANIMALS**

George H. Gass and Charles A. Buntin, Carbondale, Ill., assignors to Southern Illinois University Foundation, Carbondale, Ill., a corporation of Illinois  
Filed June 4, 1968, Ser. No. 734,464  
Int. Cl. A01k 1/00

U.S. Cl. 119-18

10 Claims



The animal cage disclosed herein is adapted to facilitate the changing of bedding material in the cage without handling animals confined therein. A meshlike grille is releasably secured across the open bottom of an open-bottomed enclosure and the enclosure with grille attached is then placed in a shallow tray holding bedding material. The tray is larger than the grille so that the enclosure rests on the bedding material itself. The bedding material will thus work up through the grille for use by animals in the enclosure. When the enclosure with grille attached is then removed from the tray, the animals are separated from the bedding material by the meshlike grille without being handled.

3,518,972

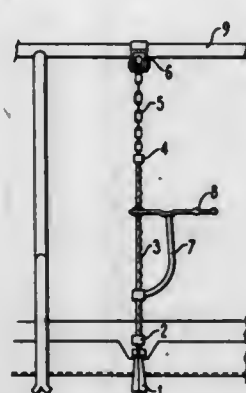
**FASTENING DEVICES FOR TYING CATTLE**

Fernando Garcia Eguizabal, Cobreses, Santander, Spain  
Filed Sept. 3, 1968, Ser. No. 756,949  
Claims priority, application Spain, Sept. 2, 1967, 344,719

Int. Cl. A01k 1/06

U.S. Cl. 119-119

7 Claims



A fastening device for livestock, such as cattle, includes a vertically disposed tie member anchored between an overhead beam and the floor, and a collar element slidably mounted on said tie member and adapted to be disposed about the neck of an animal. The tie member is of a non-uniform cross-section and configuration so that the collar element will bind thereon when released from the animal and will not fall to the ground.

3,518,973

**STEAM BOILER**

Aaron Herzenberg, Williamsport, Pa., assignor to E. Keeler Company, Williamsport, Pa., a corporation of Pennsylvania  
Filed July 9, 1968, Ser. No. 743,574  
Int. Cl. F22b 21/00

U.S. Cl. 122-235

7 Claims



This disclosure teaches a natural-circulation steam boiler especially suited to shop fabrication and which can accommodate more stringent transportation clearances and/or installed space requirements than other boilers of its kind. In its radiant section a lower header is positioned laterally and parallel to a longitudinal upper drum and pairs of equal-length, transverse tubes are connected therebetween. One tube of each pair courses a route up the wall away from the lower header while the other tube courses up the near wall then under the upper drum. By this expedient a more compact, natural-circulation steam boiler is achieved and the upper drum is shielded from hot combustion gases.

3,518,974

**DIGITAL FEEDWATER CONTROL SYSTEM**

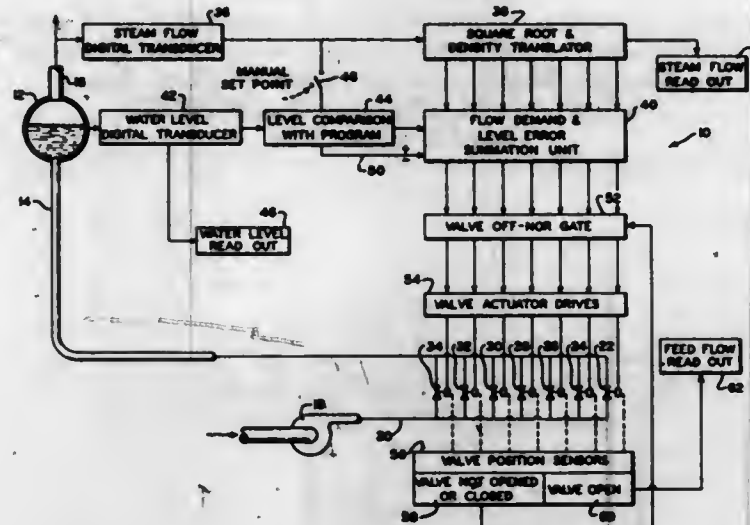
William F. Bradley, Thompsonville, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed July 16, 1968, Ser. No. 745,169

Int. Cl. F22d 5/30

U.S. Cl. 122-451

6 Claims



A direct digital control system for a steam generator wherein water level in the steam generating drum is regulated by feedwater control. The steam flow and steam generator water level are sensed by digital transducers generating a digital feedwater flow demand and level error summation signal, the steam flow signal being conditioned for density and square root corrections. This digital signal is used to actuate a plurality of parallel feedwater valves of different sizes, each of which is operative to an either fully opened or fully closed position, in various combinations to establish feedwater flow to maintain a desired water level in the drum of the steam generator.

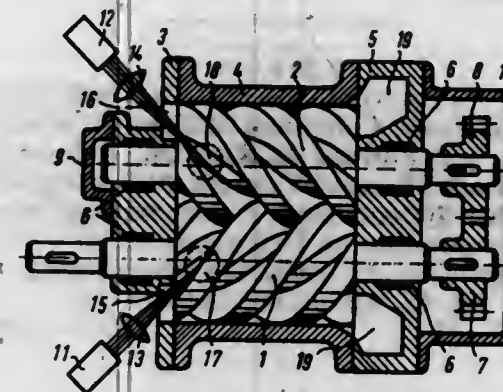
3,518,975

**ROTARY-PISTON ENGINE**

Reinhold Schmidt, 20 Friedrich-Bauer-Str., 8520 Erlangen, Germany  
Filed May 1, 1968, Ser. No. 725,705  
Claims priority, application Germany, May 9, 1967, Sch 40,675  
Int. Cl. F01c 17/02, 21/16; F02b 53/10

U.S. Cl. 123-8.49

12 Claims



A rotary-piston engine of the screw type exhibiting improved uniformity of thermal expansion. Ignition and combustion take place directly in the variable displacement chambers formed between the Lysholm-type screw turns of the intermeshing pistons and the inner jacket walls of the engine housing. This provides periodic pauses for the thermally highly stressed machine parts. By controlled fuel supply an isothermal combustion during expansion can be secured thus closely approaching the thermodynamically advantageous Ericsson process.

3,518,976

**MEANS FOR CONTROLLING VALVE-OPEN TIME OF INTERNAL COMBUSTION ENGINES**

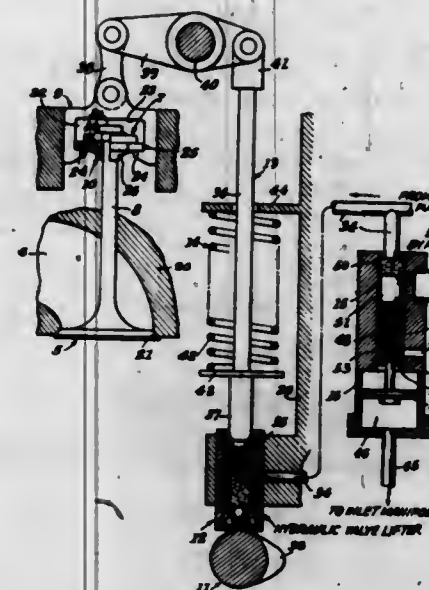
Niel C. Thuesen, 6021 Compton Ave., Los Angeles, Calif. 90001

Filed Nov. 29, 1968, Ser. No. 780,112

Int. Cl. F01l 1/24, 1/34, 3/10

U.S. Cl. 123-90.16

5 Claims



In combination with means provided with balancing springs for controlling the movement of a poppet valve by the engine camshaft with an hydraulic lifter embodied in said means, an hydraulic device controlled by vacuum in the inlet manifold of the engine to control a bypass in the oil line to the lifter to vary the force exerted thereby according to said vacuum in the inlet manifold.

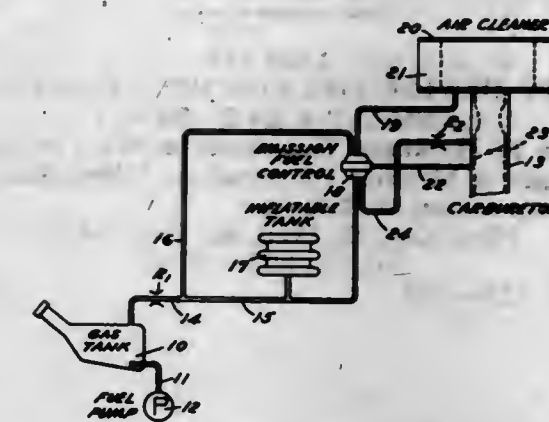
3,518,977

**FUEL EMISSION CONTROL SYSTEM**

Robert K. Smith, Birmingham, Mich., assignor to F & E Manufacturing Company, Flint, Mich., a corporation of Michigan  
Filed Apr. 15, 1968, Ser. No. 721,430  
Int. Cl. F02m 59/00

U.S. Cl. 123-136

10 Claims



A fuel emission control system comprising a gas tank and interconnecting lines with an inflatable tank and a pressure responsive valve which is operable to vent the excess pressure in the fuel tank and the inflatable tank to the atmosphere through emission absorptive material.

3,518,978

**TRIGGERED IGNITION SYSTEM FOR INTERNAL COMBUSTION ENGINES WITH MEANS TO RESTRICT OPERATION TO UNIT DIRECTIONAL ROTATION**

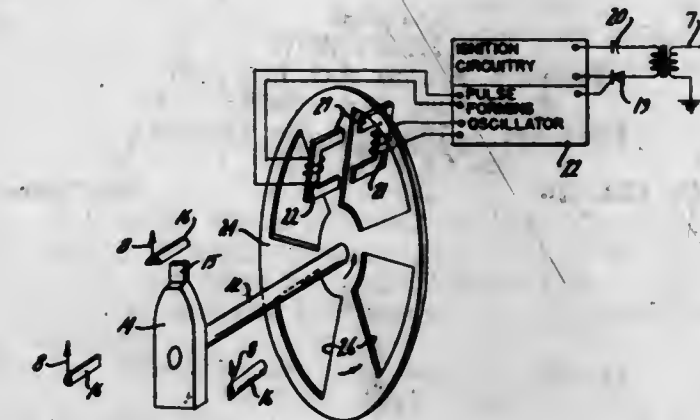
Robert C. Schmiedel, Oakbrook, Wis., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware

Filed Mar. 4, 1968, Ser. No. 710,010

Int. Cl. F02p 1/00

U.S. Cl. 123-146.5

3 Claims



This invention relates to an ignition system for operation of an internal-combustion engine with a single rotational direction.

A capacitor is connected to the battery for charging and in series with a silicon controlled rectifier to the distributor for discharging. A vane controlled oscillator includes a rotating vane connected to the distributor shaft and rotated in synchronism therewith between a pair of U-shaped cores to couple and decouple a pair of oscillator windings wound on the cores which in turn results in the generation of a signal pulse which is applied to the rectifier gate.

The vane is a rotating disc of thin conductive metal having an aperture for each spark plug of the engine. Each aperture span is slightly more than fifty percent



of the disc between corresponding locations of the adjacent two firing apertures and are then separated by a conductive turn-off portion of a lesser span.

The leading part of the turn-on portion of the vane actuates the oscillator to form a firing signal pulse. If reverse rotation starts, the leading part of the aperture of the reversely rotating vane is offset with respect to the proper firing angle and causes misfiring and killing of the engine.

3,518,979

# SAFETY DEVICE FOR MACHINE POWERED BY SMALL GAS ENGINE

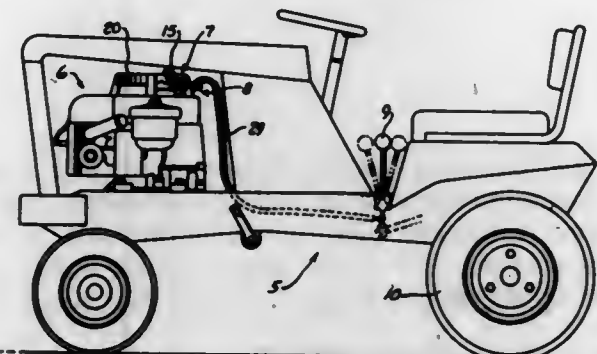
Joseph R. Harkness, Germantown, Wis., assignor to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Delaware

Filed Aug. 23, 1968, Ser. No. 754,872

Int. Cl. F02n 17/00

U.S. Cl. 123-179

3 Claims



In a machine powered by a small engine with a manually energized starter, and having a manually shiftable control for engine-machine coupling and uncoupling, the manually rotatable element of the starter has ratchet-like stop abutments engageable by a movable latching member. The latching member is so connected with the control as to be held clear of the abutments when the control is in its engine uncoupling position, but otherwise engages them.

3,518,980

# ARCHER'S BOW

Joseph E. Hamm, P.O. Box 161, Eagle Pass, Tex. 78852

Filed Apr. 3, 1968, Ser. No. 718,424

Int. Cl. F41b 5/00

U.S. Cl. 124-26

10 Claims



An apparatus disclosed for launching an arrow. The apparatus has as its main part an elongated bow-shaped frame comprising three sections with two outer sections

sleeved to a center section facilitating adjustment of the overall length of the frame. Each of the outer sections carries within it a coil spring that is attached at one end to the frame and at the other end to one end of a bow string. The bow string is supported by guides or rollers at the ends of the frame and the springs are positioned such that distortion of the path of the bow string between the ends of the frame, as by pulling back on it with an arrow, causes increased tension in the springs and thereby in the bow string.

3,518,981

# HEAT-CLEANING OVEN AND METHOD

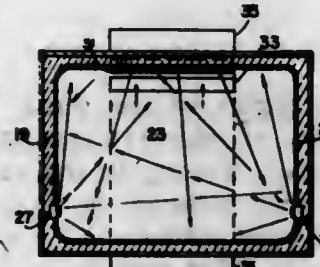
Richard G. Darrow, Columbus, William F. Morse, Upper Arlington, and Edward A. Reid, Jr., Columbus, Ohio, and Charles W. Fromm, Teaneck, N.J., assignors to Columbia Gas System Service Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 23, 1966, Ser. No. 694,352

Int. Cl. A21b 1/00; F24c 15/32

U.S. Cl. 126-21

13 Claims



A household or commercial oven for cooking food and adapted to be self-cleaning, utilizing infrared heat to perform the cooking and the cleaning operations. The heating is performed by gas burners of the self radiant type, and air circulation is limited so that most of the gases which pass through the oven enter through the burners.

3,518,982

# DEVICE AND METHOD FOR MONITORING OF GASES IN THE BLOOD STREAM

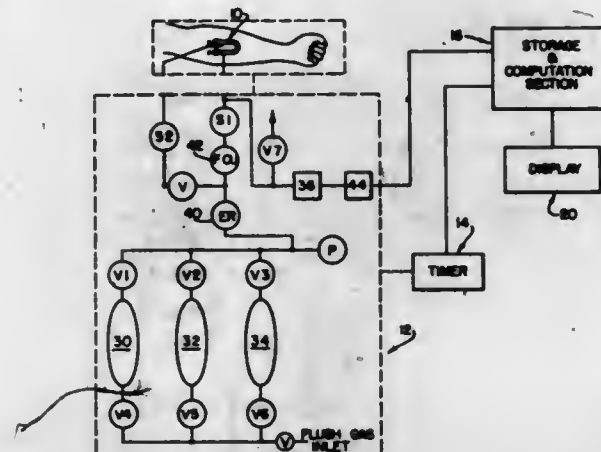
Robert S. Timmins, Concord, and Richard P. de Filippi, Weston, Mass., assignors to Abcor, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Feb. 20, 1968, Ser. No. 706,900

Int. Cl. A61b 19/00

U.S. Cl. 128-2

12 Claims



A gas analyzer device and method for monitoring and determining the quantitative level of gases in a fluid stream and particularly for the automatic measurement of the level of dissolved gases in a liquid stream such as the in vivo monitoring of dissolved gases in the blood stream of a patient.

The device comprises a catheter having a membrane material which permits diffusion therethrough of the gas

being monitored into a catheter chamber, a transducer to measure and convert changes in gas pressure in the catheter chamber to a signal, a timer to determine or control the time of the pressure measurements, an inlet and outlet in the catheter to introduce and to remove flush gases of known composition into and from the catheter chamber, control and computation circuitry for storing the signals from the transducer and then performing calculations and a readout device to display the results and show the level of gas in the fluid stream to be analyzed.

3,518,983

# ARRHYTHMIA DETECTOR AND METHOD OF OPERATION

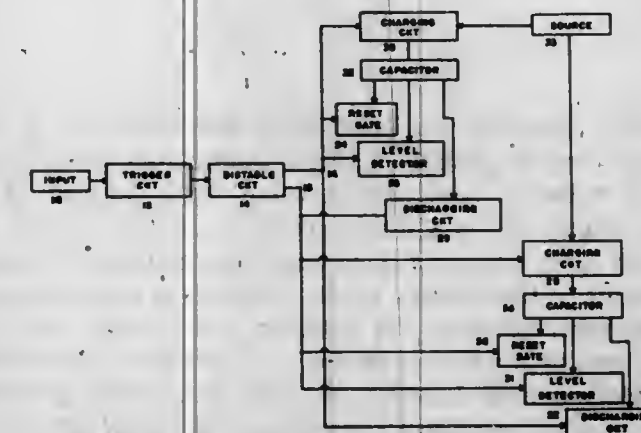
Clinton O. Jorgensen, South Ogden, Utah, assignor, by mesne assignments, to Hametrics Corporation, a corporation of Delaware

Filed Oct. 3, 1967, Ser. No. 672,601

Int. Cl. A61f 5/04

U.S. Cl. 128-2.06

25 Claims



The simultaneous charging of a first capacitor and the discharging of a second capacitor during a cardiac cycle and the discharging of the first capacitor and the charging of the second capacitor during a subsequent cardiac cycle, the potential remaining on the capacitors at the end of the discharging cycle being used as an indication of cardiac arrhythmia.

3,518,984

# PACKAGED DIAGNOSTIC ELECTRODE DEVICE

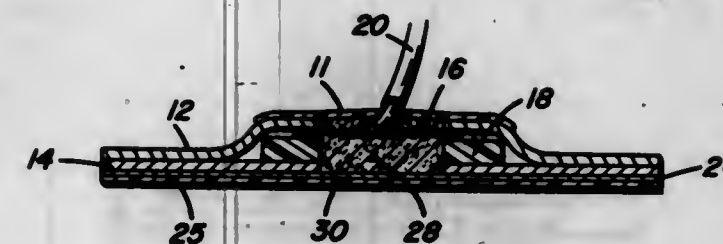
Robert E. Mason, Baltimore, Md., assignor to The Johns Hopkins University, a corporation of Maryland

Filed Oct. 12, 1967, Ser. No. 674,970

Int. Cl. A61b 5/04

U.S. Cl. 128-2.06

10 Claims



A prepared cardiograph type of electrode complete with electrode paste as a one-use article of commerce is described. The electrode includes a conductive mesh member sandwiched centrally between non-conductive washers, with an insulated electric lead connected to the conductive mesh and passed out of the assembly through a tight-fitting permanent upper cover. The holes of the non-conductive washers and of a third perforated member below the sandwiching washers form a cavity which

contains electrode paste, immersing the conductive mesh member. The paste is retained by a sealing cover which is temporary and which additionally protects the pressure sensitive area of the device by which it is affixed to the skin of a patient.

3,518,985

# CONTROL SYSTEM FOR AN EXERCISE MACHINE USING PATIENT'S HEART RATE AND HEART RATE ACCELERATION

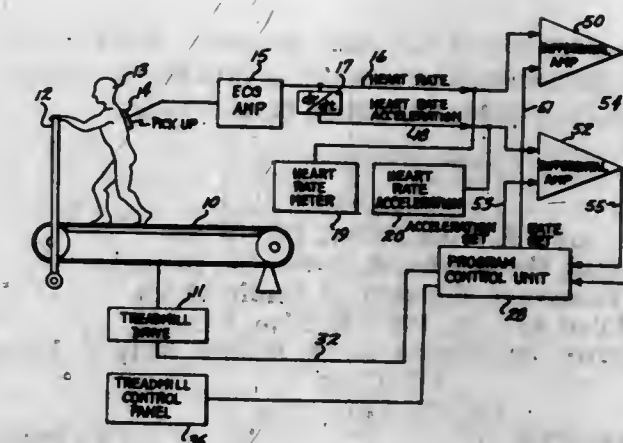
Wayne E. Quinton, 3051 44th Ave. W., Seattle, Wash. 98199

Filed Feb. 15, 1968, Ser. No. 705,837

Int. Cl. A61b 5/02

U.S. Cl. 128-2.06

10 Claims



This application discloses an improved piece of equipment for providing controlled exercise of a person, and includes the disclosure of a control system including equipment for monitoring the rate of change of heartbeat of the person being exercised. The system disclosed permits the achievement of a constant heart rate in a manner which avoids overshoot and system oscillation. Control circuits are disclosed for adjusting the operation of an exercise machine in a manner such that a desired heart rate is achieved via a selected heart rate acceleration. Details of one system utilizing a treadmill-type exercise machine in combination with the heart rate acceleration monitoring equipment for controlling the speed of the treadmill are disclosed.

3,518,986

# PATIENT MONITORING SAFETY SYSTEM

Thomas C. Woods, Diamond Bar, Donald W. Roland, Orange, and Allan F. Pacela, Diamond Bar, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Nov. 20, 1967, Ser. No. 684,432

Int. Cl. A61b 5/04

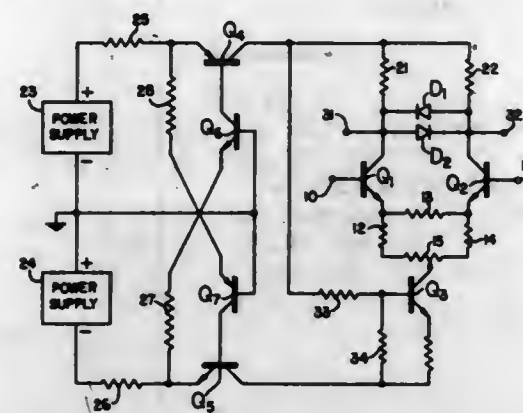
U.S. Cl. 128-2.1

8 Claims

A system for insuring against hazardous current flow between a patient and monitoring apparatus having power supply sources connected to the electronic circuits of the apparatus, and in particular to the input amplifying stage thereof is provided by connecting each source through a separate current transmitting means. A first control means for detecting the presence of power supply to one of the current transmitting means is employed to enable the other current transmitting means, and a second control means for detecting the presence of power supply to the other current transmitting means is employed to enable the current transmitting means, whereby failure of either power supply to provide current to its associated current transmitting means will cause the other to interrupt transmission of current therethrough. The input amplifying stage consists of a differential amplifier having a pair of oppositely poled diodes connected



in parallel between output electrodes thereof to prevent either side of the differential amplifier from being driven into saturation upon the disconnection from the patient



of the base electrode of the other transistor, thereby preventing a dangerous increase or transient of current through the remaining connection to the patient.

3,518,987

**EYE EXERCISING DEVICES**

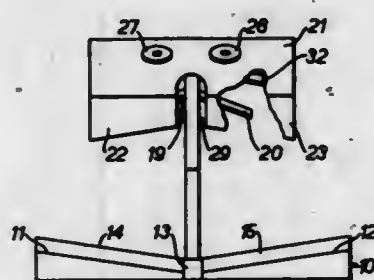
Deryck Humphris, P.O. Box 35, Benoni, Transvaal, Republic of South Africa  
Filed Apr. 26, 1967, Ser. No. 633,823

Claims priority, application Great Britain, May 5, 1966, 19,977/66

Int. Cl. A61h 5/00

U.S. Cl. 128-76.5

9 Claims



The invention provides an eye exercising device having, for each of a patient's eyes, a surface on which cards or objects can be placed and an optical system for viewing the surface. The two optical systems are positioned to allow manual manipulation of objects on the surfaces by either hand and afford the patient images of the surfaces constituting a single visual concept.

3,518,988

**MOUTHGUARD**

Kenneth W. Gores, 9831 NE. 16th St., Bellevue, Wash. 98004

Filed Dec. 5, 1967, Ser. No. 688,172

Int. Cl. A61f 5/00

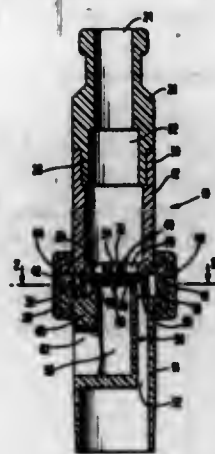
U.S. Cl. 128-136

3 Claims



A resilient U-shaped mouthguard having a fore-and-aft external resilient ridge on the posterior arm portions to be disposed between the wearer's jaw when the guard is worn to absorb shock.

3,518,989  
**VALVE ASSEMBLY**  
Henry W. Seeler, Dayton, Ohio; Gerda A. Seeler, executrix of the estate of Henry W. Seeler, deceased  
Filed Feb. 14, 1966, Ser. No. 527,279  
Int. Cl. A62b 9/02  
U.S. Cl. 128-145.5 12 Claims



A valve assembly for controlling fluid flow, as in resuscitator devices, utilizes a single unattached valve plate disposed between confronting valve seats located in a housing which forms a fluid receiving chamber. Each of the valve seats encircles a passage communicating from the exterior to the interior of the housing. A third passage communicates between the exterior and interior of said housing and said valve assembly includes means to direct fluid entering said housing through said third passage against said valve plate to position said valve plate in a desired operating position.

In resuscitation applications the third passage is placed in communication with a patient's lungs and the other passages are placed respectively in communication with a source of breathing gas and with the ambient atmosphere. In operation, the patient's exhalation gases which pass into the housing through the third passage are directed against said valve plate so as to close the passage to the source of breathing gas while also opening the passage to the ambient atmosphere.

3,518,990

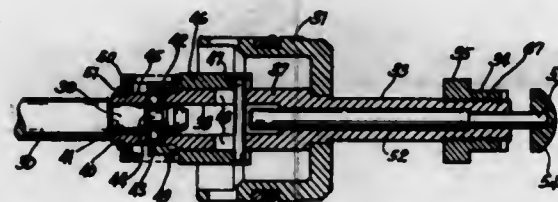
**GUN TYPE INOCULATOR**

Oscar H. Banker, % Bay Products Development Co., P.O. Box 9732, Bay Village, Ohio 44140  
Filed May 2, 1968, Ser. No. 726,083

Int. Cl. A61m 11/00

U.S. Cl. 128-173

11 Claims



In a gun type inoculator for giving mass injections wherein a removable inoculant pump is provided which is permanently connected to a source of inoculant, means are provided for quickly releasing the pump and its connected source of inoculant from the gun to remove it for quickly changing from one drug to another and includes

a remotely controlled ball-type coupling between the piston rod of the pump and the piston rod of the gun. Shim means is provided for simply and accurately regulating the stroke of the pump piston end therefor the dose injected by each operation of the inoculator.

3,518,991

**MEDICAL CANOPY ACCESS METHOD**

Richard E. Goss, Charlotte, N.C., assignor, by mesne assignments, to R. E. Goss, Inc., Altip, Ill., a corporation of Delaware

Filed Apr. 28, 1966, Ser. No. 545,998

Int. Cl. A61m 16/02

U.S. Cl. 128-191

2 Claims



An access means to be applied in any desired location medical canopies, such as oxygen tents and the like, while they are in use by adhesively securing either a zipper closure or a circular pipe seal to the canopy and cutting the canopy within the closure or seal.

3,518,992

**ORAL INHALER WITH SPRING BIASED, CAM DRIVEN PIERCING DEVICE**

Roger Edward Collingwood Altounyan, Wilmslow, Harry Howell, Castle Donnington, and Martyn Omar Rowlands, Epping, England, assignors to Fisons Pharmaceuticals Limited, Loughborough, England

Filed Sept. 13, 1967, Ser. No. 667,561

Claims priority, application Great Britain, Sept. 17, 1966, 41,594/66

Int. Cl. A61m 15/00; B26f 1/24, 1/32

U.S. Cl. 128-208

13 Claims



A device for piercing gelatine or like capsules comprising a pair of opposed sharpened piercing members connected by a bent resilient bridging member and means for urging the piercing members together to pierce a capsule placed between them.

3,518,993

**SURGICAL CLIP APPLICATOR**

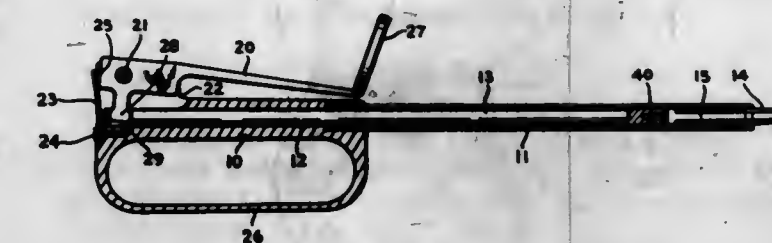
Lawrence W. Blake, Huntington Beach, Calif., assignor, by mesne assignments, to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois

Filed May 1, 1967, Ser. No. 635,217

Int. Cl. A61b 17/28

U.S. Cl. 128-321

15 Claims



A device for applying vascular clips to blood vessels to pinch the vessel closed and stop the flow of blood. A barrel contains a slidable holder collet and spreader collet actuated by a thumb lever to grasp a clip, open the clip, close the clip and release the clip so that the clips do not have to be handled with the fingers.

3,518,994

**LAMINATED COLLAGEN SUTURE**

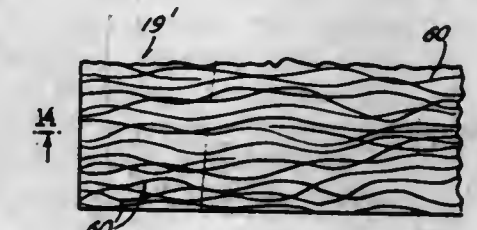
Clyde K. Hansen, Somerville, Joseph Nichols, Princeton, and Ernest J. Rich, Jr., Glen Gardner, N.J., assignors to Ethicon, Inc., a corporation of New Jersey

Continuation-in-part of application Ser. No. 330,088, Dec. 12, 1963. This application Nov. 14, 1966, Ser. No. 593,894

Int. Cl. A61l 17/00

U.S. Cl. 128-335.5

2 Claims



A laminated collagen sheet is produced by extruding acid-swollen collagen fibrils under conditions which orient the fibrils within the individual laminae of the collagen sheet. The individual collagen fibrils that compose each lamina are undulated and exhibit typical banding at intervals of approximately 640 Angstrom units. Substantially, all of the collagen fibrils that comprise the collagen sheet have an alignment parallel to the longitudinal axis of the lamina which contains them. Each of said laminae is disposed in parallel contiguity with other laminae and bonded along contiguous surfaces to form a unitary structure having a longitudinal axis in substantial parallelism with the longitudinal axis of the various laminae therein. The laminated collagen sheet is cut to form a tape which is convoluted about its longitudinal axis and bonded to form a collagen suture circular in cross-section.

3,518,995

**CONTRACEPTIVE ARTICLE**

Clarence Lloyd Claff, Van Beal Road, Randolph, Mass. 02368

Filed Oct. 23, 1967, Ser. No. 677,435

Int. Cl. A61n 5/00

U.S. Cl. 128-379

9 Claims

A contraceptive device to be worn by men as an article of clothing which, when worn, causes the man's scrotum to be raised in temperature above its normal body heat,



the latter being 1° to 1.5° F. below body temperature. The invention comprises a man's suspensory or jockstrap, or a pair of jockey shorts, to which has been applied, either permanently or detachably, a moisture-resistant heat reflective, flexible soft panel. Because of the heat re-



fective and moisture-resistant characteristics of the panel, the temperature of the scrotum and thus the testicles will rise 1.5° to 3° F. above the temperature they would be at were the device not being worn, this occurrence rendering the man sterile on a temporary basis, that is, for as long as he wears the device.

3,518,996

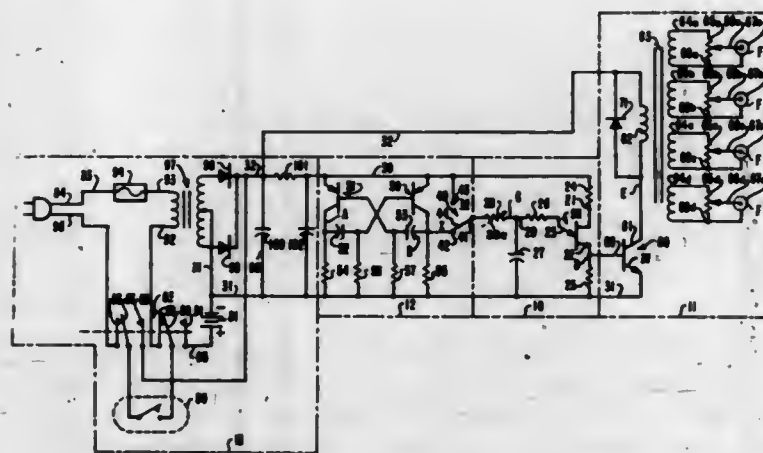
**MUSCLE STIMULATOR**

Eloy Cortina, 1655 10th St., Santa Monica, Calif. 90404  
Filed Apr. 17, 1967, Ser. No. 631,207

Int. Cl. A61n 1/36

U.S. Cl. 128—422

2 Claims



A muscle stimulator is described wherein a generator of a train of relatively low frequency, generally spiked pulses of short duration compared with the interval between pulses is provided. The pulse train is operated continuously, or selectively, under the control of a multivibrator for predetermined on and off periods. The stimulator has a plurality of outputs each with an individual output control. It employs all transistors in its active circuits and may be operated from battery power sources or from the A-C power lines.

3,518,997

**ELECTRONIC HEART STIMULATOR**

Robert W. Sessions, 1309 Lloyd Ave.,  
Lombard, Ill. 60148

Continuation of application Ser. No. 395,079, Sept. 8, 1964. This application Jan. 17, 1969, Ser. No. 796,279

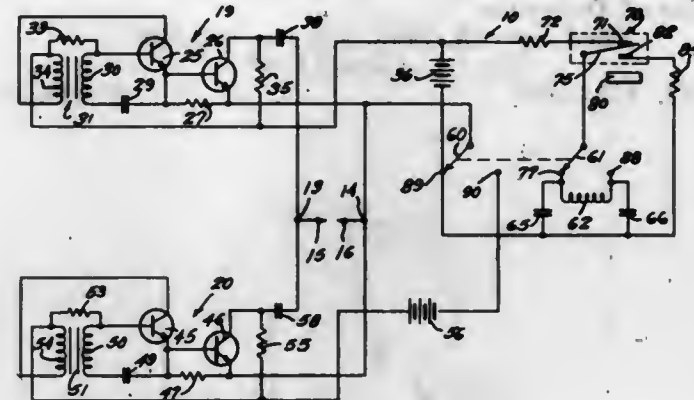
Int. Cl. A61n 1/08

U.S. Cl. 128—422

13 Claims

An electronic stimulator for implantation within a living body for producing electrical pulses for use in connection with the stimulation of tissue within the body,

comprising a case for implantation within the body, containing a first oscillatory circuit constructed to provide electrical pulses having predetermined operational characteristics, a second oscillatory circuit constructed to provide electrical pulses having predetermined operational characteristics different from those of the first circuit, such circuits having a common output at which said pulses appear, such case also containing energy supply means for said circuits and magnetic field controlled



switch means, actuatable by a magnetic field source external to the body, for selectively operatedly connecting either of said oscillatory circuits to said energy supply means. The oscillatory circuits may be constructed as individually complete and independently operable circuits, and may also have respective separate energy supplies, whereby each circuit may be utilized as a standby circuit, if desired, with its own energy supply, substitutively for the other in the event of failure of the latter.

3,518,998

**BRASSIERES**

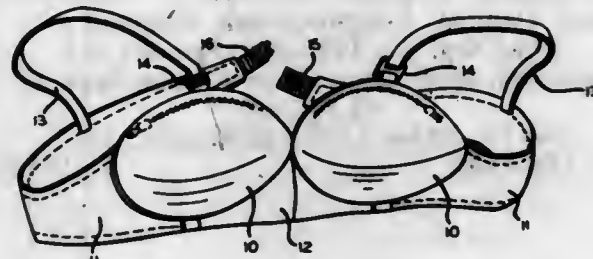
Dora A. Barg, 4573 N. 30th St.,  
Milwaukee, Wis. 53209

Continuation-in-part of application Ser. No. 551,306,  
May 19, 1966. This application Feb. 8, 1968, Ser.  
No. 703,922

Int. Cl. A41c 3/00

U.S. Cl. 128—513

3 Claims



Improved brassiere includes a brassiere equipped with an opening to provide a pocket that has access means attached thereto.

3,518,999

**MOUTHPIECE TOBACCO ARTICLES**

John Kendall Milner, Wimborne, England, assignor to  
Brown and Williamson Tobacco Corporation, Louis-  
ville, Ky., a corporation of Delaware

Filed June 4, 1968, Ser. No. 734,461

Claims priority, application Great Britain, June 6, 1967,  
25,988/67

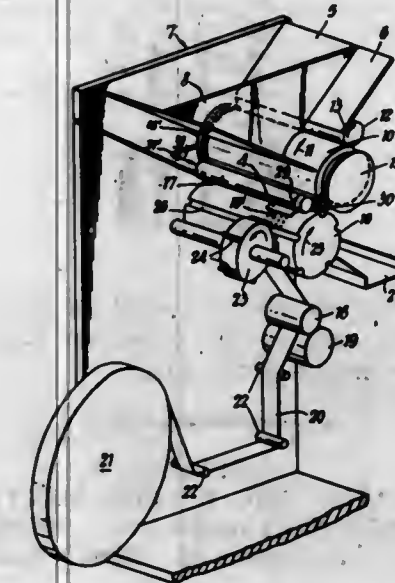
Int. Cl. A24c 5/52, 5/58; A24d 1/04

U.S. Cl. 131—94

10 Claims

Apparatus for effectively uniting mouthpieces and tobacco rods of smoking articles by band material wrapped around adjoining parts thereof. It comprises two rollers for supplying the mouthpieces, rods and band material to

an assembly station, means for bringing said mouthpieces and rods into abutting alignment at the said station, and a third roller, the three rollers all rotating in the same direction and at the same peripheral speed, for uniting an assembled mouthpiece and rod by rolling them in the band



material in contact, at three circumferentially spaced regions, with the surfaces of said three rollers. The third roller is located in the bight of the other two rollers, and has a diameter substantially greater than the diameter of the rods and mouthpieces.

3,519,000

**VENTED CIGARETTE HOLDER**

Roy W. Houser, 2021-A S. Eastwood St.,  
Santa Ana, Calif. 92705

Filed May 6, 1968, Ser. No. 726,690

Int. Cl. A24f 5/04

U.S. Cl. 131—198

3 Claims



A vented cigarette holder and an air-to-smoke ratio control valve therefor and comprises a four part structure including a cigarette holding cup at its forward end, an air-to-smoke ratio control valve which consists of two parts, one a valve body and the other a combination valve head and valve stem, and a stem and bit member. The valve body is located between the cup and the bit and comprises a hollow substantially cylindrical member having slots at the downstream end, the interior having a relatively large circular bore at opposite ends and a relatively smaller bore therebetween, the bore at the upstream end being longer than that at the downstream end. A pair of collinear grooves is provided in the internal wall at opposite ends of the small bore portion. The downstream end of the valve head is cylindrical and fits into a similar recess in the upstream end of the bit and has a generally similar upstream end which is rotatable in the smaller bore portion of the body. The head has a semi-cylindrical notch in the intermediate portion of the upstream end portion, defined by parallel radial walls that are inclined relative to the longitudinal axis thereof,

positioned adjacent each of the grooves so that rotation of the head will adjust the size of the smoke passage and the air admitting passage to the same degree, the smoke passing from the cup to the upstream large bore, through the upstream groove into the notched portion of the head where it mixes with air passing through slots in the body, and through the groove in the downstream end. The middle portion of the head and the bit have passages permitting air and smoke to be drawn from the notched portion, through the downstream end of the bit.

3,519,001

**ASH TRAY WITH CIGARETTE SNUFFER**

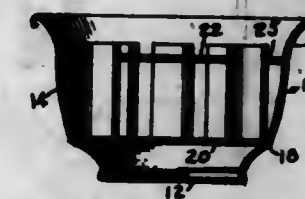
George Noel Bollinger, Shelbyville, Ill., assignor to Sta-  
Rite Ginnie Lou, Inc., Shelbyville, Ill., a corporation of  
Delaware

Filed July 10, 1968, Ser. No. 743,770

Int. Cl. A24f 19/14

U.S. Cl. 131—235

7 Claims



A plate-like member is provided with a surrounding flange or wall to form an ash receiver, and one or more tubes project snugly through openings in the plate-like member and extend thereabove. These tubes are slightly larger than a cigarette, but when a cigarette butt is inserted in one of the tubes with the lighted end inserted in the bottom of the tube, lack of oxygen quickly snuffs out the cigarette. The cigarette butts very readily may be dumped, together with ashes on the plate-like member by inverting the device. The projection of the tubes above the plate-like member minimizes the amount of ashes which will fall thereinto when the loose ashes are deposited on the plate-like member.

3,519,002

**CIGARETTE HOLDER AND ASH RECEPTACLE**

Jeanette Davis, 1320 Midvale,  
Los Angeles, Calif. 90024

Filed Aug. 14, 1968, Ser. No. 752,639

Int. Cl. A24f 19/00

U.S. Cl. 131—241

1 Claim



A portable cigarette holder and ash receptacle is provided. The assembly is in the form of a box-like ash receptacle, the receptacle being equipped with a bracelet so that the assembly may be conveniently worn on the wrist of the user or may be carried, the



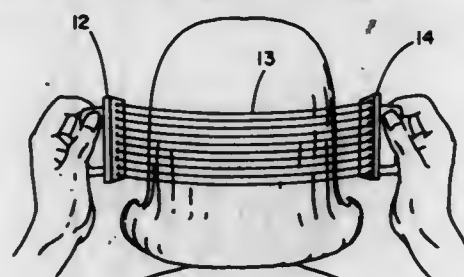
bracelet being reversible and usable as a handle. The receptacle has a hinged cover having a cigarette-holding bracket on its underside, and an apertured flap member that is spring biased to a closed position over a lower box-like receptacle and below the cover, the cigarette-holding bracket on the underside of the cover being adapted to be received in the flap aperture when the cover is placed in closed position.

### 3,519,003 METHOD AND APPARATUS FOR COIFFURE CONTROL

Louis R. Mizell, Andover, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware  
Filed May 8, 1968, Ser. No. 727,418  
Int. Cl. A45d 8/00

U.S. Cl. 132-7

10 Claims



Control of hair style through fibers formed in place on the head by a filament forming device employing a viscous air-drying liquid composition.

### 3,519,004 DENTAL FLOSS HOLDER AND DISPENSER

Talmadge E. Foster, 6618 Belmead Drive,  
Dallas, Tex. 75230

Filed Sept. 22, 1967, Ser. No. 669,777

Int. Cl. A61c 75/00

U.S. Cl. 132-92

9 Claims



An integral dental floss holder and dispenser wherein the dental floss may be progressively drawn from a spool disposed in the handle, and having an elongated neck portion thereon with a head at the outer end thereof having spaced prongs between which sections of dental floss may be progressively extended for use, with gripping prongs extending outwardly of the elongated neck providing slots through which the dental floss is extended and may be grippingly engaged to hold same in taut position between the prongs on the head.

### 3,519,005 CONTACT LENS CLEANING AND STORAGE DEVICE

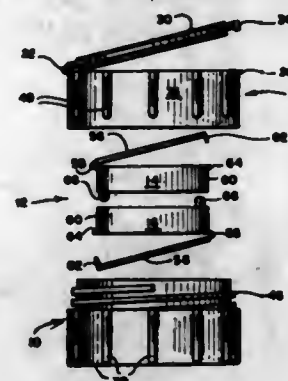
Joseph Z. Krezanoski and John C. Petricciani, Los Altos, Calif., assignors to Flow Pharmaceuticals, Inc., Mountain View, Calif., a corporation of Nevada  
Filed July 29, 1968, Ser. No. 748,277  
Int. Cl. B08b 3/06

U.S. Cl. 134-143

13 Claims

A device for cleaning and storing contact lenses comprising a transfer case for releasably confining a pair of contact lens in axial alignment and a fluid-tight container for holding the case and immersing it within a lens treating solution. Conduit means are provided in the case to permit the treating solution to bathe the

lenses when the case is inserted into the container and to permit fluid to be forced through the case to clean the lenses when the case is removed from the container.



### 3,519,006 PIPELINING OIL/WATER MIXTURES

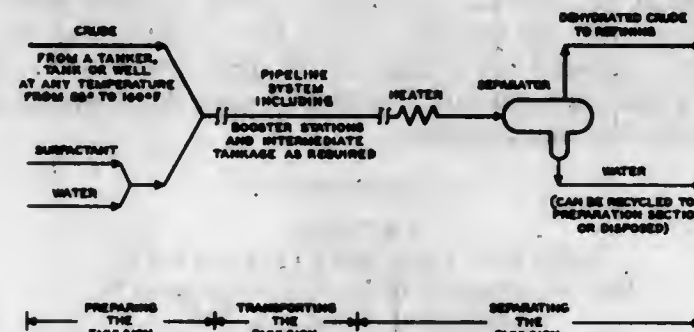
Ralph Simon, 8258 S. Calmada Ave. 90602, and Wesley G. Poynter, 11218 Tigrina St. 90603, both of Whittier, Calif.

Filed Dec. 5, 1966, Ser. No. 599,125

Int. Cl. F17d 1/16

U.S. Cl. 137-13

5 Claims



The disclosure provides for transporting viscous crude oil by utilizing a nonionic surfactant to form an oil and water emulsion of the crude, the water content of which is in the range of from 25 percent by volume to the smallest amount of water which will allow formation of a continuous water phase. This lower amount of water is usually in the 10 to 15 percent range.

### 3,519,007 INHIBITED OR-NOR GATE

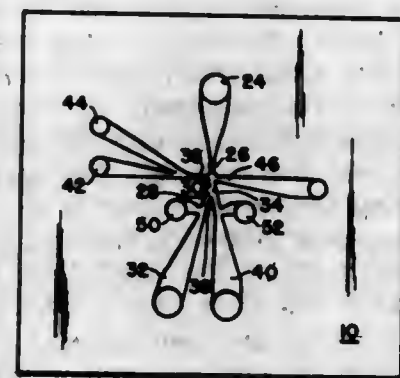
Thomas W. Bermel, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed May 16, 1966, Ser. No. 550,285

Int. Cl. F15c 1/10

U.S. Cl. 137-81.5

7 Claims



A fluid operated logic device having monostable characteristics such that the power stream locks-on to only one sidewall with the stream being stable in only one

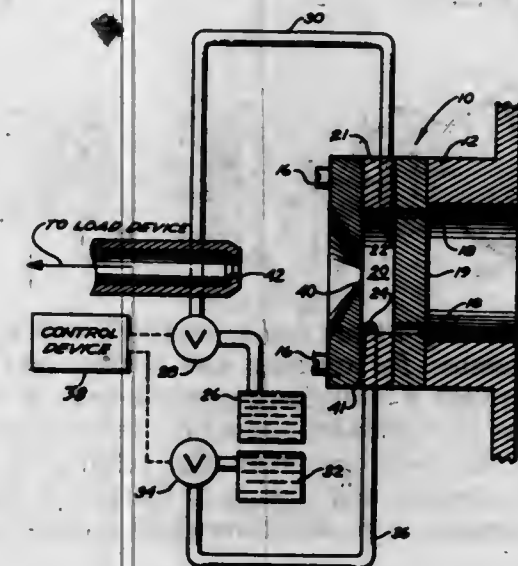
outlet passage thereof, the device having at least one means for control fluid flow and secondary means for inhibiting normal OR-NOR functions.

### 3,519,008 VORTEX VALVE ASSEMBLY

Vernon R. Fish, Orange, Calif., assignor to The Bendix Corporation, a corporation of Delaware  
Filed Oct. 30, 1967, Ser. No. 679,080  
Int. Cl. F15c 1/16

U.S. Cl. 137-81.5

6 Claims



A vortex valve of the type wherein flow therethrough is controlled by means of a control fluid injected under variable pressures tangentially to produce a vortex flow in an internal cylindrical chamber, the assembly consisting essentially of three axially aligned plates. The first plate is in contact with a source of supply fluid under pressure and includes a plurality of ports of limited area arranged generally along the circumference of a circle; the second includes a large cylindrical port whose circumference is in registry with the ports and whose axis and walls are the axis and edge walls of the vortex chamber, and one or more control ports intersecting the cylindrical port at its periphery connected with the control fluid source; and a third plate has an orifice in axial alignment with said cylindrical port, the area of the orifice being substantially less than the area of the ports in the first plate, the orifice being tapered radially outwardly.

### 3,519,009 FLUIDIC-ELECTRO TRANSDUCER

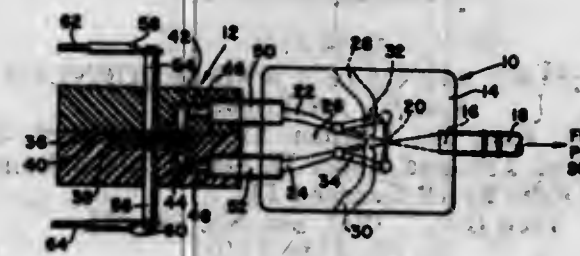
Jacob Carl Rubin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Sept. 10, 1968, Ser. No. 758,800

Int. Cl. F15c 3/00, 4/00

U.S. Cl. 137-81.5

10 Claims



This disclosure relates to a fluidic-electro transducer utilizing a fluid digital-output element of the wall at-

tachment type, having feed back paths from the outputs back to the control inputs respectively, so as to produce alternating fluid jet stream outputs. The dynamically changing fluid output pressures are applied alternately to a plurality of flexural-piezoelectric elements, stressing them by virtue of the pressure differential created, thereby generating electrical energy which may be usefully recovered by suitable electrical terminals positioned along the electrical axes of the elements.

The plurality of flexural-piezoelectric elements may be connected either in series, or in parallel, or a combination of both serial and parallel connections.

### 3,519,010 FLOW COMPARING SHUT-OFF VALVE

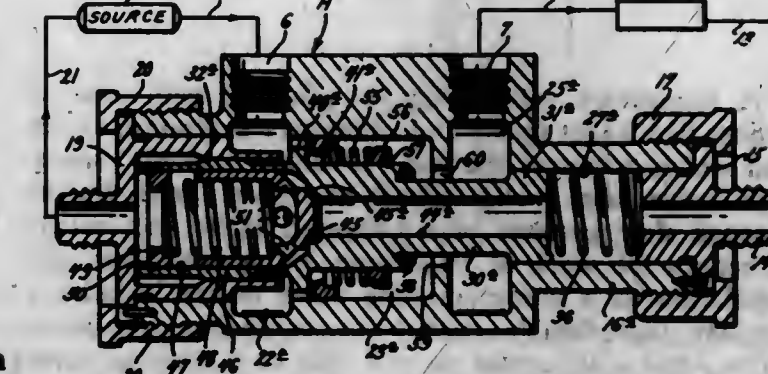
Raymond P. Helling, Florissant, and Allen H. Owen, Jr., Kirkwood, Mo., assignors to McDonnell Douglas Corporation, St. Louis, Mo., a corporation of Maryland

Filed Dec. 21, 1967, Ser. No. 692,602

Int. Cl. G05d 11/03

U.S. Cl. 137-100

11 Claims



A flow comparing shut-off valve connected into both a fluid supply line and a fluid return line of a pressure fluid system such that a change in the flow of fluid from a predetermined normal in either the supply or return line will cause the valve to move to shut-off the flow in the system to prevent complete loss of fluid.

### 3,519,011 REPLENISH AND RELIEF VALVE

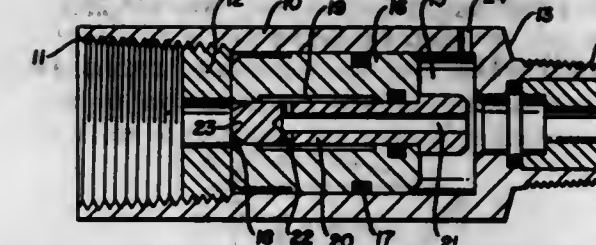
Arnold Pennanen, Ossineke, Mich., assignor, by mesne assignments, to Scovill Manufacturing Company, Waterbury, Conn.

Filed Mar. 4, 1968, Ser. No. 710,193

Int. Cl. G05d 7/00

U.S. Cl. 137-102

3 Claims



A replenish and relief valve for controlling air pressure supplied to a die cushion wherein a movable piston having an axial passageway therethrough positions a movable plunger therein, the movable plunger having an axial passageway partly therethrough and a closed end forming a valve element with respect to the axial passageway in said piston, the relatively different diameters of said piston and said plunger acting when subjected to varying air pressures from the opposite ends of the valve to bias said piston and said plunger to locations providing air flow through said valve in one direction and air flow into said valve from another direction and outwardly therefrom through a vent port.



3,519,012

## LOW-RESPIRATORY VALVE

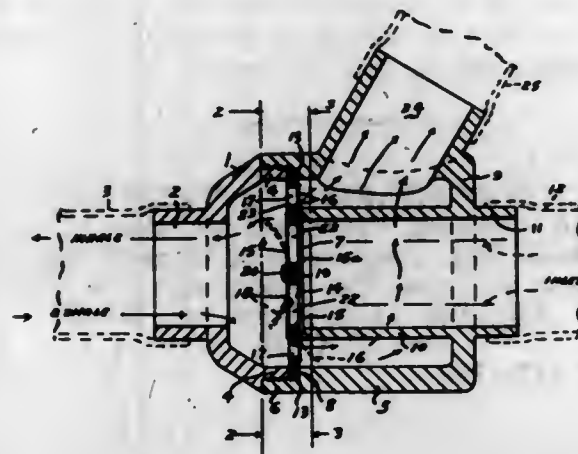
Robert E. Van Patten, Kettering, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Oct. 28, 1968, Ser. No. 771,184

Int. Cl. A62b 9/02

U.S. Cl. 137—102

8 Claims



A respiratory valve which is equipped with annular rubber-like leaflet intake and exhaust or expiration valves and which possesses the least possible "dead air" space. The valve uses colinear/coaxial valves and straight through flow patterns with oversized inlets and outlets to reduce the work of respiration during inhalation and exhalation to a minimum. The valve device includes a circular thin flexible rubber-like concentric inhalation valve fixed at its center on one side of a circular valve plate "spider" and the circular valve is fixed to the center of the plate and covers and controls the inhalation air port. A circular ring shaped thin flexible rubber-like flat exhalation valve is fixed around its inner circular perimeter to the other side of the valve plate spider and is flexible away from the plate upon exhalation and covers an annular outlet opening concentrically surrounding the inlet opening and has a circular concentric outlet or expiration port in the plate spider substantially equal to the inhalation port area that is covered and controlled by the inlet disk valve.

3,519,013

## DEFORMABLE RING FLUIDIC MEMORY DEVICE

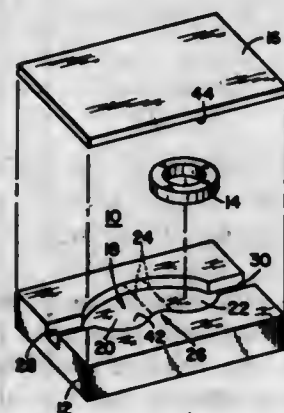
Lynn G. Amos, Knoxville, Tenn., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Aug. 26, 1968, Ser. No. 755,283

Int. Cl. G05d 11/03

U.S. Cl. 137—112

10 Claims



A fluidic memory device having a deformable ring disposed within a flat, two compartment, chamber with the ring being slidable from one compartment to the other

in response to the output of a fluidic device or a fluidic signal. A means for sensing in which compartment the ring is disposed at any given time and a means for preventing excessive deformation of the ring while in either compartment is also provided.

3,519,014

## VALVE WITH STOP

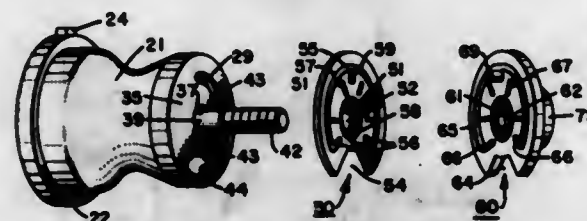
R. Ellsworth Doremus, Clifton, and Richard E. Doremus, Upper Montclair, N.J., assignors to Golden Gate Manufacturing Company, a corporation of New Jersey

Filed July 7, 1965, Ser. No. 470,086

Int. Cl. F16k 35/10

U.S. Cl. 137—323

10 Claims



A valve having a body and an end wall with a port and a valve member for opening and closing said port by rotation through a limited arc of movement. A cooperating structure is provided to permit the valve member to be assembled only with one orientation relative to the body so that the opening and closing of the port is assured as the valve member is rotated through its limited arc.

3,519,015

## DEVICE FOR THE MANUFACTURE OF SYNTHETIC MIXTURES FROM COMPONENTS OF DIFFERENT VISCOSITIES

Günter Bartel, Lotte, Kreis Tecklenburg, Germany, assignor to Firma Elastomer A.G., Chur, Switzerland

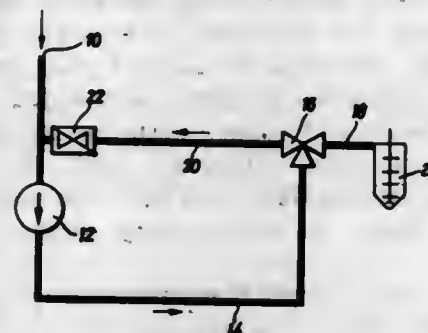
Filed July 7, 1967, Ser. No. 651,788

Claims priority, application Germany, July 12, 1966, E 32,051

Int. Cl. F04c 15/00

U.S. Cl. 137—563

2 Claims



An apparatus adapted to deliver a liquid to a mixer at a substantially constant pressure wherein a three-way valve is provided in a conduit on the discharge side of the pump to divert liquid, when not being pumped into the mixer, back through a check valve to a conduit on the suction side of the pump.

3,519,016

## PRESSURE ACTUATED AND SEQUENCED VALVE ASSEMBLY

Carl L. C. Kah, Jr., Garden Villas Apartment, Plant Road, Apt. 138, and Roger D. Slagel, 294 Balsam St., both of Palm Beach Gardens, Fla.

Filed Dec. 7, 1967, Ser. No. 688,901

Int. Cl. A01g 25/02

U.S. Cl. 137—624.18

6 Claims

The disclosure is directed to a pressure actuated and sequenced valve assembly for fluid conduits wherein variations in line pressure are utilized to control fluid flow

through a conduit in a predetermined cyclic fashion. The assembly includes a stepping or indexing member which is sequentially indexed through a predetermined cycle by variations in line pressure. Cyclic line pressure variations are transmitted to a piston assembly which actuates the indexing member which member, in turn, controls the stroke length of the piston assembly to prescribe at which

the membrane may be displaced by water pressure from the hot and cold water ports. The cavity is such as to allow communication with the outlet port alone and of a size to allow communication of selective magnitudes between the outlet port and at least one of the other two ports.

3,519,018

## PROPORTIONING VALVE

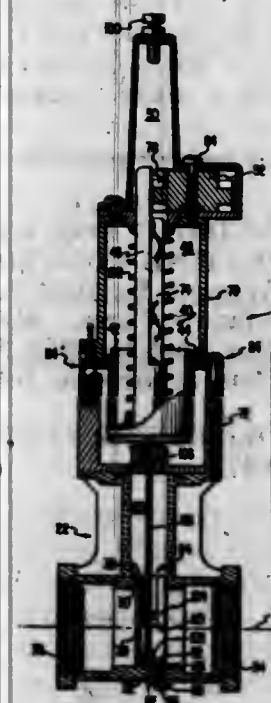
George S. Cole and Richard L. Ritzenthaler, Oconomowoc, Wis., assignors to Cole Valve Corporation, Menomonee Falls, Wis., a corporation of Wisconsin

Continuation-in-part of application Ser. No. 477,384, Aug. 5, 1965. This application Aug. 16, 1968, Ser. No. 755,498

Int. Cl. F16k 11/02

U.S. Cl. 137—625.4

39 Claims



point or points in the indexing cycle a flow control valve will be opened. A lost motion connection between the piston and flow control valve permits the piston assembly to move through less than its full stroke length, as controlled by the indexing member, without opening the valve. Accordingly, the valve may be cycled open in response to a desired number of line pressure variations for which the indexing member is programmed.

A proportioning valve for two fluids wherein a single handle is employed to control both proportion and volume of flow, including shut off. A valve body has a longitudinal recess with an outlet port and a pair of spaced inlet ports in the wall of the recess. A sleeve of resilient material within the recess overlies the inlet ports. A control means, actuated by the aforesaid single handle, is located within the sleeve, and is axially movable and rotatable with respect to the sleeve to cooperate with the sleeve for respectively varying the quantity and proportion of fluid flow through the inlet ports and the valve itself. In one axial position the control means holds the sleeve against both inlet ports to close same, regardless of position in rotation, and when in other axial positions the control means allows the sleeve to become displaced to greater or lesser extent from one or both of the inlet ports, thereby varying the quantity and proportion of fluid flow through the inlet ports. In more detailed aspect, a cartridge is used to provide some of the ports and passageways, thereby facilitating fabrication, and means are provided to control friction between the sleeve and control member. Means also are provided to assure greater fluid flow at low pressure, and to prevent fluid at high pressure from displacing the control member axially.

3,519,017

## HOT AND COLD WATER MIXING TAPS

Paul Nogier, 4 Rue Paul Lintier, Lyon, France; and Louis Nogier and Michel Nogier, both of 11 Quai Claude Bernard, Lyon, France

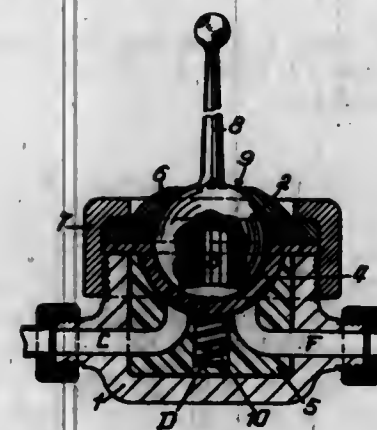
Filed Jan. 12, 1968, Ser. No. 697,428

Claims priority, application France, Jan. 24, 1967, 48,212

Int. Cl. F16k 5/20, 11/02

U.S. Cl. 137—625.4

5 Claims



A hot and cold water mixing tap comprising a base formed with a spherical concave seat over which is a flexible membrane held against the seat by a spherical member having a projecting operating handle. An outlet port and cold and hot water ports open through the seat in facing relation with the membrane. The ball member is formed, above the ports, with a cavity into which

## 3,519,019 PNEUMATICALLY ACTUATED HYDRAULIC CONTROL VALVE

Hans Rieschel, Essen-Holsterhausen, Germany, assignor to Bergwerksverband GmbH, Essen, Germany, a company of Germany

Original application Jan. 29, 1968, Ser. No. 701,401.

Divided and this application Feb. 5, 1969, Ser. No. 796,755

Int. Cl. F16k 11/02, 11/20

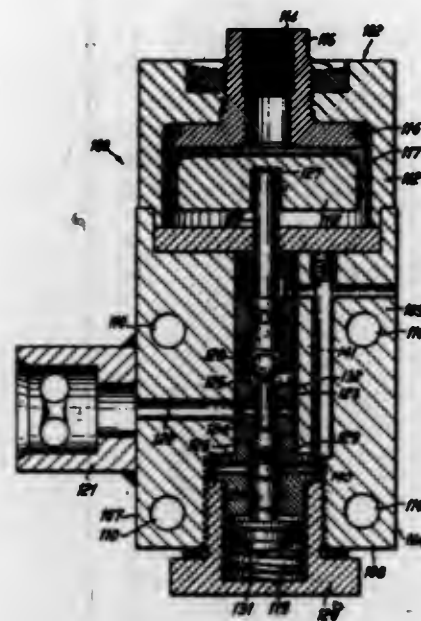
U.S. Cl. 137—625.6

1 Claim

A valve for controlling hydraulic or pneumatic systems in mine casing techniques. A housing containing a diaphragm valve that has at least one flat face through which extend bores for enabling two adjacent housings to be connected by tie bolts providing a substantially rectangular



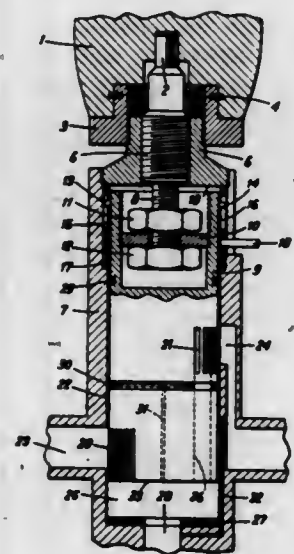
column to which feed and return lines can be attached. Such housing is attached to one end of a valve housing which has its form matched to that of the diaphragm housing and has a diaphragm operating piston. A further housing is attached to the valve housing and accommodates a return spring while the individual components



of the valve are arranged in a bore communicating with the diaphragm piston and the spring. The valve elements are in the form of balls which are actuated through a plunger. Two through bores opening at the two flat faces of the housing serve as feed and return ports for fluid. A manually operated button controls the diaphragm operating system.

### 3,519,020 MIXING VALVE

Gaston Perret-Gentil, Le Parc, Lonay, Switzerland  
Filed Apr. 11, 1968, Ser. No. 720,670  
Claims priority, application Switzerland, Apr. 16, 1967,  
5,513/67; Sept. 3, 1967, 12,306/67  
Int. Cl. F16k 11/00  
U.S. Cl. 137—625.17



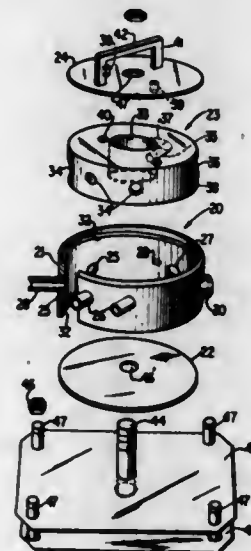
A mixing valve comprising means for varying the relative quantities of hot and cold water fed to a mixing chamber as well as the total quantity of water fed thereto comprising a cylinder containing a piston which is rotatable with respect thereto and axially movable with respect thereto whereby selective numbers of grooves in the piston may be aligned with the hot and cold water inlets by relative rotation and selective portions of all of the aligned grooves may be juxtaposed to the hot and cold

water inlets by relative translation of the piston within the cylinder. A sealing means is provided between the hot and cold water inlets whereby regardless of the relative rotation or translation between the piston and cylinder, the hot and cold water inlets are always sealed from each other. In one embodiment, safety ducts are provided to permit leakage to the outlet in the event the sealing means is not working properly, rather than permitting flow from one of the inlets to the other. In another embodiment of the invention, the entire orifice which communicates one of the inlets through the piston and the cylinder is closed by a sealing means when that inlet is to be closed.

### 3,519,021 VALVE AND MANIFOLD FOR WET DIVING SUIT HEATING CONTROL

George C. Wiswell, Jr., 1014 Pequot Road,  
Southport, Conn. 06490  
Original application Aug. 16, 1966, Ser. No. 577,795.  
Divided and this application July 5, 1968, Ser.  
No. 742,820  
Int. Cl. F16k 11/08  
U.S. Cl. 137—625.47

7 Claims

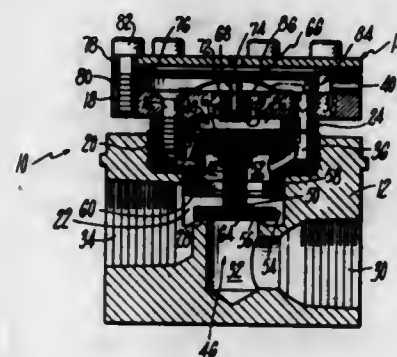


8 Claims A valve and manifold apparatus useful for controlling flow of heated fluid through a diving suit.

### 3,519,022 LOW PRESSURE OPERATOR

Kwangho Chung, Dallas, Tex., and Ronald D. Clarcia,  
West Hartford, Conn., assignors to Skinner Precision  
Industries, Inc., New Britain, Conn., a corporation of  
Connecticut  
Filed May 31, 1968, Ser. No. 733,353  
Int. Cl. F16k 11/02, 31/38  
U.S. Cl. 137—625.64

12 Claims



A housing having an inlet, an outlet and a cavity therebetween wherein a plunger is received for movement between open and closed positions, and a supply fluid passage communicating with opposite ends of the plunger for exposing them to fluid under supply pressure, one

end of the plunger having an effective area greater than that of the other end, and a bleed passage for venting and sealing the cavity adjacent said one end of the plunger for controlling its movement, the bleed passage having a flow area greater than that of the supply fluid passage.

### 3,519,023 DEFROSTING COLLAR FOR PIPES

Ora W. Burns, Sr., 1335 Trendley Ave., East St. Louis,  
Ill. 62201, and Richmond R. Simmons, 5315 Cabanne  
Ave., Apt. 2, St. Louis, Mo. 63112  
Filed Aug. 5, 1968, Ser. No. 750,176  
Int. Cl. E03b 7/12; H05b 3/58  
U.S. Cl. 138—33

2 Claims



A device for encasing an area of a frozen pipe, the device having a heating element which is connected to a power source and provides sufficient heat to defrost the pipe. This device is placed over the pipe and held in place by the tension of an internal spring and the device will be made in various sizes to accommodate various sizes of pipes.

### 3,519,024 DEVICE FOR THE PREPATTERNED CONTROL OF FLOW DISTRIBUTION IN FLUID FLOW EXPERIENCING A CHANGE IN AREA AND/OR DIRECTION

Robert H. Johnson, Schenectady, and Josef Herzog,  
Scotia, N.Y., assignors to General Electric Com-  
pany, a corporation of New York  
Filed Jan. 6, 1966, Ser. No. 519,068  
Int. Cl. F15d 1/00  
U.S. Cl. 138—41

12 Claims

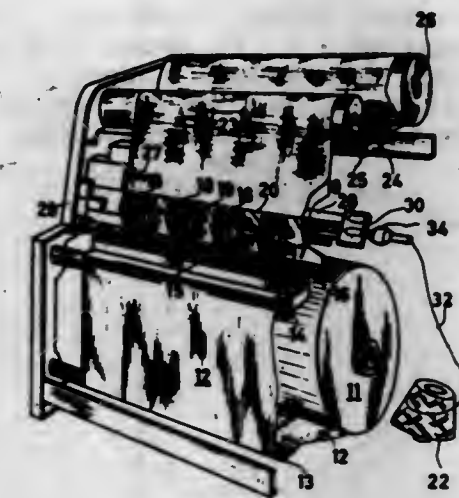


A flow distribution device and a method are described for deliberately imposing energy loss and flow deflection in a controlled manner to produce a plurality of nesting sheets of free stream jets, adjacent sheets being separated by shear layers, which gradually disappear as the flow becomes a pre-determined three-dimensional fluid flow distribution a short distance downstream. The nesting free stream flows are created by apertures of different sizes at least some of which are defined by blade-like members. The apertures receive and impress a prepatterned flow resistance/flow deflection pattern on the fluid flow. Apertures imposing the greatest flow deflection present the least resistance to flow, while apertures imposing the least flow deflection present the greatest resistance to flow. These impressed relationships of flow resistance and flow deflection utilize energy and momentum derived solely from the fluid flow itself.

### 3,519,025 DEVICE FOR PRODUCING THREAD WINDINGS

Edgar H. Strauss, Ruti, Zurich, Switzerland, assignor  
to Ruti Machinery Works Ltd., formerly Caspar  
Honegger, a corporation of Switzerland  
Filed July 8, 1968, Ser. No. 743,177  
Claims priority, application Switzerland, July 11, 1967,  
9,904/67  
Int. Cl. D03d 47/26  
U.S. Cl. 139—12

11 Claims

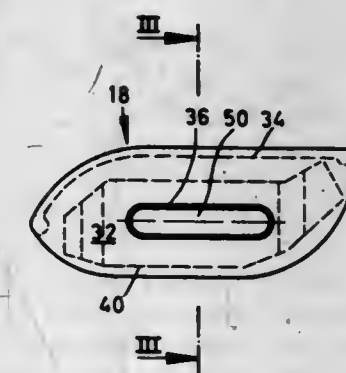


A device for producing thread windings of predetermined length on a loom which comprises a rotatably mounted winding element having a winding portion and a turn-forming portion, rotor means for continuously winding turns of a thread around the turn-forming portion, means for successively displacing a predetermined number of turns of the thread along the winding portion and at least one stationary retaining means for preventing rotation of the winding element due to the torque imparted during winding of the thread. The turn-forming portion of the winding element has a cross-sectional shape that allows the turns of the thread wound on the turn-forming portion to slip to the winding portion and the retaining means contacts the winding element at a bearing point located on the turn-forming portion.

### 3,519,026 WEAVING SHUTTLE FOR INSERTING WEFT THREADS

Edgar H. Strauss, Ruti, Zurich, Switzerland, assignor  
to Ruti Machinery Works Ltd., formerly Caspar  
Honegger, a corporation of Switzerland  
Filed July 30, 1968, Ser. No. 748,691  
Claims priority, application Switzerland, Aug. 16, 1967,  
11,528/67  
Int. Cl. D03d 41/00; D03j 5/02  
U.S. Cl. 139—12

17 Claims



A weaving shuttle for inserting weft threads in a shed of a loom; said shuttle comprising an elongated body hav-



ing two side walls connected over part of its periphery, a lining for retaining the weft yarns between said side walls and a retaining means for holding the lining within the body of the shuttle, whereby the lining can be easily removed from and inserted into said body.

3,519,027

# DRIVING MECHANISM FOR THE HEALD SHAFTS OF A WEAVING MACHINE OPERATING WITH A CLOSED SHED

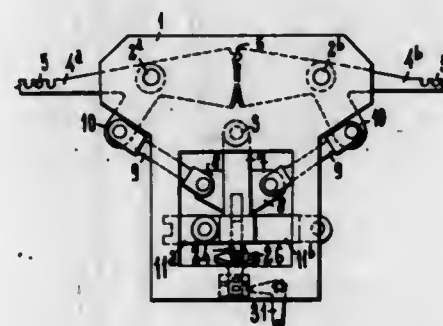
Theodorus Franssen, Deurne, Netherlands, assignor to N.V. Machinefabriek L. Te Strake, Deurne, North Brabant, Netherlands, a Dutch company  
Filed Sept. 19, 1968, Ser. No. 760,804

Claims priority, application Netherlands, Sept. 22, 1967, 6713015

Int. Cl. D03c 13/00

U.S. Cl. 139—57

7 Claims



The driving mechanism comprises a lever system having two driving members which are reciprocated oppositely to one another by the lever system. Rocker arms are arranged to be operated by the driving members and are coupled to harness levers for driving the heald shafts. A locking device is provided for selectively coupling each rocker arm to one of the oppositely reciprocated driving members and the locking device is operated by a selection device.

3,519,028

# PICKING ELEMENTS FOR FILLING YARNS IN LOOMS WITH FIXED WEFT RESERVE

Ramon Balaguer Golobart, Calle Valls y Taberner 11, Barcelona, Spain

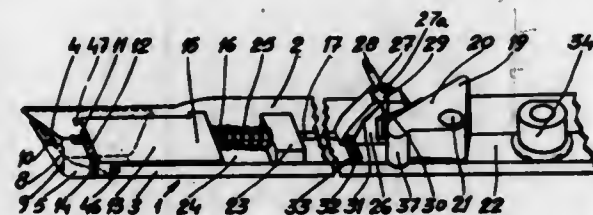
Filed Aug. 8, 1968, Ser. No. 751,134

Claims priority, application Spain, Aug. 10, 1967, 344,309

Int. Cl. D03d 47/20

U.S. Cl. 139—122

5 Claims



An inserting means for looms has a fixed jaw co-operating with a movable jaw for gripping a weft yarn at one side of a loom and a trip mechanism for partially opening the jaw near the other side of the loom, the movable jaw having a finger overlying the yarn during said release, the trip mechanism opening the jaw further after said release so as to receive the next weft yarn.

3,519,029

# NEEDLE LOOM

Giovanni Piazzolla and Carlo Villa, Milan, Italy, assignors to Brevitex Etablissement pour l'Exploitation de Brevets Textiles, Vaduz, Liechtenstein

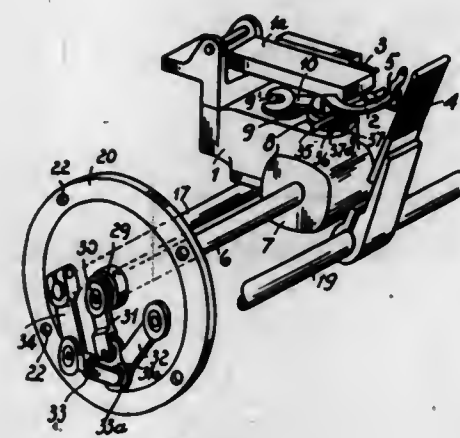
Filed July 30, 1968, Ser. No. 748,707

Claims priority, application Italy, Sept. 25, 1967, 20,845/67

Int. Cl. D03d 47/06, 47/44

U.S. Cl. 139—124

15 Claims



The weft-inserting needle of a needle loom is connected at two points to pivots carried by meshing gears at a phase displacement of 180° so that the weft-inserting needle is oscillated during each revolution of the gears, and its eye moves the weft thread in weft direction a greater distance and at a higher speed than in warp direction while moving along a flat annular path.

3,519,030

# METHOD FOR PROJECTING A THREAD UNDER INFLUENCE OF A CONFINED JET OF A PRESSURIZED FLUID

Geert Jan Vermeulen, Beethovenlaan 34, Deurne, Netherlands

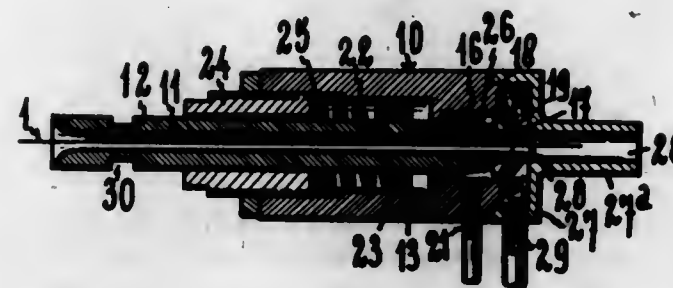
Filed Sept. 25, 1968, Ser. No. 762,589

Claims priority, application Great Britain, Sept. 26, 1967, 43,870/67

Int. Cl. D03d 47/28

U.S. Cl. 139—127

12 Claims



In this method the weight of a local portion of the thread is increased, and a high velocity driving jet of fluid is discharged in driving engagement with such thread portion. The discharging of the driving jet is continued during only a fraction of the time necessary for the thread to be displaced over its full length, and subsequently a separate flow of a supporting and transporting fluid is continued in contact with the thread during the remainder of the time necessary for displacing the thread over its full length.

3,519,031

# METHOD OF APPLYING HARDENED GRIPPING AREAS TO THE SPRING CLIP OF A SHUTTLE

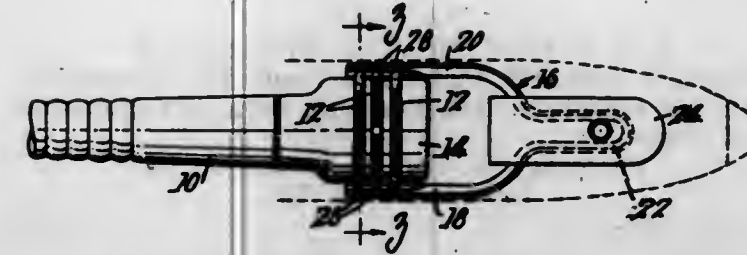
Walter C. Gustafson, % Sancliff, Inc., 1651 N. Main St., Holden, Mass. 01520

Filed June 28, 1968, Ser. No. 741,069

Int. Cl. D03j 5/00

U.S. Cl. 139—207

4 Claims



The invention relates to the application of long wearing surfaces including tungsten carbide in powdered form applied to desired locations on a spring clip for bobbins by spraying under conditions of heat and including a minor percentage of a suitable bonding agent, e.g. powdered cobalt.

3,519,032

# PILE FABRICS

Jan Sabbe, Kortrijk, Belgium, assignor to Librex Anstalt, Vaduz, Liechtenstein, a company of Liechtenstein

Filed Feb. 9, 1968, Ser. No. 704,479

Int. Cl. D03d 27/06

U.S. Cl. 139—398

4 Claims



A pile fabric produced on a loom with a single shuttle by weaving two backing fabrics face-to-face with tuft forming portions extending between the backing fabrics, and float or reserve yarn portions bound in one or other of the backing fabrics by respective face weft yarns. The float yarn portions are equally distributed in the two backing fabrics such that certain warp yarns which do not form tufts form floats yarn portions which are bound into the one of the backing fabrics, and that other warp yarns which do not form tufts form float yarn portions which are bound in the other of the backing fabrics. Each pair of tufts is secured by a single pile supporting weft yarn and held erect on the respective backing fabric by two adjacent weft yarns. A last tuft formed by a warp yarn starting to form a float yarn portion extending from a backing fabric opposite to that in which its float yarn portion lies and a last pair of adjacent tufts immediately adjacent the last tuft as a unit are held erect therebetween by two adjacent weft yarns, thereby the last tuft tending to move towards the adjacent last pair of adjacent tufts formed of the same respective pile warp yarn.

3,519,033

# APPARATUS FOR BENDING AND CUTTING AN ELONGATED ELEMENT

Albert L. Pepin, Methuen, Mass., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed June 4, 1968, Ser. No. 734,427

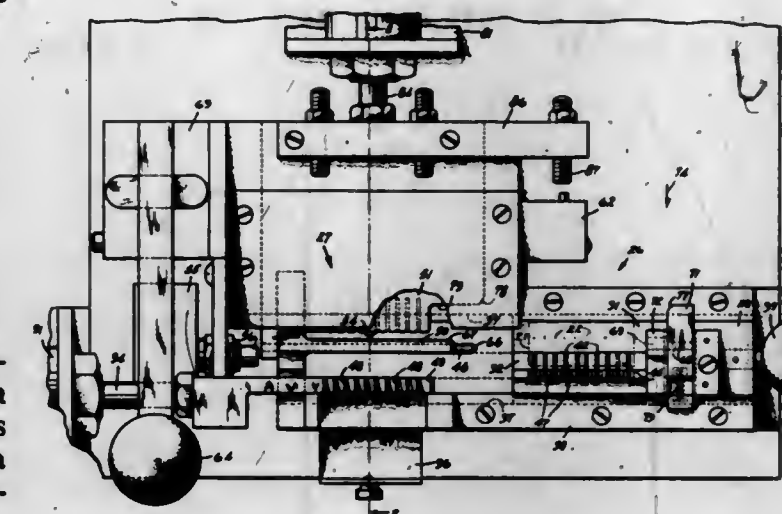
Int. Cl. B21f 45/00

U.S. Cl. 140—1

15 Claims

A slide assembly mounts a base from which two rows of lead wires project. The slide assembly is moved manu-

ally into an operative position, where it opens a control valve to introduce pressurized fluid into a cylinder. A piston drives two bending members across upper and lower bending anvils to bend both rows of leads across



the bending anvils and into receiving positions in a cutting mechanism. A cutting comb is then moved across a cutting anvil to cut off end parts of the bent wires in the receiving positions.

3,519,034

# SUBMERGED STORAGE AND FLOATING TERMINAL LOADING ASSEMBLY

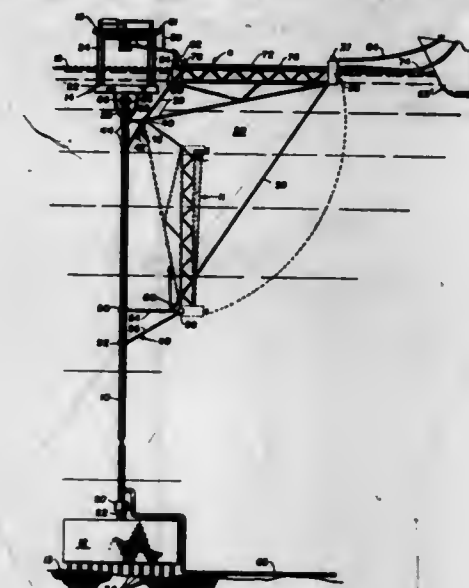
William F. Manning, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed Nov. 15, 1966, Ser. No. 594,461

Int. Cl. B63b 35/00; B65b 3/00

U.S. Cl. 141—387

11 Claims



An anchored, offshore apparatus for storing material below the surface of a body of water and for transporting the material from the storage area to a point adjacent the surface. The apparatus comprises an open-bottom storage tank anchored in a submerged position. A rigid-walled tether pipe is attached to the tank and extends substantially vertically upward therefrom. A floating terminal having a deck thereon is attached to the upper end of the tether pipe and serves to support the pipe in its vertical position. Material is transferred through the tether pipe between the tank and the terminal.



3,519,035

**VOLUMETRIC DOSING DEVICE**

Roger Remane, Sainte Colombes-les-Vienne, France, assignor to Application des Gaz, Paris, France, a French joint-stock company

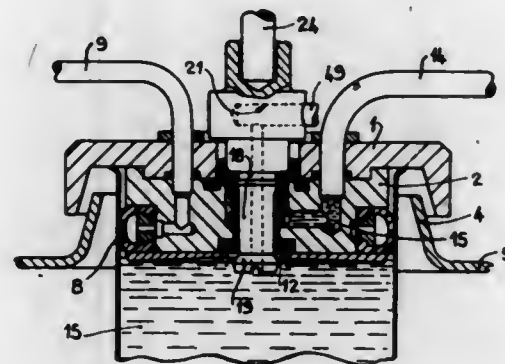
Filed Mar. 19, 1968, Ser. No. 714,236

Claims priority, application France, Mar. 23, 1967, 48,438

Int. Cl. B65b 31/00; B67c 3/26

U.S. Cl. 141—52

6 Claims



A vessel is raised under a vertically movable base having a lower portion which fits into the upper part of the vessel and a larger upper portion. A seal provides a fluid-tight connection between the lower portion and the vessel and as the vessel raises the upper portion, it opens a valve through which the liquefied gas may fill the vessel up to the seal the air and excess liquid being evacuated through a vent into a collecting tank or into another vessel ready to be filled under its individual base.

3,519,036

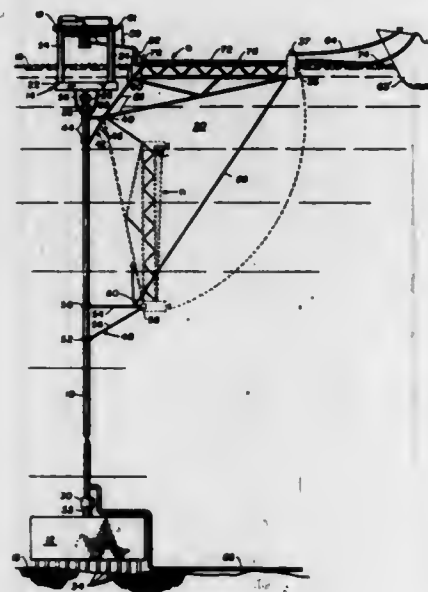
**APPARATUS FOR TRANSPORTING FLUIDS BETWEEN A SUBMERGED STORAGE TANK AND A FLOATING VESSEL**

William F. Manning, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York  
Original application Nov. 15, 1966, Ser. No. 594,461.  
Divided and this application May 31, 1968, Ser. No. 740,421

Int. Cl. B63b 35/00; B65b 3/00

U.S. Cl. 141—387

4 Claims



A surface unit for a single point mooring system wherein a vessel may be moored in the most advantageous position during loading. The unit has a floating terminal maintained at an offshore site by a tether pipe, one end of which is connected to the floating terminal and the

other end anchored in the underwater formations. A loading boom having a flotation tank on the outer end thereof is pivotally mounted on the tether pipe beneath the surface of the water. Means is provided for lowering the outer end of the loading boom to a point adjacent the tether pipe to store the loading boom beneath the water surface when the loading boom is not in use.

3,519,037

**SAW CHAIN DRIVING APPARATUS**

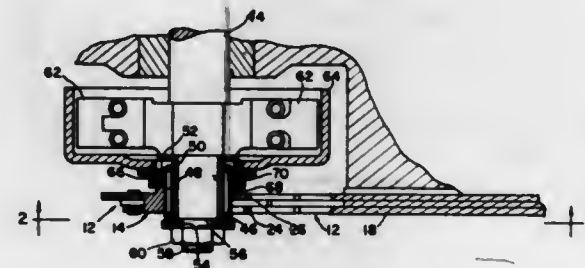
Chester G. Linkfield, Lighthouse Point, Fla., assignor to Omark Industries, Inc., Portland, Oreg., a corporation of Oregon

Filed June 14, 1967, Ser. No. 646,054

Int. Cl. B27b 17/08

U.S. Cl. 143—32

10 Claims



A drive for the saw chain of a chain saw is provided with a sprocket journaled upon the saw's drive shaft. The sprocket includes an end hub for carrying a clutch drum also positioned coaxially with respect to the drive shaft. The sprocket hub is formed with male splines, and the clutch drum is formed with female splines so that a slidable coaxial connection is established therebetween permitting free axial movement of the sprocket.

3,519,038

**STAKE POINTER**

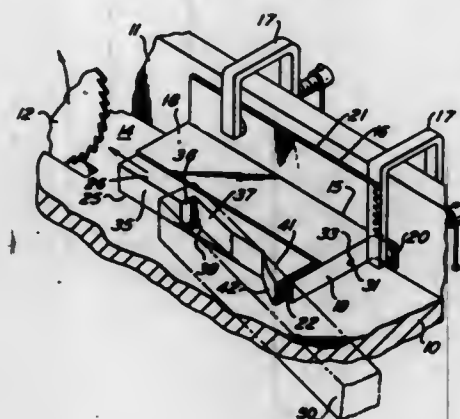
Leonard K. Booth, 15133 Wayside Road, Philadelphia, Pa. 19116

Filed Nov. 6, 1968, Ser. No. 773,767

Int. Cl. B27b 25/10, 27/06

U.S. Cl. 143—51

8 Claims



An attachment is provided for pointing wooden stakes which can be detachably secured to the rip fence of a saw table. The attachment includes a fixed support and a slidable guide which has a recess for the end of the stake to be cut upon movement of the guide. The guide is resiliently returned and the return movement can be utilized to eject the waste material. Provision is also made to prevent the waste material, prior to positive ejection from falling into the slot in the saw table contiguous to the saw blade.

3,519,039

**CHAIN SAW CUTTER LINK**

Jack W. Ehlen, Torrance, Calif., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin

Filed Jan. 31, 1968, Ser. No. 701,900

Int. Cl. B27b 33/14

U.S. Cl. 143—135

12 Claims



A cutter link including a substantially planar base plate having parallel flat sides. A carbide cutting tip, brazed or otherwise secured to the base plate, provides a concave cutting surface and a stabilizing recess which engages stabilizing shoulder means extending coextensively with the base plate. The shoulder means, stabilizing recess, and concave cutting surface are longitudinally aligned in the cutting travel direction of the cutter link. A rounded carbide edge extending longitudinally of the cutter link and merging with kerf-side and kerf-base-cutting surface means is provided so as to achieve optimum smoothness in cutting. A second stabilizing recess, formed in the cutting tip, faces transversely of the cutting travel direction and away from the kerf-base facing edge of the cutter link and embraces opposite sides of the cutter link.

3,519,040

**EDGE SAW**

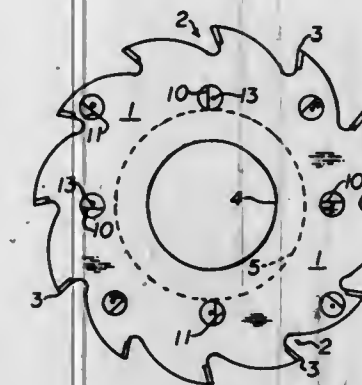
Arthur H. Demsky, 12424 SE. 122nd, Portland, Oreg. 97236

Filed July 14, 1966, Ser. No. 559,059

Int. Cl. B27b 33/08, 33/12

U.S. Cl. 143—140

5 Claims



An edger saw having saw teeth secured to the saw disc body about its periphery, and a plurality of angularly and radially distributed planing cutters mounted within bored out apertures on the disc body for smoothing the cut made by the saw teeth.

3,519,041

**POWER SAW BLADE GUARD**

John A. Palmer, University City, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri

Filed Aug. 14, 1968, Ser. No. 752,664

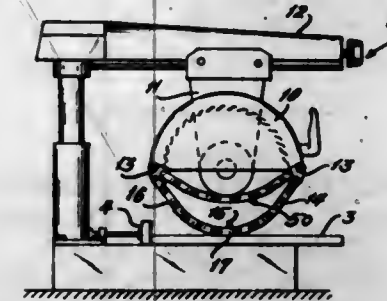
Int. Cl. B27g 19/04

U.S. Cl. 143—159

5 Claims

A support with mounting locations, fixed with respect to the blade and oriented fore and aft with respect to the blade, flat link chain with an end mounted on each mounting location and with a multiplicity of links extending

from each of the ends and guard means in laterally blade-edge shielding position, lying substantially parallel to the normal feed direction of work to be cut and offset trans-



versely from the blade, adapted to engage the work and being mounted on the chain. The guard may comprise additional links or a plate, for example.

3,519,042

**PULP CUTTING AND LOADING MACHINE**

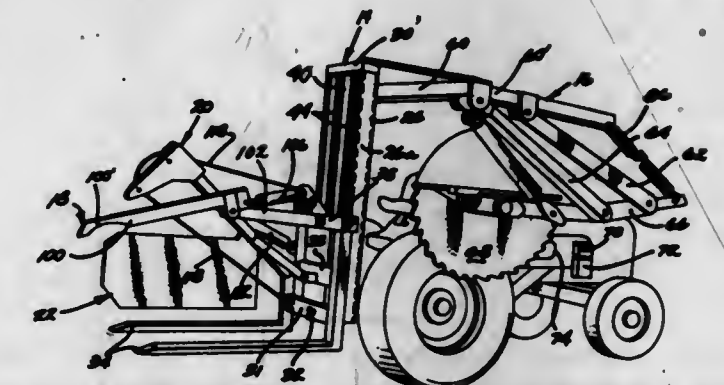
Franklin W. Domres, Rte. 1, Manistee, Mich. 49660

Filed July 26, 1967, Ser. No. 656,257

Int. Cl. B27c 9/00; B27b 9/00, 5/18

U.S. Cl. 144—3

12 Claims



Field use apparatus for high production cutting of pulp poles into uniform length "sticks," and loading of the cut sticks onto a haulage vehicle, employing in combination with a vehicle, a special cooperative pole evener and measuring means, special compacting and gripping means, hoisting means, and specially mounted cutoff means.

3,519,043

**ADJUSTABLE TEMPLATE FOR ROUTING FIXTURE**

Richard E. Guill, 41824 Channing Way, Hemet, Calif. 92343

Filed Jan. 25, 1968, Ser. No. 700,435

Int. Cl. B27g 23/00; E04f 21/04

U.S. Cl. 144—144.5

4 Claims



Apparatus comprising a universal finely adjustable template to be placed in a conventional routing fixture to take care of variously sized locks, strikers and hinge

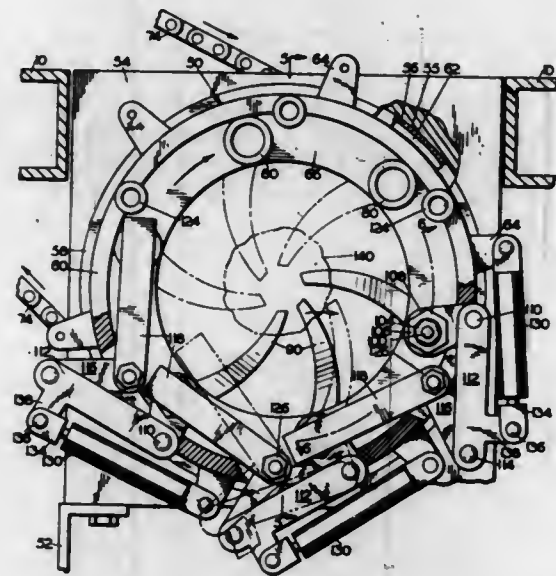


plates. The template base having side recesses and opposed end recesses of exact similarity. Metal template plates are received in recesses and are adjustable by adjustment screws in the base and are fixed in their adjustment by fixing screws received in slots in the plates. The templates plates received in the end recesses are reversible to define a different pattern to be routed.

**3,519,044**  
**RING-TYPE LOG DEBARKER**  
James E. Rother, 8925 SW. 40th,  
Portland, Oreg. 97219  
Filed Mar. 14, 1968, Ser. No. 713,138  
Int. Cl. B27I 1/00

U.S. Cl. 144—208

9 Claims



A log debarker comprises a debarking ring and a conveyor for moving logs endwise therethrough. The ring mounts a plurality of cutting assemblies, each comprising a transverse shaft, preferably a torsion bar, and a debarking cutter fixed on one end of the shaft. The cutter is movable angularly with rotation of the shaft between advanced and retracted positions as required to follow the contour of the log. A suitable linkage is fixed to the other end of the shaft and connects with a pivotally mounted weighted arm or other centrifugal force-exerting member. A shock absorber interconnects the linkage and the ring. Rotation of the ring causes the centrifugal force-exerting members to fly outwardly, advancing the cutters toward the center of the ring. As the log enters the ring, the cutters are forced apart, but, pressed by the centrifugal force members, follow the contour of the log and debark it efficiently. The shock of impacts with knots, burls and other irregularities is absorbed in part by the torsion bar and in part by the shock absorber.

**3,519,045**  
**METHOD FOR ALIGNING AND TRANSFERRING LOGS**

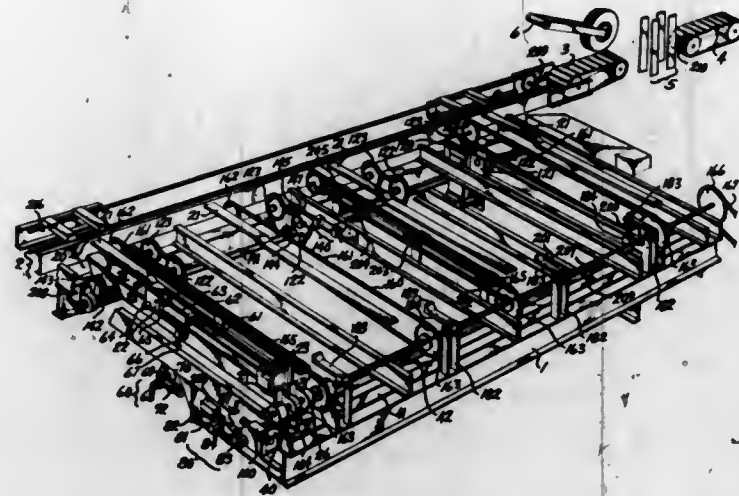
Charles Blickenderfer, Jr., Puyallup, Byron B. Brookhyser, Milton, and Robert Schlew, Tacoma, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington  
Original application May 2, 1967, Ser. No. 635,517, now Patent No. 3,456,774. Divided and this application Feb. 6, 1969, Ser. No. 816,447  
Int. Cl. B27b 1/00

U.S. Cl. 144—312

1 Claim

A method and apparatus for aligning and transferring logs to a sawing position to obtain maximum cubic recovery therefrom which comprises positioning a log to be sawed on a series of arm members disposed horizontally and at right angles to a conveyor feeding a multiple

band saw, aligning the taper of the log resting on the arm members by reference to overhead shadow lights or other sawing aid representing the position of the saw blades, the alignment being by means of hydraulically operated cylinders disposed on each end of a sliding bar operatively connected to the arm members, and transferring the aligned log to the conveyor feeding the multiple band

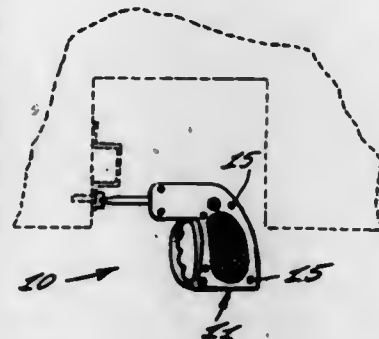


saw without substantially changing the alignment of the log by hydraulically moving the sliding bar forward a predetermined amount using the position of each of the end hydraulic cylinders as a pivot point, movement of the sliding bar causing each of the arm members to be moved forward a corresponding multiple of the distance moved by the sliding bar.

**3,519,046**  
**PALM POWER SCREW WRENCH**  
Stanley R. Pierce, Rte. 1, Box 148,  
Williamston, Mich. 48895  
Filed Oct. 9, 1967, Ser. No. 673,639  
Int. Cl. B25b 17/00

U.S. Cl. 145—66

3 Claims



A tool for installing threaded fasteners in places having a minimum amount of excess space and where speed or torque is desirable, the tool including a trigger operated mechanism contained within a pistol-grip case.

**3,519,047**  
**CENTRIFUGAL CUTTER WITH AUTOMATIC BALANCE**

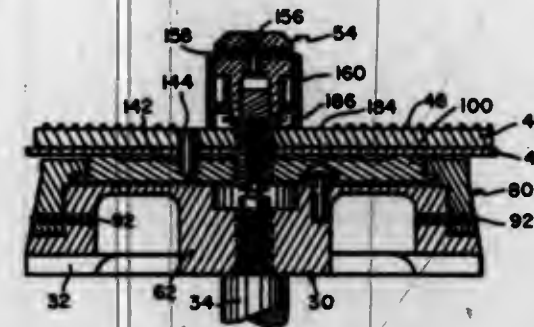
Roger A. Peterson and John P. Elson, Peoria, Charles R. Smith, Pekin, and Lloyd D. Slagell, Peoria, Ill., assignors to Creve Coeur Mfg. Co., East Peoria, Ill., a corporation of Illinois  
Filed Feb. 13, 1968, Ser. No. 705,125  
Int. Cl. A23n 1/02

U.S. Cl. 146—76

10 Claims

The disclosure describes a centrifugal cutting device having means to continuously orient the rotating mass centers of certain corotating parts in relation to the stationary resiliently mounted mass and thereby provide

vibration-free uniform cutting action. In one embodiment a flat circular cutter blade is resiliently mounted on a shaft for both axial and radial movement from a pivotally mounted plate within the housing of a driven flywheel on the reference axis. The pivotal means comprises a ball and socket joint in the drive shaft in combination with a radially displaced resilient drive pin in a centrifugal type

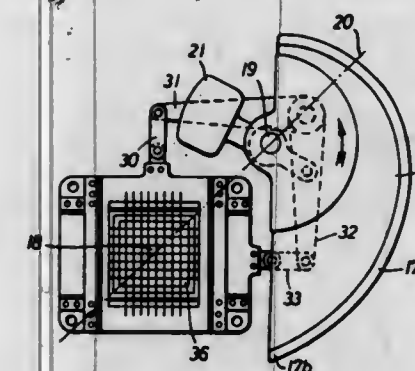


juicing machine wherein variations in the cutting rate affects the amount of unbalanced macerated mass distributed to a centrifugating basket and the combination controls both static and dynamic balance of the rotating parts to continuously orient the mass centers, re-distribute the centrifugating cuttings to restore equilibrium and maintain uniform cutting action. Other embodiments are disclosed.

**3,519,048**  
**CUTTER ASSEMBLY FOR USE IN APPARATUS FOR COMMUNUTING MEAT OR THE LIKE**  
Toni Reiffenhäuser, Burglahr, Westerwald, Germany  
Filed Aug. 20, 1968, Ser. No. 754,077  
Int. Cl. A23n 15/00; B26d 3/26, 5/18

U.S. Cl. 146—78

17 Claims

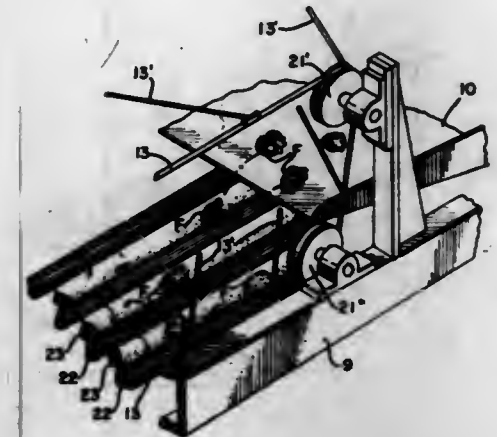


A cutter assembly for use in apparatus for comminuting meat or other foodstuffs is provided with two rectangular frames located in parallel planes and reciprocable at right angles to each other. The frames are guided by elongated dry bearings and carry sets of knives which are parallel to the directions of reciprocatory movement of the respective frames. A tubular stripper block extends into the frames and is slotted to permit passage of knives. A rotary cutoff knife with a convex cutting edge rotates in a plane adjacent to one end of the stripper block and co-operates with a tubular counterknife which is connected with a conduit. The cutoff knife rotates about an axis which is remote from the frames and is parallel to the direction of material feed. The material is fed into the other end of the stripper block and is slitted lengthwise and crosswise by the knives of the two frames so that it forms a bunch of strands which are fed lengthwise across the plane of the revolving cutoff knife to be comminuted into blocks, cubes or like particles.

**3,519,049**  
**APPARATUS FOR DESTEMMING FRUITS AND BERRIES**  
Giordano Tomelleri, Via Montorio 22,  
Verona, Italy  
Filed May 16, 1967, Ser. No. 638,872  
Int. Cl. A23n 15/02

U.S. Cl. 146—55

3 Claims

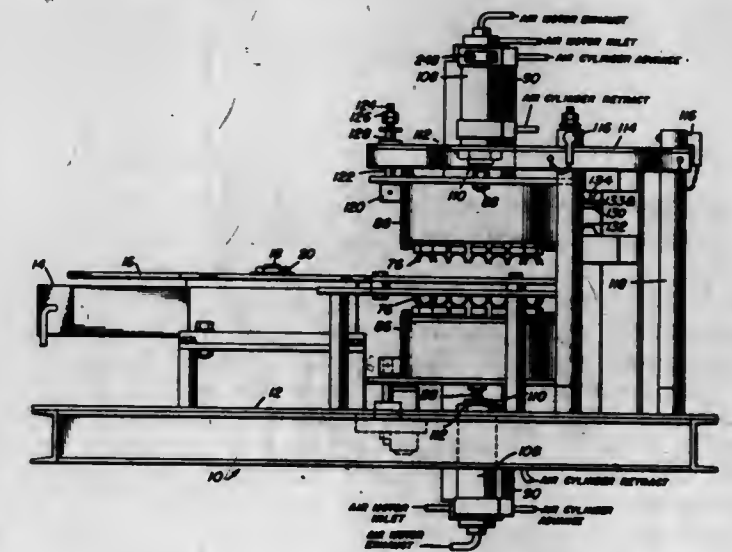


A device for causing fruits and berries to be fed down an inclined surface or be moved across an undulating surface in such a manner that the stems of the fruits and berries are caught in the surface and removed from the fruit and berry by a pulling action while simultaneously therewith the fruit or berry is engaged below the center thereof and held by a moving surface which also feeds the same along the surface and with the fruit or berry being slightly bent or moved from the vertical whereupon the fruit or berry will not be pulled through the stem grasping means or be crushed or bruised thereby.

**3,519,050**  
**MELON BALL CUTTING MACHINE**  
Jacob A. Dobrinen, Wheatland, Calif., assignor of one-fifth to Gustave Miller, Washington, D.C.  
Continuation of application Ser. No. 407,773, Oct. 30, 1964. This application Sept. 4, 1969, Ser. No. 855,800  
Int. Cl. B26d 3/26, 5/04, 1/44

U.S. Cl. 146—106

26 Claims



A machine is provided for cutting melon balls from a slice of melon or the like. A slice is placed into a scallop of a star plate intermittently rotating over a table. Upper and lower semispherical rotating blades are pneumatically operated so as to come substantially together at a cutting station to cut out balls in the slice except for a very slight web. The blades are withdrawn from the slice, the plate is indexed and upon reaching a discharge station, the balled slice is manually removed whereupon the balls may be easily removed by shaking.



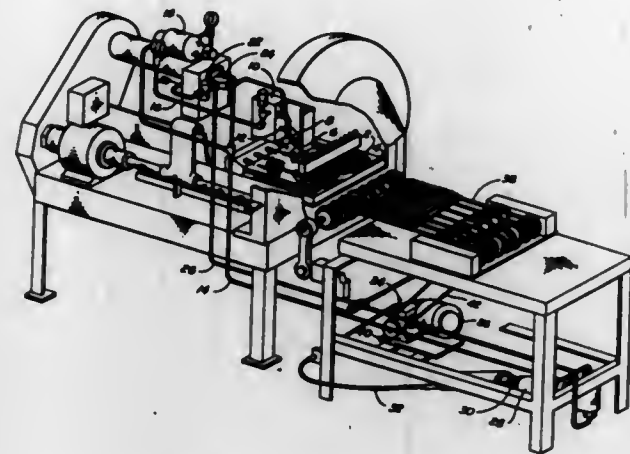
3,519,051

**FOOD SLICING METHOD AND APPARATUS**

Durward B. Badgley, Chicago, Ill., and Philip C. Metzler, Orange, Calif., assignors to Swift & Company, Chicago, Ill., a corporation of Delaware  
Filed Nov. 20, 1967, Ser. No. 684,190  
Int. Cl. A22c 17/00

U.S. Cl. 146—222

8 Claims U.S. Cl. 152—158



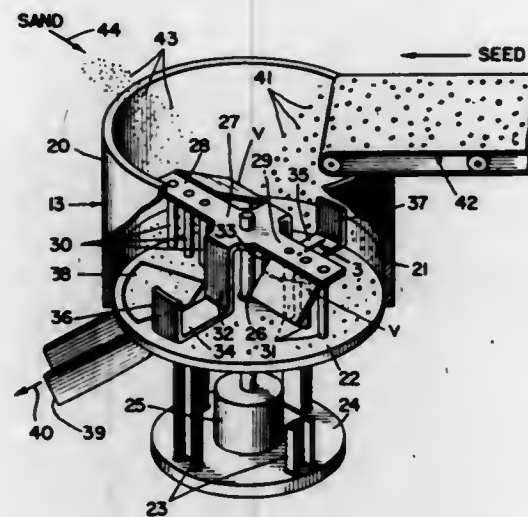
Bacon slab thickness is continuously measured and utilized to regulate the speed of a take-off conveyor removing slices from a slicing machine. Take-off speed is relatively increased and decreased for slices cut from deeper and shallower slabs, respectively, or portions thereof, so as to result in uniform spread of shingled slices amounting to a unit weight of product regardless of the number of slices required to produce that weight.

3,519,052

**APPARATUS FOR PEELING GRAIN**

Magdy F. Girgis, 3121 Killarney Lane, Costa Mesa, Calif. 92626  
Original application May 13, 1966, Ser. No. 549,938, now Patent No. 3,419,056, dated Dec. 31, 1968. Divided and this application Aug. 7, 1968, Ser. No. 765,730  
Int. Cl. B02c 9/00; B02b 3/00  
U.S. Cl. 146—284

2 Claims



Apparatus for peeling the hulls from sesame seeds wherein the sesame grain is soaked in water a sufficient length of time to saturate and inflate the seeds thereby softening the hull. The grain is then rubbed between the surfaces of a stationary cylinder and a rotating member having flat surfaces to peel off the hulls. The hulls and seeds are deposited in a brine solution of greater density than water so that the hulls fall to the bottom and the seeds float to the top. Afterwards the seeds are removed from the solution and dried.

3,519,053

**AUXILIARY SAFETY WHEEL FOR TUBELESS TIRES**

William L. Lindley, Suite 303, 1616 West Loop S., Houston, Tex. 77027  
Filed Dec. 13, 1967, Ser. No. 690,280  
Int. Cl. B60c 17/04

6 Claims



A segmented reinforced annular framework employs a particular type of locking arrangement at the end of the segments to tighten the framework about the dropcenter of a wheel. A serrated, resilient covering is secured to the outer circumference of the framework to absorb the weight of the vehicle when the tire mounted on the wheel is deflated.

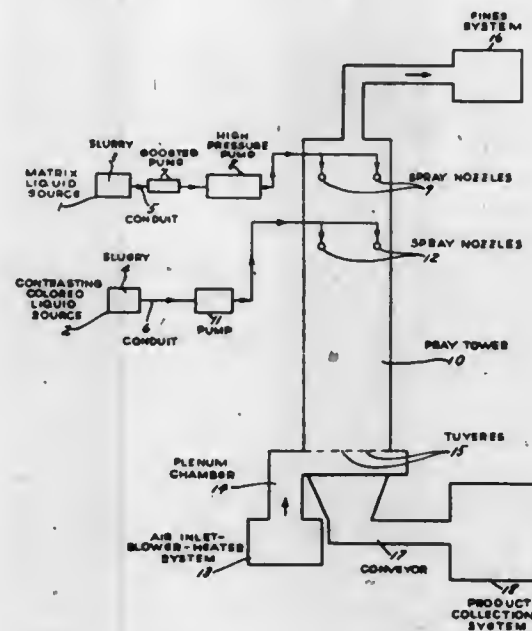
3,519,054

**PROCESS FOR PRODUCING A PARTICULATE PRODUCT**

Jerald Albert Cavataio, Far Hills, and John Alexander Monick, Teaneck, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware  
Continuation-in-part of abandoned application Ser. No. 654,423, July 19, 1967. This application Jan. 6, 1969, Ser. No. 830,555  
Int. Cl. B01d 1/18

U.S. Cl. 159—48

8 Claims



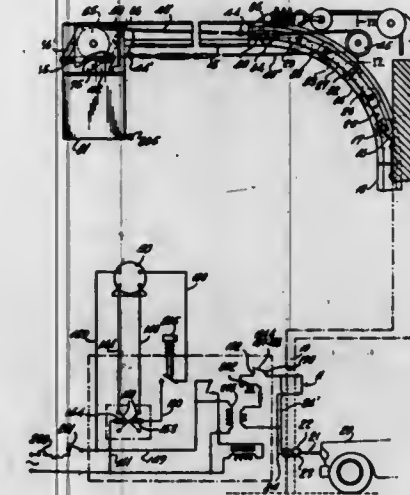
Process comprising spraying two liquid streams downwardly in the form of droplets into a spray tower, one stream being sprayed from a level 15 to 60% below that of the other, into an upwardly flowing stream of drying gas whereby the droplets are converted into dried multi-colored particles.

3,519,055

**MOTOR OPERATED DOOR**

Frederick A. Purdy, 521 Park Ave., New York, N.Y. 10021  
Original application Oct. 2, 1964, Ser. No. 401,264, now Patent No. 3,444,344, Divided and this application Dec. 31, 1968, Ser. No. 805,071  
Int. Cl. E05f 11/54, 15/00  
U.S. Cl. 160—188

7 Claims



A motor operated door comprising a door guided and supported by tracks having a longitudinal opening along one side in which rollers held by brackets attached to the door are guided, a motor at the rear end of said track, said motor having a drive sheave, a slanted pulley on the door frame, a cable around said drive sheave and said pulley forming an endless belt and a link connecting said cable to the axle pin of the rearmost of said rollers for opening and closing said door as said cable is driven by said drive sheave around said pulley.

3,519,056

**METHOD OF MANUFACTURING A MOLD FOR CASTING METAL COMPRISING A MIXTURE OF MINERAL FIBRES AND CARBONISABLE RESIN**  
Robert Lewis Bickerdike, and Garyth Hughes, Farnham, England, assignors to National Research Development Corporation, London, England  
No Drawing. Filed Mar. 28, 1968, Ser. No. 717,038  
Claims priority, application Great Britain, Mar. 31, 1967, 14,841/67  
Int. Cl. B22c 1/22, 9/12

U.S. Cl. 164—16

14 Claims

According to the invention a method of manufacturing a mould article for casting metal, such as iron, comprises the steps of forming a mixture of mineral fibres and carbonisable resin, feeding a charge of the mixture into a moulding tool to form a shaped charge, consolidating the charge and curing the resin to form a shaped article, removing the article from the mould, heating the shaped article in a non-oxidising atmosphere at a temperature and for a period sufficient to carbonise the resin, and depositing carbon into the interstices of the shaped article by pyrolytic deposition by heating in a hydrocarbon containing atmosphere to produce a mould article.

3,519,057

**ELIMINATING PATTERNS FROM AND HARDENING OF SHELL MOLDS**

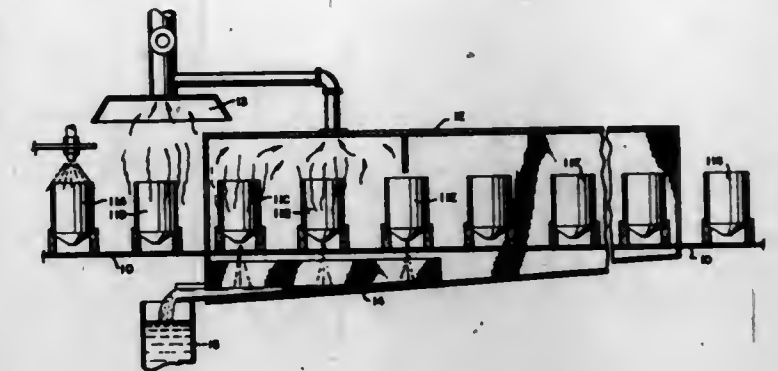
Charles L. Benson, Goshen, N.Y., and William N. Lenahan, Denville, N.J., assignors to Howmet Corporation, New York, N.Y., a corporation of Delaware  
Filed Aug. 8, 1967, Ser. No. 659,182  
Int. Cl. B22c 9/04

U.S. Cl. 164—35

1 Claim

A method of making a refractory shell mold on a fusible pattern wherein the mold is soaked with a

flammable liquid, the liquid is burned to heat the mold and melt out the pattern material, and then before the



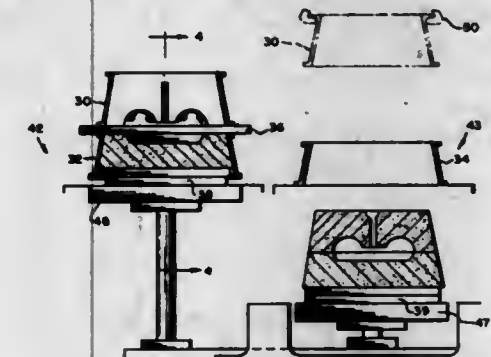
mold is permitted to cool it is fired to the desired hardness in a furnace.

3,519,058

**MOLDING METHOD**

Lester C. Young, Cleveland, Ohio, assignor to SPO, Incorporated, a corporation of Ohio  
Filed May 3, 1968, Ser. No. 726,480  
Int. Cl. B22c 17/10, 15/02; B22d 33/04  
U.S. Cl. 164—40

5 Claims



A molding method for more economically making foundry molds which includes the use of at least two drag flasks and one cope flask (when removable flasks are utilized) along with a matchplate and the moving of these elements relative to each other to accomplish the desired end result.

3,519,059

**METHOD OF VACUUM FLAG REFINING OF METAL IN THE COURSE OF CONTINUOUS CASTING**

Viktor Grigorievich Voskoboinikov, Ulitsa 1812 goda, kv. 18, dom 7; Oleg Vyacheslavovich Kurmushko, Zelenograd, korpus 214, kv. 72; Vladislav Semenovich Kozlov, Universitetsky prospekt 23, korpus 2, kv. 28; and Anatoly Fedorovich Khabukovsky, Ulitsa Uslevicha 29, korpus 2, kv. 57, all of Moscow, U.S.S.R.; Aron Yakovlevich Tseitlin, Prospekt Lenina 63, kv. 100, Tula, U.S.S.R.; Viktor Savellievich Rutes, 7 Parkovaya ulitsa 15, kv. 12; and Anatoly Georgievich Shallmov, 3 Parkovaya ulitsa 50, korpus 3, kv. 30, both of Moscow, U.S.S.R.; Vladimir Andreevich Kazansky, Ulitsa Anosova 3, kv. 4, Tula, U.S.S.R.; Jury Evgenievich Kan, Bolshaya Kolkhoznyaya ploshad 14/7, kv. 22, Moscow, U.S.S.R.; Vasily Nikolaevich Ustjuzhanin, Ulitsa Anosova 8/16, kv. 12, Tula, U.S.S.R.; and Anatoly Alexeevich Markin, Ulitsa Burdenko 11-a, kv. 9, Moscow, U.S.S.R.

Filed July 12, 1967, Ser. No. 652,883

Int. Cl. B22d 11/10

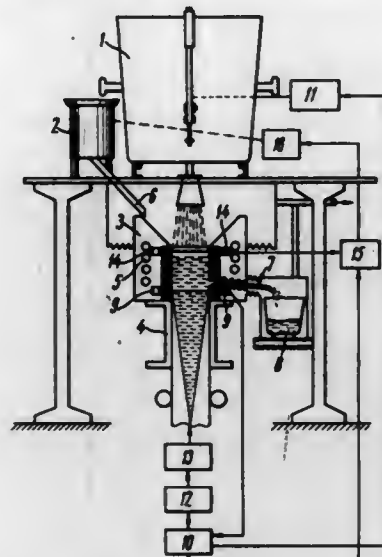
U.S. Cl. 164—53

5 Claims

In the casting operation of a metal or alloy, a vacuum is applied to a stream of the metal which is broken up



into streams of metal drops by gases released from the metal, the metal drops passing through a layer of synthetic slag located in a vacuum chamber which is above



the mold. The metal is purified from sulphur, nonmetallic inclusions and residual gases and passes into the mold wherefrom a continuous ingot is removed.

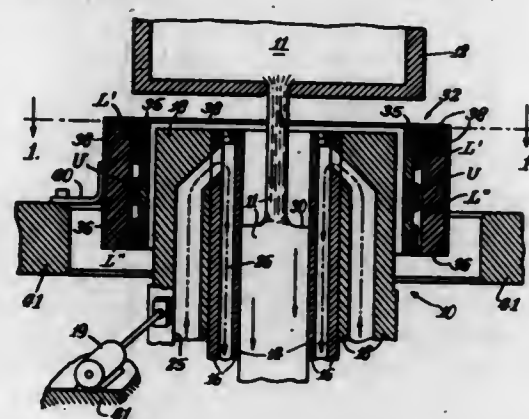
3,519,060

**CONTINUOUS CASTING APPARATUS WITH A MOLTEN METAL LEVEL CONTROL**  
George Vischulis, Hickory Hills, Ill., assignor to Interlake Steel Corporation, Chicago, Ill., a corporation of New York

Filed Feb. 7, 1968, Ser. No. 703,750  
Int. Cl. B22d 11/10; B22c 19/04

U.S. Cl. 164—155

5 Claims



A pair of coils encircling the mold of a continuous casting machine are connected to an oscillator to produce oscillations having a frequency dependent on the level of molten metal. The oscillations are compared by a differential circuit which determines the difference in the oscillatory frequency of the coils, and eliminates changes caused by common mode temperature effects, to generate a level signal which controls the level of molten metal within the mold.

3,519,061

**APPARATUS FOR USE IN MELTING AND CASTING METALS**

Adam Dunlop, 23 Manse View Terrace, Douglas, Lanark, Scotland

Filed July 2, 1968, Ser. No. 742,099

Claims priority, application Great Britain, July 4, 1967, 30,755/67

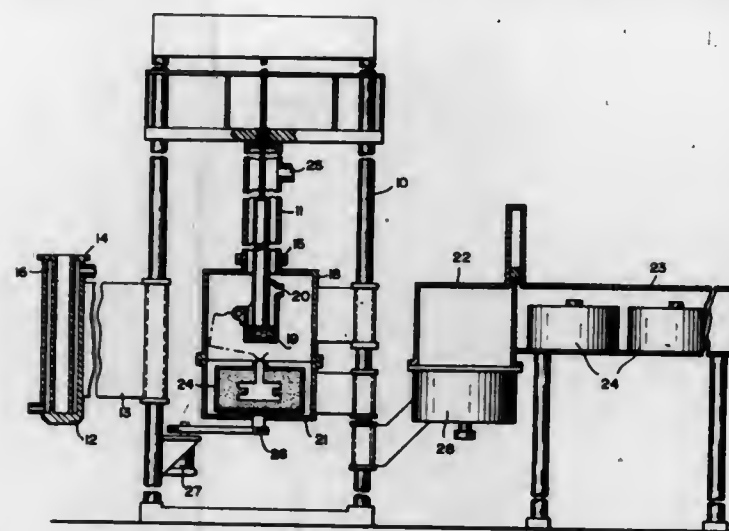
Int. Cl. B22d 27/02, 27/16

U.S. Cl. 164—252

4 Claims

An apparatus is provided for melting and casting metals particularly titanium in an inert atmosphere. The apparatus comprises a first chamber into which an electrode

such as titanium sponge can be charged and a second chamber where the electrode can be melted to form an ingot. The ingot is then inserted into the first chamber and a third and fourth chamber are attached to the first chamber after removal of the second chamber. The third chamber contains a crucible into which the ingot is melted.



The fourth chamber contains a mold into which the molten metal is poured from the crucible. After the first mold has been poured that chamber can be removed and subsequent chambers containing other molds can be moved into position. All of the aforementioned steps are accomplished in an inert atmosphere.

3,519,062

**APPARATUS FOR PRODUCING STRIP METAL BY CONTINUOUS CASTING**

Alfred J. Werth, Poststrasse 15, 8406 Winterthur, Switzerland

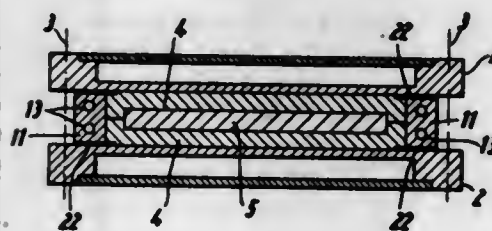
Filed Oct. 3, 1967, Ser. No. 672,583

Claims priority, application Switzerland, Oct. 6, 1966, 14,404/66

Int. Cl. B22d 11/00

U.S. Cl. 164—283

6 Claims



The mold is provided with a heating means adjacent the cooling device to heat the sides of a metal strip being cast through the mold. A uniform cooling of the strip is effected across the width of the strip due to the influence of the heat applied to the strip edges during cooling by the cooling device.

3,519,063

**SHELL MOLD CONSTRUCTION WITH CHILL PLATE HAVING UNIFORM ROUGHNESS**

Barry J. Pearcey, Galmpton, Brixham, Devon, England, assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Continuation-in-part of application Ser. No. 472,611, July 16, 1965. This application July 18, 1968, Ser. No. 745,886

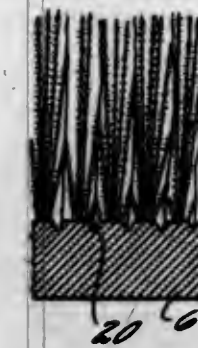
Int. Cl. B22c 9/02; B22d 15/02

U.S. Cl. 164—353

5 Claims

This invention relates to a chill plate for use in making directionally solidified castings and castings in which the crystalline structure is directionally oriented. The

chill plate is used with a temperature-controlled shell mold which heats the casting material and establishes a unidirectional temperature gradient between the material and the chill plate. The surface of the chill plate in con-



tact with the material is roughened to improve heat transfer to the plate and to promote directionally oriented crystalline growth or columnar grain growth within the material.

3,519,064

**METHOD FOR HEATING GASES**

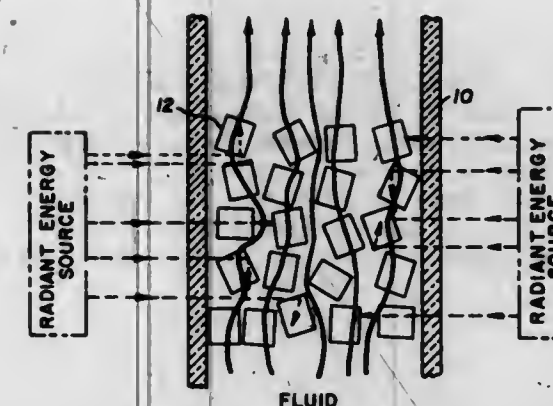
Hal B. H. Cooper, 4234 Chevy Chase Drive, Pasadena, Calif. 91103

Filed July 17, 1968, Ser. No. 745,453

Int. Cl. F28d 3/00

U.S. Cl. 165—1

16 Claims



A method for heating a low radiation absorbing gas stream particularly volatile, highly corrosive inorganic halides by passing such stream through a thermal radiation heating zone defined by an outer substantially radiation-transparent fused quartz tube containing therein a plurality of radiation-absorbing surfaces provided by structure open to flow of the gas stream.

3,519,065

**GAS HEATING AND COOLING SYSTEM**

Sotiris S. Kitrilakis, Newtonville, Mass., assignor to Thermo Electron Corporation, Waltham, Mass., a corporation of Delaware

Filed Oct. 4, 1968, Ser. No. 765,207

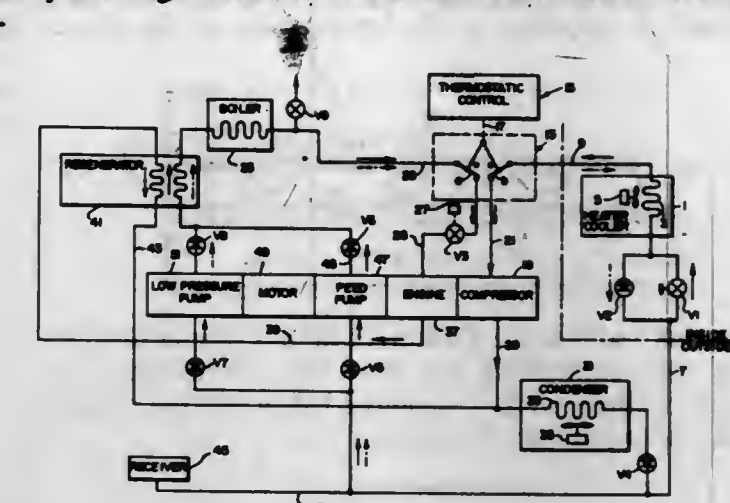
Int. Cl. F25b 29/00

U.S. Cl. 165—26

7 Claims

A gas fired temperature control unit for air conditioning and heating, comprising two interconnected units, one adapted to be mounted outside and one inside the space to be heated or cooled. The outside unit comprises a hermetically sealed housing in which there is a five-stage fluid processing system comprising a compressor, a Rankine cycle engine, a feed pump, an electric motor, and a low pressure liquid pump. Located in a common ventilated housing with this hermetically sealed unit are a condenser, a boiler, a regenerator and a fluid reservoir. The inside unit comprises a heat exchanger which serves as

an evaporator for air conditioning and as a condenser for heating. The inside and outside units are interconnected by valving under thermostatic control that connects the



3,519,066

**HEAT PUMP**

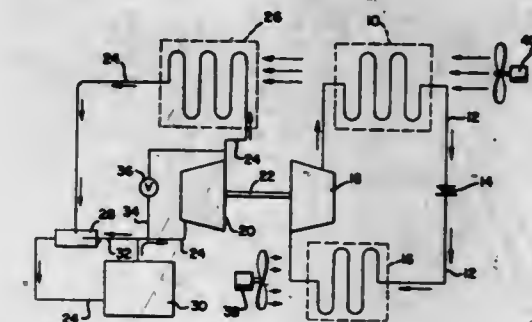
James H. Anderson, 1615 Hillock Lane, York, Pa. 17403

Filed Feb. 5, 1968, Ser. No. 703,156

Int. Cl. F25d 9/00

U.S. Cl. 165—29

7 Claims



A heat pump having a closed cycle refrigeration system including a condenser, evaporator and compressor and a vaporized fluid power system for driving the compressor including a boiler and condenser. The condensers are arranged in such a manner that heat is transferred to the ambient when the apparatus is utilized to cool a conditioned zone and heat is transferred to the conditioned zone when the apparatus is utilized to heat a conditioned zone. The evaporator simultaneously removes heat from the conditioned zone during cooling thereof and removes heat from the ambient during heating of the conditioned zone. A fluid bypass system is provided to supply heat directly from the boiler to the condenser of the vaporized fluid power system during extreme, low ambient temperature conditions when the conditioned zone is being heated.

3,519,067

**VARIABLE THERMAL CONDUCTANCE DEVICES**

Roger N. Schmidt, Minnetonka Village, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Dec. 28, 1967, Ser. No. 694,148

Int. Cl. G05d 23/00; F28d 15/00

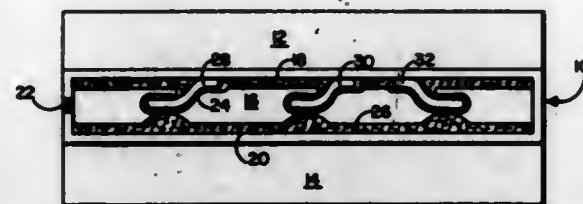
U.S. Cl. 165—32

2 Claims

Apparatus for transferring heat from a source to a sink, containing a fluid and two capillary wicks. Heat is transferred by a vaporization-condensation process. The fluid is vaporized by the heat from the source and the



vaporized fluid is condensed at the sink. The capillary wicks transport the condensed fluid back to the source where it is again vaporized. The wicks alternately make and break in response to the temperature of the source



(or the sink) so that the amount of fluid flow is controlled, thereby also controlling the heat flow. In another embodiment a single wick is squeezed to control the amount of fluid which can flow through it.

3,519,068

**HEAT EXCHANGER ASSEMBLIES**

Peter John Harris, Birmingham, Michael John Billington, Upper Longdon, and Richard John Wingrove, Lichfield, England, assignors to Birwelco Limited, Birmingham, England, a British company

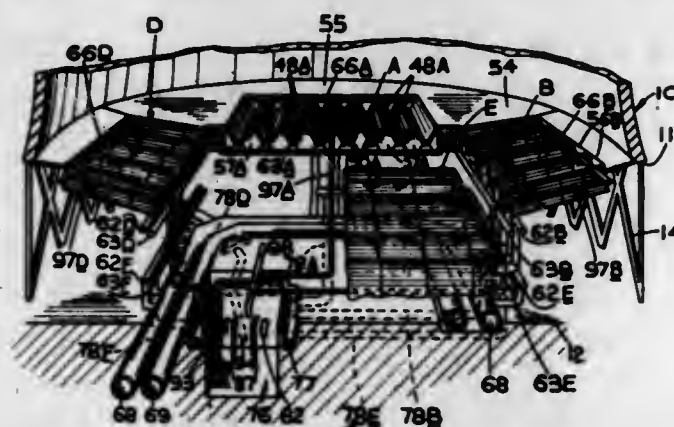
Filed Feb. 8, 1968, Ser. No. 703,941

Claims priority, application Great Britain, Feb. 8, 1967, 6,006/67, 6,007/67

Int. Cl. F28f 9/00

U.S. Cl. 165—68

17 Claims



The specification discloses a heat exchanger assembly in the form of a natural draught cooling tower for cooling e.g. condensate from steam turbines, and comprising horizontal A frames within the tower through which the liquid to be cooled is passed, the A frames being at two levels, those in the centre of the tower being below those formed in a ring about the central frames. The specification also discloses pipework for filling and draining the A frames.

3,519,069

**HEAT EXCHANGING APPARATUS**

Lee Robert Green, 211 Wayne Ave., Indianalantic, Fla. 32901

Filed June 3, 1968, Ser. No. 733,859

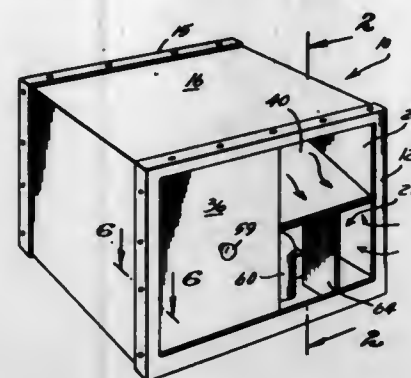
Int. Cl. F25d 23/12

U.S. Cl. 165—122

8 Claims

This application contains a technical disclosure of a heat exchanging apparatus in the nature of air conditioning equipment whereby air of interior spaces may be heated or cooled by passing such air through either of two compartments thereof containing heating or cooling heat exchangers. The apparatus is provided at opposite ends with movable closures for the compartments which are so positioned that, at each end, when one compartment is open the other compartment is closed. These closures are also interconnected such that when the opening of each compartment is closed at one end, that compartment is open at the other end. Interior air is drawn into either of the compartments, heated or cooled therein, and returned to the interior space, while outside

or atmospheric air is similarly drawn into the other compartment where it removes or adds heat from or to the heat exchanger in that compartment. Air circulation means in the form of fans are provided, with squirrel cage type fans having ducts leading to each opening for each compartment shown as a preferred embodiment. The use of movable and removable closures, such as slidable



3,519,070

**HEAT EXCHANGE UNIT**

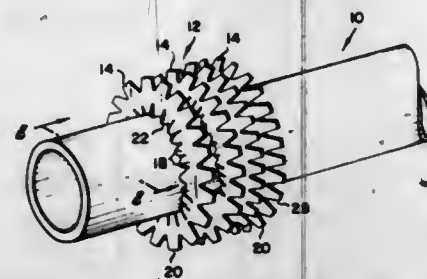
Charles T. Bappler, Menlo Park, Edison, N.J., assignor to Coolenheat, Inc., Linden, N.J., a corporation of New Jersey

Filed June 14, 1968, Ser. No. 746,720

Int. Cl. F28f 1/36

U.S. Cl. 165—184

2 Claims



The present invention relates to a heat exchange unit comprising a tube for carrying fluid therethrough with a helical fin strip wrapped therearound with the inner edge or circumference of the thin strip being provided with undulations so as to contact the outer surface of the tube upon which it is disposed over its entire length to provide a maximum path of heat transfer into or out of the fin strip. The unit further is provided with its helical circumferential portion disposed away from the tube provided with a plurality of means to spread the distribution of the fluid carried in the tube to adjacent surfaces or other tubes having fin strips thereon.

3,519,071

**METHOD AND APPARATUS FOR CASING OFFSHORE WELLS**

William W. Word, Jr., Houston, Tex., assignor to Armeo Steel Corporation, a corporation of Ohio

Filed Dec. 21, 1967, Ser. No. 692,587

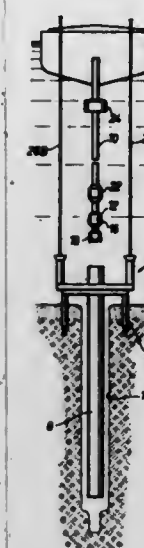
Int. Cl. E21b 7/12

U.S. Cl. 166—5

15 Claims

Methods and apparatus operable from a floating platform for inserting a large diameter conductor in an off-

shore oil well without the necessity for a temporary guide base. The casing is suspended concentrically about the rotating drill string and stationary relative to the rotation of the drilling string whereby the casing is urged into the borehole behind the drill bit.



This invention relates generally to methods and apparatus for drilling offshore oil and gas wells, and more particularly relates to improved methods and apparatus for drilling such wells from a floating basing such as a barge or ship.

3,519,072

**ARRANGEMENT FOR THE ATTACHMENT OF A SUBWATER PUMP AT ITS OUTLET TUBE IN A WELL, PREFERABLY FOR DRAIN WATER CONDUITS AND THE LIKE**

Rune A. W. Hilden, Enebyberg, Sweden, assignor to Rima Aktiebolag, Stockholm, Sweden, a corporation of Sweden

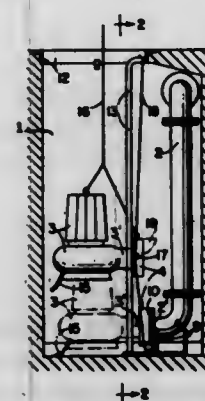
Filed Mar. 6, 1968, Ser. No. 711,058

Claims priority, application Sweden, Mar. 10, 1967, 3,339/67

Int. Cl. E21b 31/00

U.S. Cl. 166—65

13 Claims



The invention is directed to means for attaching a sub-water pump to outlet conduits and the like with flanges having magnetic components and includes guide members for assisting in joining the flanges on the pump and the outlet tubes.

3,519,073

**PITLESS WELL SYSTEM**

Earl B. Shetler, Clio, Mich., assignor to Shetler Pump Company, Inc., Clio, Mich., a corporation of Michigan

Filed Mar. 22, 1968, Ser. No. 715,307

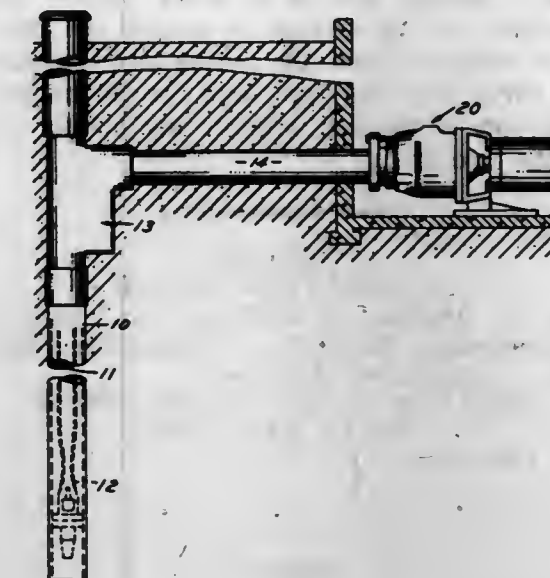
Int. Cl. E21b 33/03

U.S. Cl. 166—89

17 Claims

A pitless well system comprising concentric vertical pipes and concentric horizontal pipes connected by a

distributor, the internal pipes comprising discharge pipes and the external pipes comprising pressure return pipes. A jet is associated with the discharge pipes. A pump has



an impeller with an axial inlet communicating with the discharge pipe and a chamber under pressure that communicates with the external pipes.

3,519,074

**SETTING TOOL APPARATUS**

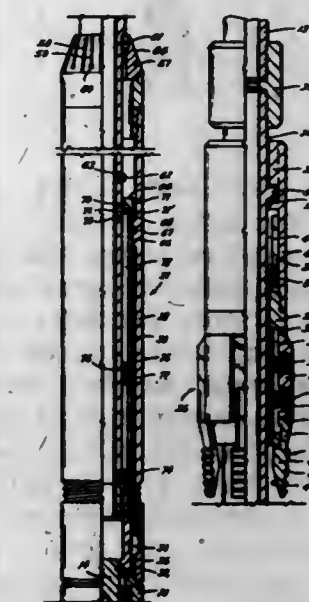
William O. Berryman, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

Filed Oct. 28, 1968, Ser. No. 771,076

Int. Cl. E21b 23/06

U.S. Cl. 166—123

8 Claims



A setting tool apparatus for use in setting well tools in well bores includes inner and outer members movable in opposite directions relative to one another for applying oppositely directed forces to the well tool. The outer member can be selectively and releasably anchored against upward movement, and has an upwardly facing pressure surface. The inner member has a downwardly facing pressure surface, said pressure surfaces forming movable walls of a fluid-filled hydraulic chamber. An operator member connected to the lower end of a pipe string can be manipulated to effect anchoring of the outer member and then moved upwardly by the pipe string into engagement with a piston ring, whereupon upward strain on the pipe string and piston ring will generate a fluid pressure in the chamber which acts on the pressure surfaces



of the members to cause relative movement in opposite directions, thereby setting the well tool. The area of the pressure surface on said inner member is larger than the area of said piston ring, whereby the upward force on said inner member tending to cause relative movement is a multiple of the upward strain on the pipe string. When the well tool is set, the setting tool is automatically released from the well tool, and the anchoring of the outer member is released without any further manipulation of the pipe string.

3,519,075

## FORMATION TESTER

Albert A. Mullins, Rosenberg, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas  
Filed Feb. 26, 1968, Ser. No. 708,246  
Int. Cl. E21b 49/00

U.S. Cl. 166—150

13 Claims



Apparatus for drill stem testing in a well bore is described. The tool string includes a packer, a hydrostatic bias tool, a bypass valve, and a tester valve connected in tandem, the latter being coupled to a pipe string extending to the surface. The tester valve for admitting well fluid to the pipe string and obtaining samples, includes inner and outer members having valve means arranged whereby a sequence of vertical movements of the pipe string operates the valve means according to a preset pattern. The tester valve is provided with a delay opposing opening movement of the valve, at the termination of which delay the bias tool is actuated. The sequential, rather than concurrent, operation of the tester delay and hydrostatic bias makes the tool string particularly advantageous when used in cased or open well bores where high frictional resistance to movement of the pipe string may be expected.

3,519,076

## GAS INJECTION METHOD FOR RECOVERING OIL

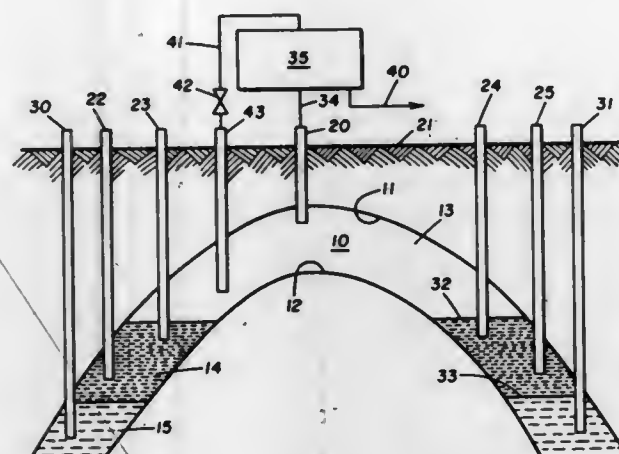
Donald Walker, New Orleans, La., assignor to Mobil Oil Corporation, a corporation of New York  
Filed Oct. 17, 1968, Ser. No. 768,464  
Int. Cl. E21b 43/20

U.S. Cl. 166—243

6 Claims

This specification discloses a method for recovering oil from a subterranean formation containing a gas zone, an oil zone, and a water zone. Water is injected into the water zone and oil is recovered from a well leading from

the oil zone. As the water zone moves upwardly with continued injection of water, and, as a result, water appears in excessive amounts in the fluid produced from a well leading from the oil zone, this well is converted to a gas injection well and gas is injected into the formation



through this well. Water injection is continued during gas injection and oil is produced from a well leading from the oil zone located upstructure from the gas injection well. The gas injected into the gas injection well may be obtained from the gas zone contained in the formation.

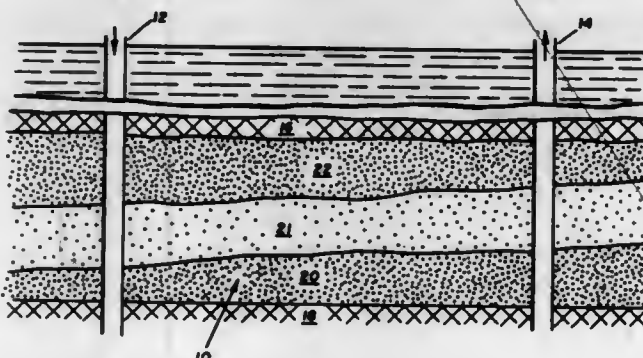
3,519,077

## OIL RECOVERY PROCESS

Aziz S. Odeh, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York  
Filed June 21, 1968, Ser. No. 739,105  
Int. Cl. E21b 43/22

U.S. Cl. 166—274

3 Claims



This specification discloses a secondary oil recovery technique. In carrying out the invention an aqueous shear-thinning liquid is first injected into the reservoir and then followed by an aqueous shear-thickening liquid. Preferably, the shear-thinning liquid is injected at least until breakthrough occurs at the production system, at which time injection of the shear-thickening liquid is initiated.

3,519,078

## METHOD AND APPARATUS FOR SERVICING WELLS

Otto R. Harrison, Houston, Tex., assignor to Esso Production Research Company  
Filed Dec. 11, 1968, Ser. No. 782,877  
Int. Cl. E21b 7/12, 23/00

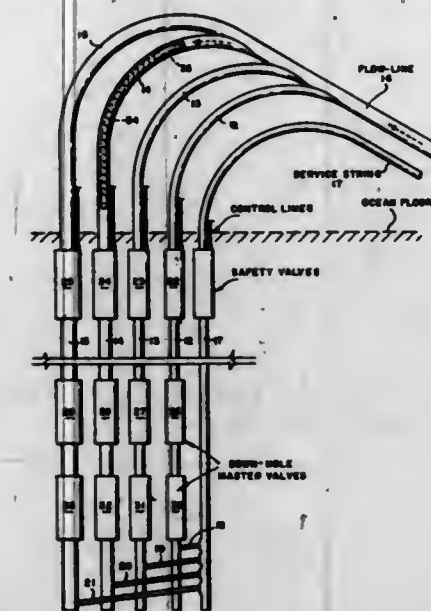
U.S. Cl. 166—313

16 Claims

Method and apparatus are provided for servicing wells involving a plurality of pipe strings of different sizes arranged in a well which curvedly connect to a common flowline having a horizontal and vertical component such that the pipe strings are connected in order of increasing

sizes with the largest connected last at the highest point of the sloping flowline so a properly sized well tool may enter a selected one of the pipe strings for operation

helicopter, to which a tank having an aerodynamic shape is suspended. This tank is able to be rapidly filled by its immersion in a body of water. Once filled, it is trans-



therein; for example, to open or close a valve which may fluidly interconnect the pipe string to a service pipe string to provide a fluid circulation path.

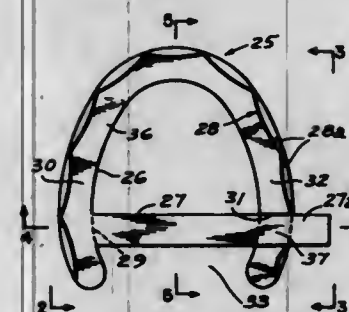
3,519,079

## HORSESHOE AND METHOD OF MAKING SAME

Philip Bieber, 69—34 180th St., Flushing, N.Y. 11365  
Filed Nov. 21, 1968, Ser. No. 777,822  
Int. Cl. A011 3/00, 5/00

U.S. Cl. 168—4

19 Claims



A horseshoe made of light plastic material, adhesively applied to a hoof, and having a pre-stressed resilient tension bar extending transversely across the shoe and a peripheral retainer wall embracing the hoof. The tension bar, pre-stressed by a step in the method of this invention, yieldably restricts excessive spreading of the hoof upon impact with the ground, but permits a limited amount of spreading upon impact of considerable magnitude. The retainer wall supplements the action of the tension bar in restricting the spreading of the hoof, and also helps to maintain the shoe in place without the use of permanently applied nails.

3,519,080

## EQUIPMENT FOR THE AERIAL TRANSPORT OF LIQUIDS, PARTICULARLY FOR FIGHTING FIRES

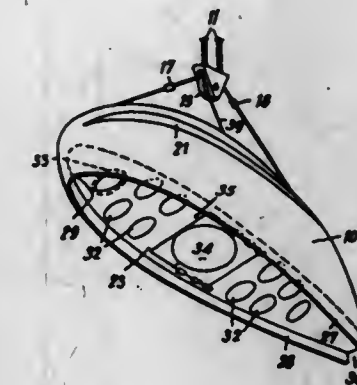
Frédéric Rochat, Geneva, Switzerland, assignor to Stoll Materiel Incendie S.A., Carouge, Geneva, Switzerland  
Filed July 16, 1968, Ser. No. 745,173  
Claims priority, application Switzerland, Aug. 10, 1967, 11,279/67

U.S. Cl. 169—2

Int. Cl. A62c 3/02

9 Claims

The invention relates to an equipment for the aerial transport of liquids, particularly for fighting fires. This equipment comprises a flying machine, advantageously a



ported by means of the flying machine above an area of a fire where the water contained in the tank is discharged upon the fire to be extinguished.

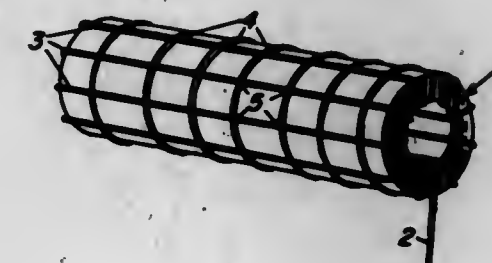
3,519,081

## AUTOMATIC AND SELF-POWERED FIRE EXTINGUISHING DEVICE

William T. M. Johnson, Lincoln University, Lincoln University, Pa. 19352  
Filed Dec. 21, 1967, Ser. No. 692,413  
Int. Cl. A62c 35/02

U.S. Cl. 169—28

12 Claims



A fire extinguishing device comprising a combination of a container filled with fire extinguishing material; a rocket device which expels gas when ignited; and a fusing mechanism connected to the rocket device. The gas rocket device is oriented so that, when ignited by the fuse, it will expel the fire extinguishing material from the container and onto the fire.

3,519,082

## AUTOMATIC SOD HARVESTER

William W. Miner, P.O. Box 392, Cranbury, N.J. 08512  
Filed Feb. 27, 1967, Ser. No. 618,765  
Int. Cl. A01b 79/00

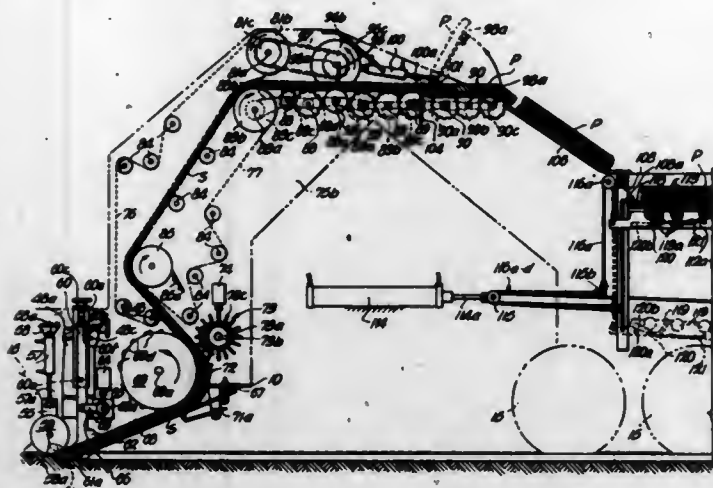
U.S. Cl. 172—1

3 Claims

A method of harvesting sod including the steps of cutting a strip of sod from a sod field, conveying the strip into operative relationship with a flailing device, knocking off excess thicknesses from the underside of said sod strip with the flailing device, further conveying the now uniformly sized sod strip through a severing means, severing said sod strip into sod pads of predetermined equal lengths, folding said sod pads and stacking said folded pads onto pallets. An ambulatory apparatus is provided for performing the method on a continuous basis and includes a reciprocating cutting head assembly mounted toward the forward end of said apparatus. Conveying means conveys the



strip cut by the cutter head assembly interiorly of and to the rear of the apparatus into contact with a flail, a rotary severing device, and a folding device, in that order. A



pallet supporting area is provided on the rear portion of the apparatus and the folded pads are stacked thereon prior to the dispensing of same.

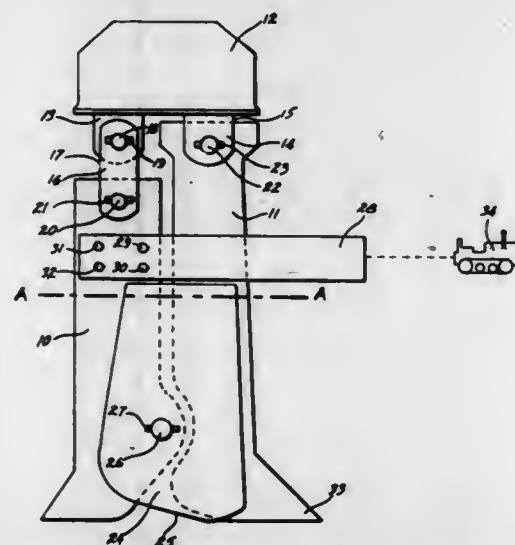
3,519,083

**EARTH RIPPERS**

Olly O. Stoffel, San Diego, Calif.  
(P.O. Box 425, Escondido, Calif. 92025)  
Filed May 20, 1966, Ser. No. 551,636  
Int. Cl. H01b 39/10

U.S. Cl. 172-40

13 Claims



A vibrating ripper having a support blade connected to a drawbar and that extends downwardly, with a working blade positioned forward of the support blade and being pivotally connected to the support blade so that a vibrating unit connected to the working blade causes the working blade to move in a pivotal movement around the pivotal connection and rips the material through which the ripper is moving.

3,519,084

**COMPOSITE PLOWSHARE**

Gilbert Fenet, Pas-de-Calais, France, assignor to Societe Anonyme des Etablissements Fenet, Bergueneuse par Heuchin, Pas-de-Calais, France, a corporation of France

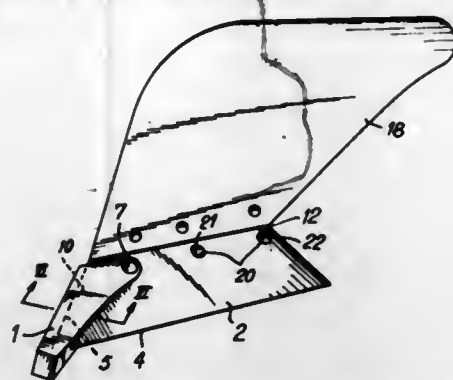
Filed Aug. 14, 1968, Ser. No. 752,568  
Int. Cl. A01b 15/00

U.S. Cl. 172-754

2 Claims

A plowshare having a blade, the front of the blade defining a cutting edge, and a tip portion which is removably attached to the side of the blade. The blade is removably attached to a sole member and the tip portion

also releasably engages a counter-sole. The tip portion is comprised of two flanges, one of the flanges having a



blade edge receiving slot therein, the two flanges defining a substantially L-shaped member.

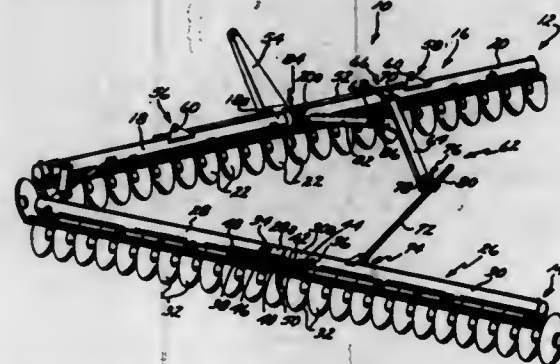
3,519,085

**ADJUSTMENT APPARATUS FOR OFFSET DISC TILLERS**

Lloyd E. Heckathorn and Hugh B. Cordes, Garden Grove, Calif., assignors to Towner Manufacturing Company, Santa Ana, Calif., a corporation of California  
Filed Aug. 8, 1966, Ser. No. 570,984  
Int. Cl. A01b 21/00

U.S. Cl. 172-597

7 Claims



This invention is for adjusting the relative position of forward and rearward disc units of a disc tiller.

It comprises connecting means between the disc units comprising a first clevis fixed to one end of one unit and a second clevis rotatably mounted on one end of the other unit. A connector is pivotally secured to both of said clevises and an adjustable link is interposed between such connector and one of the disc units.

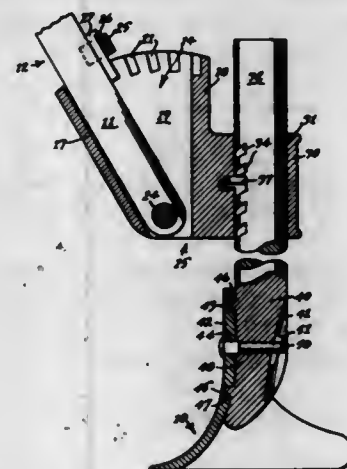
3,519,086

**ADJUSTABLE CULTIVATOR SHOE MOUNTING DEVICE**

Henry A. Padgett, Sr., Rte. 1, Monetta, S.C. 29105  
Filed Apr. 10, 1967, Ser. No. 629,449  
Int. Cl. A01b 23/02, 39/22

U.S. Cl. 172-763

2 Claims



A cultivator shoe mounting device having a journal housing pivotally connected to a cultivator arm and a cul-

tivator shoe standard axially received in the journal housing, and latching mechanism for pivotally adjusting the cultivator arm in the housing, axially positioning the standard in the housing and detachably securing a shoe to the standard.

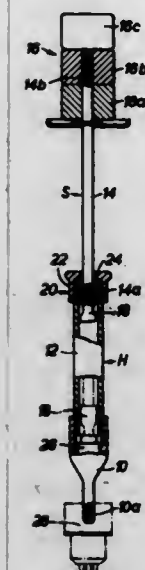
3,519,087

**IMPACT TOOL**

Silvio Santi, 262 Margueretta St.,  
Toronto, Ontario, Canada  
Filed Dec. 18, 1968, Ser. No. 784,607  
Int. Cl. B25d 17/00

U.S. Cl. 173-91

4 Claims



An impact tool comprised of a tubular handle having a tool bit secured thereto and a striker slidably movable within the handle to impinge either one of two stops at each end of the handle. The striker is connected by an elongated shaft to a heavy grip for applying high momentum impact strokes to either stop and hence to the tool bit.

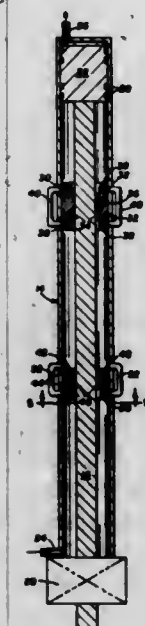
3,519,088

**SHAFT CENTERING ASSEMBLY**

David M. Bayless, Sherman, Tex., assignor to G. W. Murphy Industries, Inc., a corporation of Texas  
Filed Apr. 3, 1968, Ser. No. 718,406  
Int. Cl. E21c 5/11; F15b 15/14; F16 15/50

U.S. Cl. 173-149

16 Claims



A fluid motor includes a piston and piston rod reciprocated within a cylinder by the action of pressurized fluid. One or more floating pistons are disposed about the piston rod for free movement within the cylinder in order

to maintain the piston rod centered within the cylinder during reciprocation therein. Ports provide direct fluid communication between points on the wall of the cylinder which are spaced apart a distance greater than the width of a floating piston. The movement of a floating piston is thus arrested by the equalized pressures when the floating piston moves between the points on the wall of the cylinder.

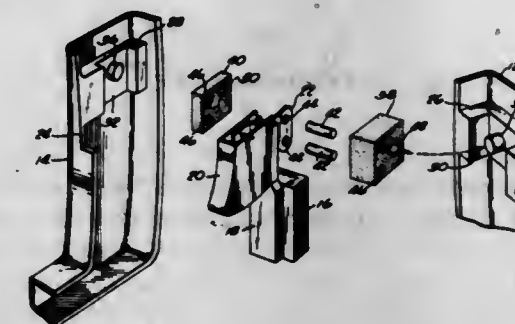
3,519,089

**MOUNTING FOR SWITCH ASSEMBLY FOR ROTARY HAMMER DRILL**

Jerome L. Schnettler, Milwaukee, Wis., assignor to Milwaukee Electric Tool Corporation, Brookfield, Wis., a corporation of Wisconsin  
Filed Oct. 11, 1968, Ser. No. 766,886  
Int. Cl. B23b 45/00

U.S. Cl. 173-170

5 Claims



A resilient mounting for a switch assembly mounted in the handle of a rotary hammer drill or other portable tool which in operation is subject to extreme vibration. Such mounting consists of rubber pads mounted on opposite sides of the mounting bracket of the switch assembly. These pads are engaged between the inner sides of the handle parts to hold the assembly in place. Vibration transmitted by the handle is absorbed or greatly dampened by the pads so that less damaging vibration is transmitted to the switch assembly. The useful life of the switch of such assembly is tripled when the switch assembly is so mounted.

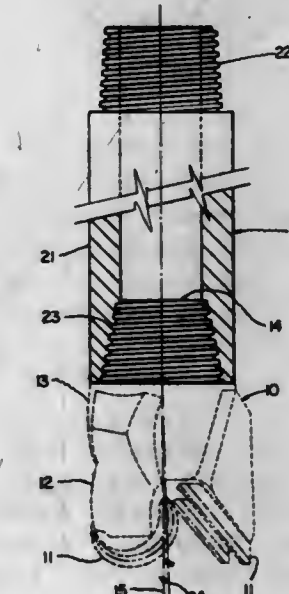
3,519,090

**STRAIGHT HOLE TOOL**

Bobby R. Herring, 1327 Clyde Drive,  
Marrero, La. 70072  
Filed Dec. 9, 1968, Ser. No. 782,247  
Int. Cl. E21b 17/042

U.S. Cl. 175-320

2 Claims



It is not uncommon in the process of drilling an oil well, or the like, for the drill hole to go off vertical. In fact, a drill hole quite often will become offset to



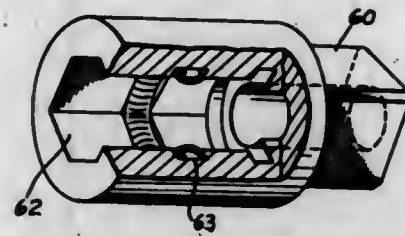
the extent of assuming a horizontal position relative to the earth's surface. The present invention is directed to a novel rotary drilling bit sub whereby an offset vertical hole can be readily reoriented to an essentially vertical direction.

3,519,091

**ARRANGEMENT FOR DRILLING IN MINES**  
Donald L. Leibee, Belfry, Ky., and Selbert S. Oaks, Everett, Pa., assignors to Kennametal Inc., Latrobe, Pa., a corporation of Pennsylvania  
Filed Feb. 14, 1969, Ser. No. 799,399  
Int. Cl. E21b 15/00, 17/00

U.S. Cl. 175—320

18 Claims



The invention pertains to an arrangement for making up drill strings for drilling holes in mines such as for placing charges or for drilling holes in mine roofs and is particularly characterized in the use of hexagonal tubing for the sections of the drill string with coupling members frictionally joining the tubes when placed in end to end relation and with a chuck frictionally held in one end of the tubing to receive a drill and with a driver frictionally held in the other end of the tubing for connection of the tubing with a drive motor.

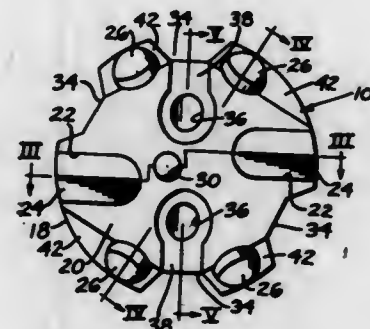
3,519,092

**PERCUSSION BIT**

Jack Miller, Bedford, Pa., assignor to Kennametal Inc., Latrobe, Pa., a corporation of Pennsylvania  
Filed Sept. 16, 1968, Ser. No. 760,002  
Int. Cl. E21c 13/00

U.S. Cl. 175—410

12 Claims



Percussion bit having a body with at least two non-radial wedge shaped hard inserts in the working end of the bit body substantially diametrically opposite locations, and with rod-like hard inserts having rounded ends mounted in the working end of the bit body between the wedge shaped inserts and near the periphery of the bit body.

3,519,093

**APPARATUS AND METHOD FOR SENSING MASS, AND HIGH-SPEED WEIGHING APPARATUS AND METHOD UTILIZING SAME**  
Joseph D. Ramsay, Audubon, N.J., assignor to Campbell Soup Company, Camden, N.J., a corporation of New Jersey

Filed Dec. 5, 1967, Ser. No. 688,173

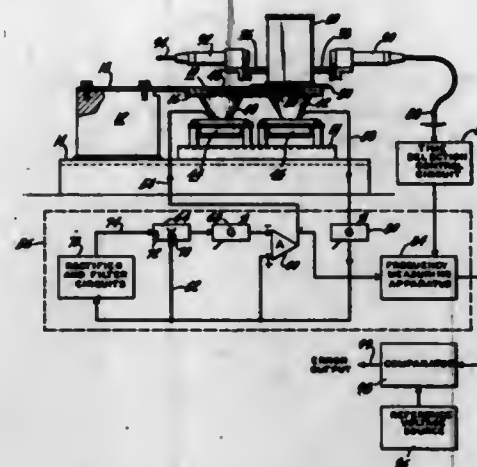
Int. Cl. G01g 3/14

U.S. Cl. 177—1

11 Claims

Product-containing cans are weighed separately and sequentially by positioning them in sequence on a resilient

horizontal support which is vibrated rapidly in flexure at the resonant frequency of the support with the can on it. Vibration of the support is provided by an electromechanical driver, an electromechanical pickup, and a



feedback amplifier system. The electrical oscillations in the feedback system provide signals having frequencies representative of the mass of the can on the support, which signals may be used to sort out misfilled cans, control filling of cans, or for other purposes.

3,519,094

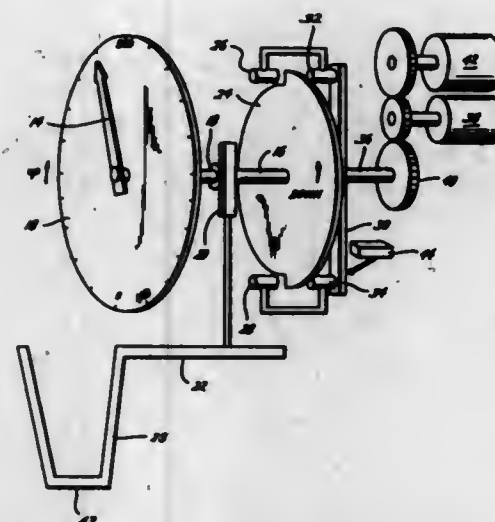
**MEASURING DEVICE**

Stanley R. Scruby and John E. House, Jr., Houston, Tex., assignors to Semco Electrical Controls, Inc., Houston, Tex., a corporation of Texas  
Continuation-in-part of application Ser. No. 539,045, Mar. 31, 1966. This application July 15, 1968, Ser. No. 747,028

Int. Cl. G01g 19/22

U.S. Cl. 177—1

28 Claims



A measuring system for weighing multiple ingredients in a batch, including a scale having a pointer or indicator arm, a sensor which follows the scale movement, and a motor driving a sensor and pulse generator at the same time, causing pulses to be generated proportional to the scale movement, a pulse counter for each ingredient to be weighed, means for comparing the pulses counted with a preset amount of each ingredient and for stopping the flow of the ingredients to the scale upon reaching said preset amount, a reversing relay to return the sensor to below scale zero, and then to bring the sensor back to scale zero after the ingredients are dumped from the scale, means for dumping the ingredients from the scale and returning the indicator arm to scale zero, and a stepping switch to prevent the counting of pulses when the sensor moves up to scale zero to compensate for a tare weight on the scale.

3,519,095

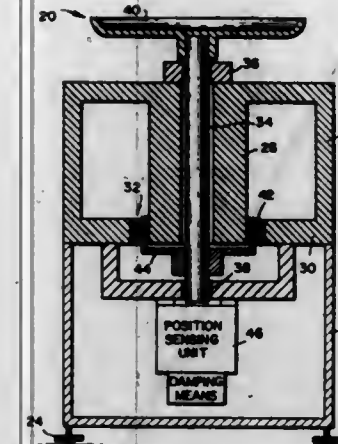
**PRECISION ELECTROMAGNETIC BALANCE**  
Sidney R. Tomes, Mount Vernon, N.Y., assignor to Artek Systems Corporation, Farmingdale, N.Y., a corporation of New York

Filed Aug. 1, 1969, Ser. No. 846,820

Int. Cl. G01g 7/04

U.S. Cl. 177—210

32 Claims



An electromagnetic balance including a spindle supporting a weighing pan. The spindle is held vertically in essentially frictionless vertical bearings that extend over a spindle span of at least two inches and is functionally unitary with a position sensor that generates an electric signal as a function of vertical displacement of the spindle. This signal is fed to an electronic amplifier, the output of which energizes a multiterm force coil wound on a former fixed to the spindle and operating in a high flux magnetic field, the coil and field forming a linear magnetic vertically acting force system that supplies a lifting force to the spindle to counteract the weight of the spindle, the weighing pan and the material on the weighing pan whose weight is to be ascertained. The spindle is movable over a range small enough so that in its operative mode the coil always cuts the same number of lines of force whereby to obtain linear action. Due to the high gain of the amplifier and force system, the movement of the spindle over its designed range is quite small, typically not exceeding 0.01" for a weight of about 1500 grams.

3,519,096

**LOAD INDICATING MEANS**

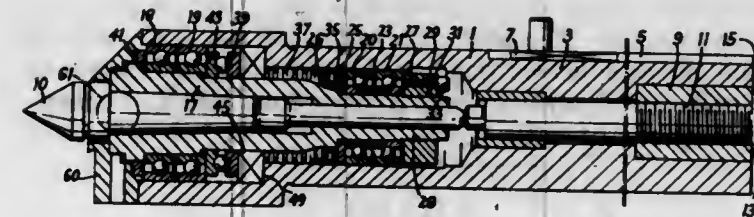
Julius Lunzer, 47 Hillfield Court, Belsize Ave., London NW. 3, England

Filed June 21, 1968, Ser. No. 738,889

Int. Cl. G01g 3/00

U.S. Cl. 177—225

20 Claims



Load indicating means comprising a stack of springs having different flexural rigidities, the springs in the stack being arranged in sequence and in order of their flexural rigidities, load applying means for applying load to the spring stack thereby successively to deflect the springs of the stack, and, spring deflection responsive means which move in dependence upon the deflection under applied load of the spring stack.

3,519,097

**INDUSTRIAL VEHICLE WITH SINGLE DIRIGIBLE WHEEL**

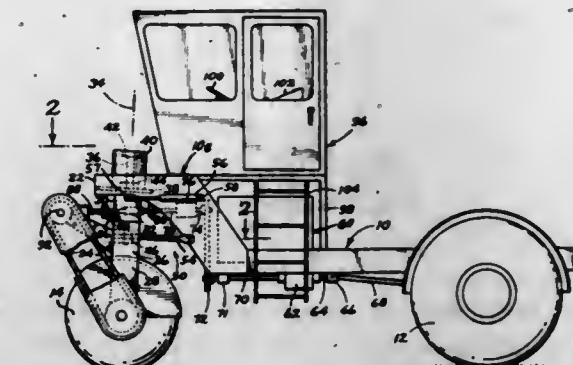
Ward T. Commons, Rte. 2, Box 111, Scio, Oreg. 97374

Continuation-in-part of application Ser. No. 510,205, Nov. 29, 1965. This application Mar. 14, 1968, Ser. No. 713,152

Int. Cl. B62d 61/08

U.S. Cl. 180—26

4 Claims



An industrial vehicle with single dirigible wheel at one end supported underneath the forward extremity of a frame, where such frame comprises a pair of elongated longitudinals extending in laterally spaced relation a substantial part of the vehicle's length. Such longitudinals at the forward end of the vehicle form a tongue by arching upwardly and forwardly while converging upon each other. The dirigible wheel is mounted on a forked wheel bracket which swivels relative to the tongue through a kingpin located on top of the tongue. A frame extension projecting forwardly from the tongue is joined through a bearing assembly to a portion of the wheel bracket spaced below the kingpin. Steering is performed under power by a fluid-operated jack journaled at one end on the wheel bracket and projecting rearwardly past the tongue to an opposite end journaled at a stationary location relative to the vehicle frame. A cab for housing a vehicle operator has its base supported at its forward end on the tongue, and such cab extends rearwardly on the vehicle while in a position overlying an engine supplying power for propelling the vehicle.

3,519,098

**SPHERICAL MUFFLER**

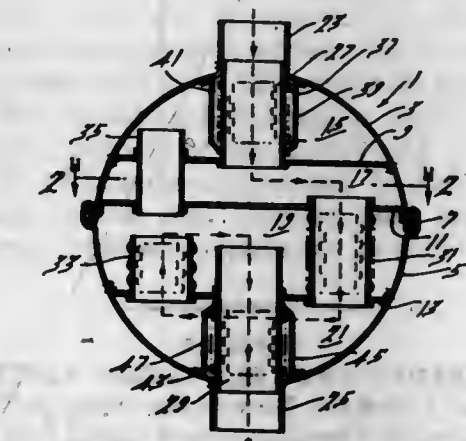
Charles I. Plaga, Jr., Michigan Center, Mich., assignor, by mesne assignments, to Tenneco Inc., Houston, Tex., a corporation of Delaware

Filed Mar. 20, 1969, Ser. No. 808,737

Int. Cl. F01n 1/08, 7/00

U.S. Cl. 181—57

3 Claims



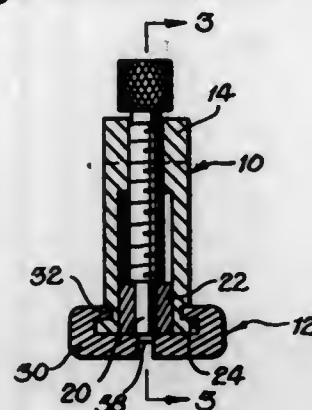
A muffler having a spherical outer shell with internal silencing structure eliminates parts and fits in space available beneath an automobile as well as provides improved silencing.



**3,519,099**  
**ZIPPER LUBRICATOR**  
 Merle T. Sanders, Apt. 703, Henry Clay Hotel,  
 Ashland, Ky. 41101  
 Filed Feb. 17, 1969, Ser. No. 799,793  
 Int. Cl. F16n 9/04

U.S. Cl. 184-15

5 Claims

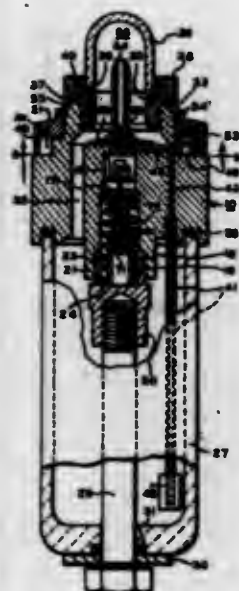


A zipper lubricator is composed of a hollow block containing a lubricant and a piston which is removably attached to a base plate having a groove through which a zipper string can slide, and a slot between the groove and the interior of the block containing the lubricant. The piston can be moved downwardly by a threaded shaft to force the lubricant through the slot into the groove.

**3,519,100**  
**AIR LINE LUBRICATORS**  
 Albert L. Semon, 11 Elliot Place,  
 Short Hills, N.J. 07078  
 Filed Feb. 11, 1966, Ser. No. 526,751  
 Int. Cl. F16n 7/34

U.S. Cl. 184-55

6 Claims



Lubricant is drawn from a reservoir by equalizing air pressure in the air line and the lubricator which permits a flow of air to mix with a predetermined flow of lubricant to form a lubricant mist to be delivered to a venturi passageway which delivers said lubricant mist to an air actuated tool. The flow of air to be mixed with the predetermined flow of lubricant is stopped by the removal of a lubricant filler closure from the lubricator which permits the filling of the reservoir without shutting down the air line.

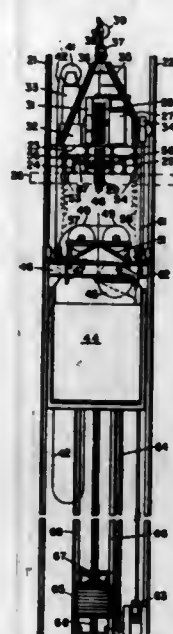
**3,519,101**  
**CONSTRUCTION ELEVATOR SYSTEM**  
 Joseph Edward Steffert, New Hyde Park, N.Y., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey  
 Filed Jan. 10, 1968, Ser. No. 696,779  
 Int. Cl. B66b 9/00

U.S. Cl. 187-2

23 Claims

An elevator system, for use during the erection of a building, in which the hoist ropes are fastened at a point

intermediate their ends and the excess length thereof stored in such a way that the rise of the elevator can be

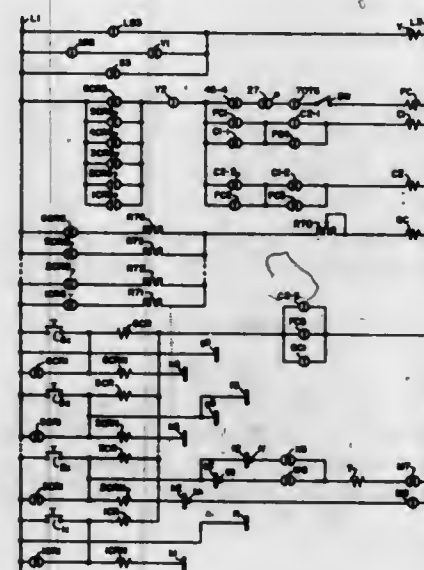


increased from time to time by raising the hoisting machinery to a higher level without the necessity for re-ropeing.

**3,519,102**  
**AUTOMATIC CANCELLATION OF FALSE CALLS**  
 Henry C. Savino, Hackensack, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed June 26, 1968, Ser. No. 740,217  
 Int. Cl. B66b 1/20

U.S. Cl. 187-29

7 Claims



In an elevator supervisory system, all car calls in a particular car are cancelled if that car makes a predetermined number of successive stops for car calls during which no one leaves the car. Optionally, the remaining car calls are cancelled only if they comprise a predetermined quota of calls.

**3,519,103**  
**VEHICULAR TRANSPORTATION SYSTEM WITH VEHICLE MOUNTED CONTROLS**  
 Andrew F. Kirsch, Fairview, and Henry C. Savino, Hackensack, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed Jan. 22, 1965, Ser. No. 427,311  
 Int. Cl. B66b 1/06

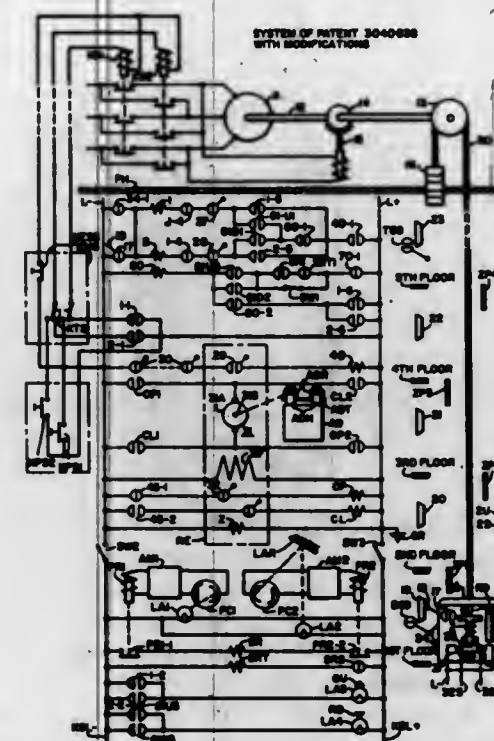
U.S. Cl. 187-29

17 Claims

An elevator car carries conventional electrical equipment such as car-call push buttons, a door operator

means for transmitting a light beam across a doorway to a light-sensitive detector, a car-position indicator, an inductor relay, and push buttons permitting a maintenance man on the roof to move and stop the car. According to

more advantageous position the assignment is transferred to the latter car. A car may be parked at a floor above the express zone. Scanning for an available car for a call above an express zone starts in a high zone.

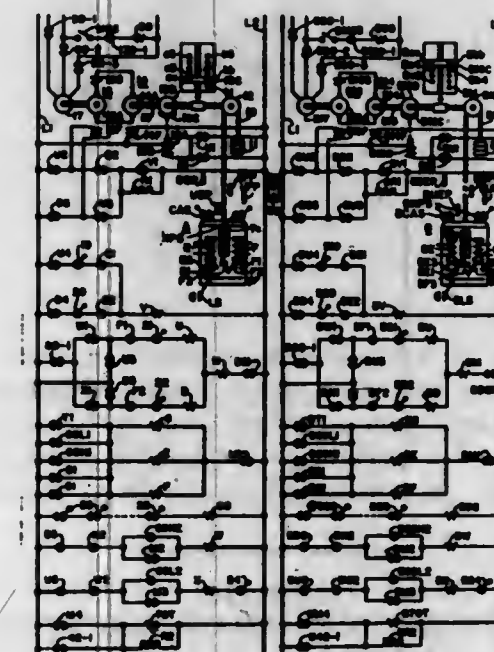


the invention supervisory equipment is also mounted on the car to be controlled by the foregoing electrical equipment for the purpose of generating signals for starting the car, stopping the car, controlling the door operator, and operating the position indicator.

**3,519,104**  
**ELEVATOR AVAILABLE CAR SYSTEM INCLUDING UNIQUE CAR ASSIGNING MEANS**  
 John Suozzo and Henry C. Savino, Hackensack, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed Apr. 30, 1965, Ser. No. 452,216  
 Int. Cl. B66b 1/06

U.S. Cl. 187-29

13 Claims

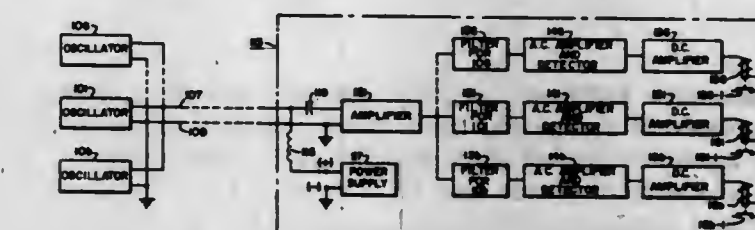


In an elevator system a predetermined number of priority down floor calls prevents an elevator from answering an up floor call for a floor above the highest floor for which a car call is registered in the elevator. If a first car assigned to a floor call is traveling up through an express zone when a second car becomes available in a

**3,519,105**  
**VEHICLE CONTROL**  
 Frederick G. Gell, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed Oct. 13, 1965, Ser. No. 495,412  
 Int. Cl. B66b 1/14

U.S. Cl. 187-29

8 Claims

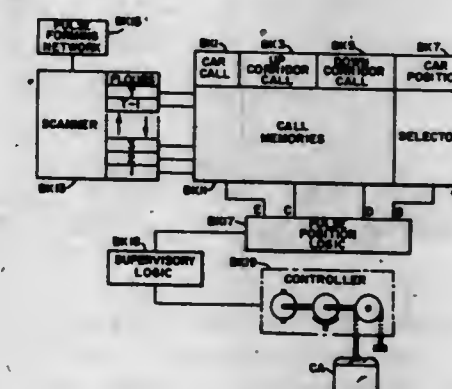


Transmitter means on a vehicle includes an electric oscillator employing a magnetostrictive member which vibrates mechanically as long as the oscillator is in oscillation. When the magnetostrictive member is touched it ceases to vibrate and oscillation of the oscillator ceases. Upon release of the magnetostrictive member it is free to vibrate and the oscillator again oscillates. The oscillations are transmitted to a remote receiver. When the oscillations are no longer received the vehicle is brought to a stop at a predetermined landing.

**3,519,106**  
**PULSE-SUPERVISED TRANSPORTATION SYSTEMS**  
 Andrew F. Kirsch, Edison, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed Dec. 30, 1966, Ser. No. 606,239  
 Int. Cl. B66b 1/18

U.S. Cl. 187-29

32 Claims



Repetitive pulses control the scan of registered call and car position signals in the order of landings in a vehicle system. Coincidence of signals stops an elevator car. Signals are delayed to alter the lead-in stopping. Distribution of calls between cars and elsewhere controls assignment of calls to cars. Plural devices are selectively controlled over a common channel.

**3,519,107**  
**RAILWAY TRACK BRAKE RETARDERS**  
 Ronald Bellinger, Bristol, England, assignor to Strachan & Henshaw Limited, Bristol, England, a company of Great Britain and Northern Ireland  
 Filed July 2, 1968, Ser. No. 741,938  
 Int. Cl. B61k 7/08

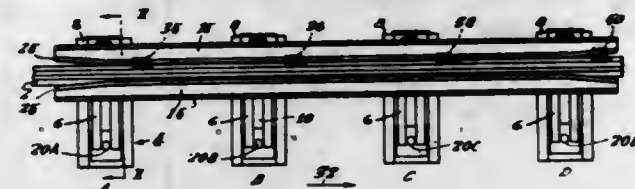
U.S. Cl. 188-62

7 Claims

A railway track retarder and method of operation thereof including movable friction members arranged



along said track for squeezing a vehicle wheel therebetween, a plurality of power operated actuating members connected to said movable friction members and arranged in spaced relation along said friction members, a source of power, a connection between said source of power and each said actuating member, control mechanism in each said connection and a plurality of wheel-position-sensing devices along said track connected with said control mech-



anisms and arranged to effect the method of applying progressively along said track more pressure to the friction members behind each wheel than in front thereof.

The source of power may be compressed air, the power operated actuating members each including a piston and cylinder assembly and the connection to the source of power including an air valve connected with the wheel-position-sensing means.

3,519,108

**MACHINE FOR FILLING BOTTLES**

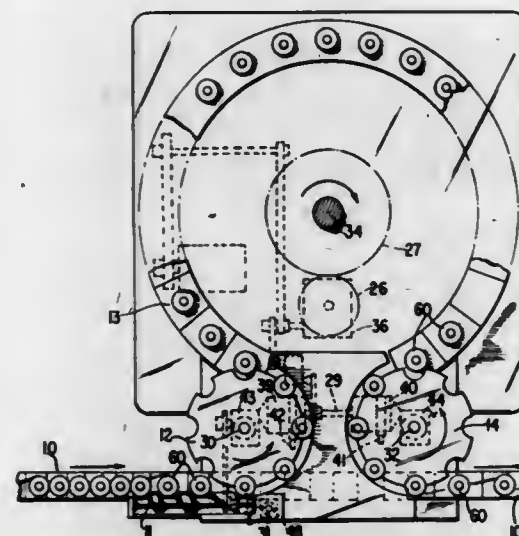
James W. Webb and Roy K. Hennig, Cincinnati, Ohio, assignors to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

Filed July 11, 1968, Ser. No. 744,008

Int. Cl. B65g 37/00; B67c 3/00

U.S. Cl. 198—34

1 Claim



An improvement in bottle-filling machines which have a plurality of parts which transfer bottles from one station to another while turning in synchronous relationship to each other, said rotating parts being driven by a common source of power through differential gears enabling phase adjustment of one rotating part in relationship to the other without stopping rotation of the individual members.

3,519,109

**SHOCK ABSORBER APPARATUS**

Ralph H. Whisler, Jr., Toledo, Ohio, assignor to Oldberg Manufacturing Company, Grand Haven, Mich., a corporation of Michigan

Original application June 29, 1967, Ser. No. 650,068, now Patent No. 3,470,986, dated Oct. 7, 1969. Divided and this application May 9, 1969, Ser. No. 841,656

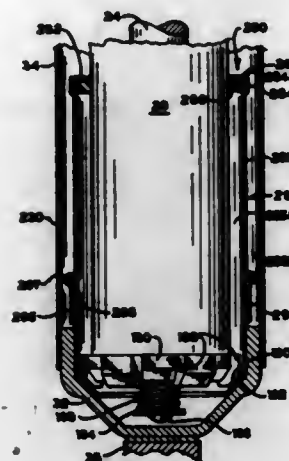
Int. Cl. F16f 9/40

U.S. Cl. 188—100

4 Claims

Shock absorber apparatus operable in vertical or horizontal positions or at inclinations from such positions. Hydraulic shock absorbers having a piston and a cylinder

relatively reciprocable to displace hydraulic fluid against flow resistance utilize a reservoir for hydraulic fluid that provides a space in communication with the cylinder to receive and return hydraulic fluid displaced from the cylinder. A flow control chamber is incorporated in the shock



absorber in flow communication with the cylinder and is maintained completely filled with fluid to prevent unconfined gas in the reservoir from centering the shock absorber cylinder, via the flow control chamber, where such unconfined gas would cause an undesirable lag in the damping effect of the shock absorber.

3,519,110

**BAG HANDLE**

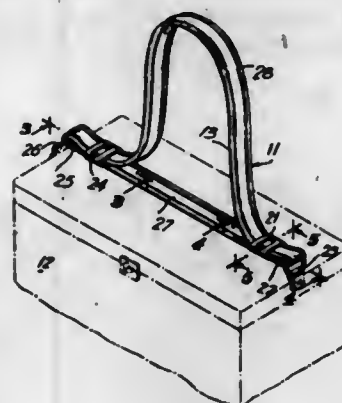
Irwin Herbert Siris, Rye, N.Y., assignor to A. J. Siris Products Corporation, New York, N.Y., a corporation of New York

Filed Oct. 29, 1968, Ser. No. 771,527

Int. Cl. B65d 25/28

U.S. Cl. 190—58

8 Claims



A handle for a bag such as a hand bag, travel case or the like, fabricated of a single length of hollow plastic material formed into a closed loop with a reinforcing member within a portion of the hollow plastic to maintain separated the portions of the handle to be attached to the bag.

3,519,111

**MANUAL SELECTOR ARRANGEMENT FOR AN AUTOMATIC GEAR BOX**

John Henry Baldwin and Carl Wesley Hanzl, Letchworth, England, assignors to Borg-Warner Limited, Letchworth, England, a British company

Filed Nov. 30, 1967, Ser. No. 686,870

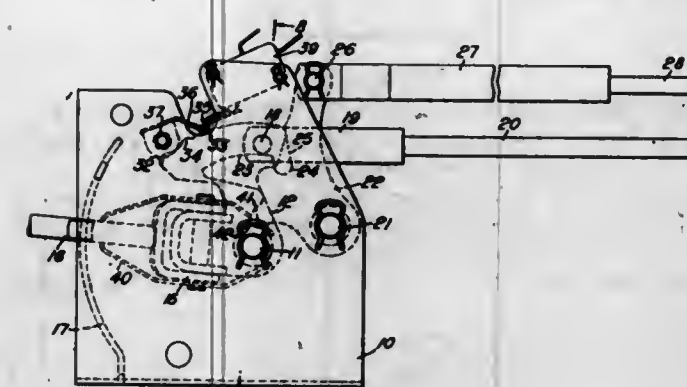
Int. Cl. F16d 65/30, 71/02

U.S. Cl. 192—4

5 Claims

A manual selector for an automatic gear box, having the selector valve and parking pawl operated by separate

cables, in which the selector lever moves a selector valve cable actuating member the latter being connected to a parking pawl cable actuating member by a lost motion connection, whereby operation of the selector lever from



"park" to "reverse" disengages the parking pawl, subsequent movement of the selector lever maintaining the parking pawl disengaged, the lost motion connection allowing the selector actuating member to move to give the various drive conditions.

3,519,112

**FLUID COUPLING WITH CENTRIFUGAL ROLLER LOCK-UP CLUTCH**

Sergio Verzolla, Via Amendola 11, Monza, Italy

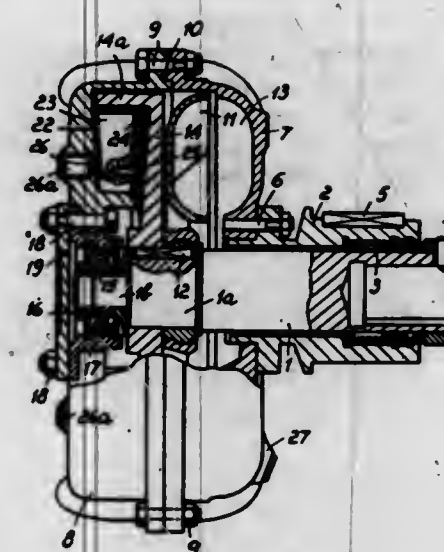
Filed July 18, 1968, Ser. No. 745,905

Claims priority, application Italy, Mar. 13, 1968, 833,585; Apr. 18, 1968, 832,229

Int. Cl. F16d 47/06

U.S. Cl. 192—3.31

2 Claims



This disclosure relates to a coupling with a driving and a driven part including elements responsive to the action of centrifugal force carried by the driven part, the driving and the driven parts having means defining a hydraulic coupling thereby to gradually transmit rotation from said driving part to said driven part and to centrifugally actuate said elements when a determined rotation velocity of the driven part is attained, thereby to obtain a direct clutching between said driven and said driving parts through centrifugal expansion of said elements, characterized in that said elements responsive to the action of centrifugal force comprise a plurality of movable clutch block-like sectors located in respective seats in said driven part, and an annular solid portion on said driving part near said sectors thereby to allow engagement by centrifugal action between said sectors and said annular portion.

3,519,113

**PARKING METER WITH TOKEN DISPENSING MEANS**

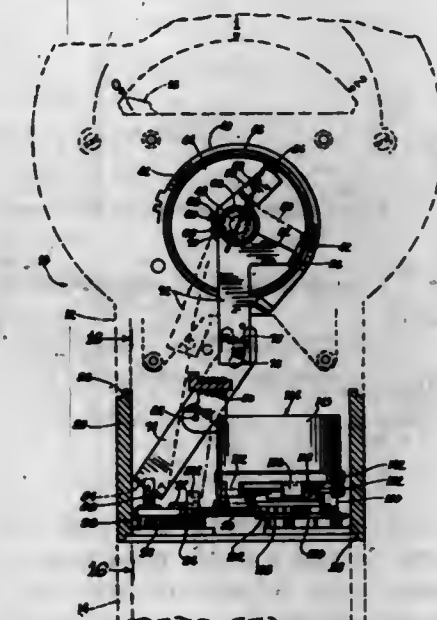
Edward C. Arzig, Mundelein, and Rinaldo Sciacero, Arlington Heights, Ill., assignors to Duncan Parking Meter Corporation, Elk Grove Village, Ill., a corporation of New York

Filed Jan. 11, 1968, Ser. No. 697,118

Int. Cl. G07f 11/00; B65g 59/00

U.S. Cl. 194—2

15 Claims



A parking meter having a token dispensing magazine included within its housing, said magazine being driven directly from the time setting mechanisms for the meter whereby tokens can be dispensed in accordance with the amount of time recorded on the meter. The drive mechanisms are located immediately beneath the time setting mechanisms, and they include a vertically movable drive member and means for translating the vertical movement to rotary movement of the token magazine with the tokens being forced out of the magazine in response to the rotary movement. The discharge of the tokens is accomplished by pushing the tokens one at a time against an inclined ramp where the tokens can be forced through an opening in a side wall of the magazine.

3,519,114

**COIN-OPERATED LOCK**

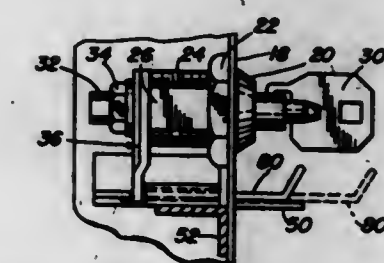
Percy H. Waller, Herbert, Mich., and Walter H. Krueger, 5228 N. Elston Ave., Chicago, Ill. 60630; said Waller assignor to said Krueger

Filed June 18, 1968, Ser. No. 737,946

Int. Cl. G07f 5/26

U.S. Cl. 194—54

2 Claims



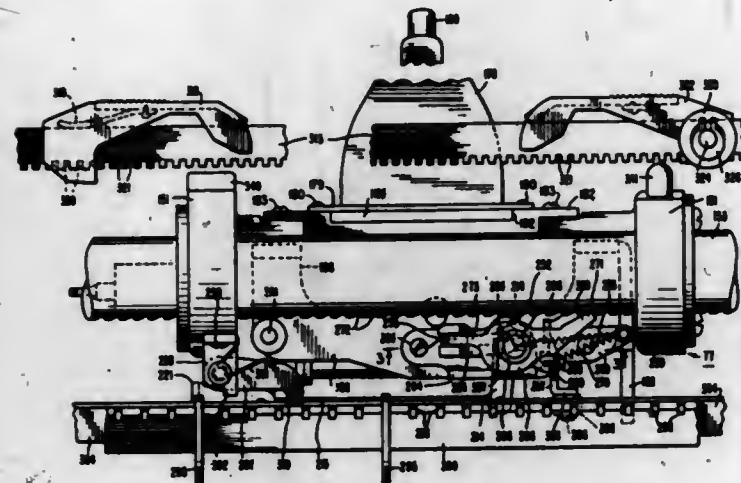
The disclosure describes a coin-operated lock in which the key is not removable except in fully open or fully closed positions of the lock pawl and further characterized by a coin-operated spring in the coin slot requiring insertion of a coin for release of the pawl from its unlocked position, a coin slide which retains the coin until and after the lock is turned, wherein the coin slide is also locked with the turning of the key and the coin is returned to the user when the key is inserted and the lock turned to unlocked position.



**3,519,115**  
**ESCAPEMENT MECHANISM RESPONSIVE TO THE RETURN PORTION OF A RECIPROCAL ROTARY MOTION**  
 Henry E. Smith, Brockport, N.Y., assignor to The Singer Company, a corporation of New Jersey  
 Filed Sept. 11, 1967, Ser. No. 666,583  
 Int. Cl. B41j 19/00

U.S. Cl. 197—82

4 Claims

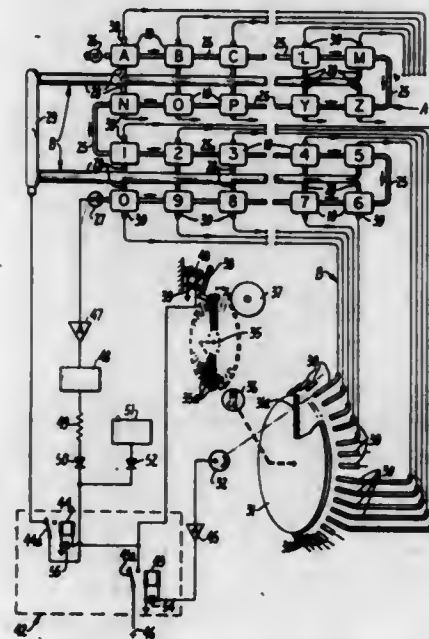


An escapement mechanism for use with a character-by-character printer having a single pawl engaging the associated escapement rack. A pawl mounted for longitudinal and pivotal movement on the carrier to be escaped is pivoted out of engagement with a rack tooth in response to the completion of a print cycle and moved in the letter spacing longitudinal direction and then in a reverse pivotal direction by a bias means. In response to the reverse pivotal movement of the pawl, it engages the next successive tooth of the rack. The carrier, which is slower to move because of its greater inertia, moves in a letter spacing longitudinal direction as urged by a different bias means and until its movement is impeded by the pawl which is engaged with the next tooth of the rack.

**3,519,116**  
**OPTICAL KEYBOARD CONTROL MEANS WITH SERIES AND PARALLEL LIGHT CIRCUITS**  
 Ralph Koehn, San Francisco, Calif., assignor to Imagination Designs Engineering and Sales, Inc., San Francisco, Calif., a corporation of California  
 Filed May 16, 1968, Ser. No. 729,807  
 Int. Cl. B41j 5/12; G02b 5/14

U.S. Cl. 197—98

23 Claims



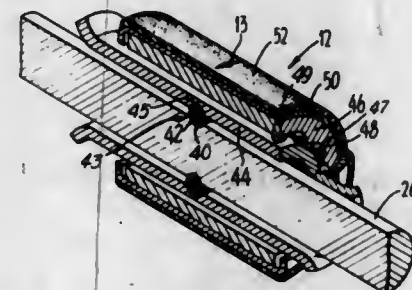
A control system for selective operation of a machine, comprising light conducting circuits, a plurality of mov-

able elements having light conductive and light obstructing sections, each element being operatively movable for conducting or obstructing the passage of light through the circuits; and a keyboard arrangement and mountings for a plurality of keys that may be used in a control system of the type described.

**3,519,117**  
**FEED ROLLER CONSTRUCTION AND DRIVE**  
 Orbert S. Smith, Livermore, Calif., assignor to The Singer Company, a corporation of New Jersey  
 Continuation of application Ser. No. 672,132, Oct. 2, 1967. This application May 23, 1969, Ser. No. 828,109  
 Int. Cl. B41j 13/02

U.S. Cl. 197—138

9 Claims

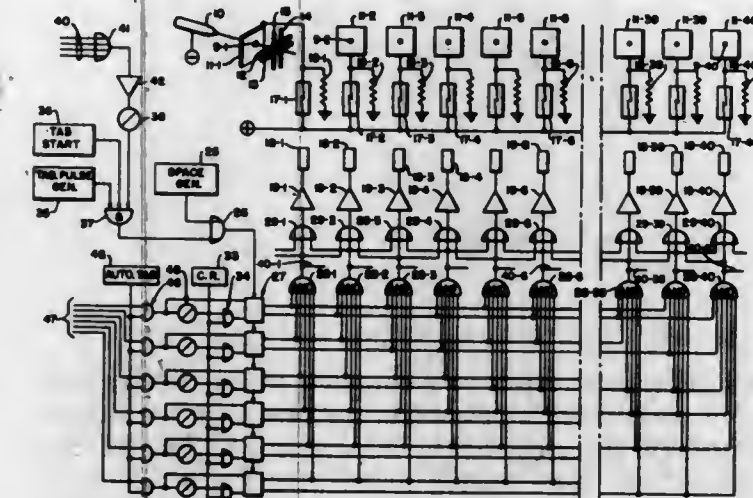


The rear feed roll for the paper of a typewriter or adding machine is restrained in one direction by a one-way clutch for imposing a drag on the paper as it moves toward the printing area. Alternatively, the front feed roll is overdriven through a one-way clutch for drawing the paper ahead of the platen as it moves out of the work area. Preferably both the front and rear feed rolls are similarly equipped, but oppositely oriented for pulling the paper taut for both directions of rotation of the cylindrical platen. The slippage may occur between the rollers and the paper, or slip clutches may be included.

**3,519,118**  
**COLUMN SELECTING AND TABULATING CIRCUIT FOR A PRINTING MACHINE**  
 Alfons Reszka, Northbrook, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware  
 Filed July 3, 1967, Ser. No. 650,858  
 Int. Cl. B41j 25/18

U.S. Cl. 197—176

2 Claims

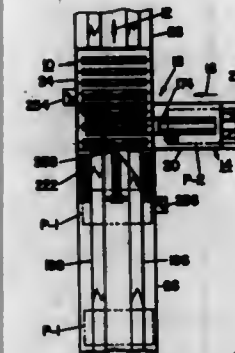


The valving electrodes for controlling the ink flow in an electrostatic page printer having a plurality of ink-transfer nozzles mounted in side-by-side relationship are sequentially turned on and off by the output of a binary counter normally advanced one count for each character to be printed. To tabulate, advance pulses are applied to the counter at a rate which is considerably faster than the normal rate at which printing takes place, simulating rapid spacing of the printer, or the binary counter is set directly to a count corresponding to the desired column position on the page.

**3,519,119**  
**PAN TRANSFER CONVEYOR INTERSECTION**  
 Howard S. Hershey, Jr., Brodbeck, Pa., assignor, by mesne assignments, to Teledyne, Inc., Los Angeles, Calif., a corporation of Delaware  
 Filed Mar. 5, 1968, Ser. No. 710,486  
 Int. Cl. B65g 47/26

U.S. Cl. 198—21

5 Claims



An intersection conveying system including a main continuously traveling conveyor along which articles delivered thereto from a first preliminary processing station are conveyed in spaced relation to a subsequent processing station, and an intersecting article transfer apparatus including a continuously traveling conveyor intersecting and lying athwart the main conveyor adapted to receive articles from a second preliminary processing station for conveyance onto said main conveyor in the spaces between articles on said main conveyor. The apparatus includes a pair of mechanically linked article controlled escapement gate means associated one with said main conveyor and the other with said intersecting conveyor disposed respectively adjacent said intersection and arranged when either of said gates is in article intercepting position the other of said gates is in article releasing position. The gate and control means are arranged to provide an optimum flow of articles into the intersection even though the articles advancing toward the intersection are not uniformly spaced, and so that an article on the main conveyor closely approaching the intersection will be intercepted by the gate associated with the main conveyor when an article is released by the gate associated with the intersecting conveyor for a sufficient length of time to permit insertion of the article released by the intersecting conveyor gate, whereby a collision of the articles is prevented without operation of the intersecting conveyor at an excessively high rate of speed.

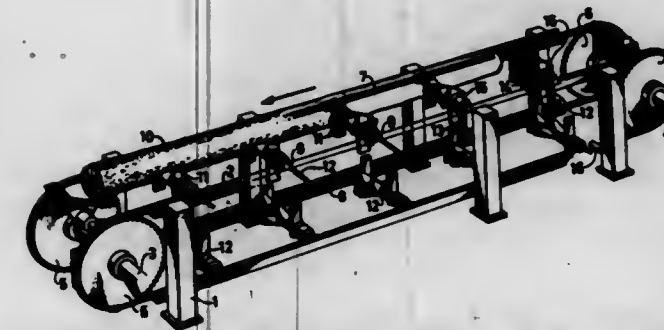
## ERRATUM

For Class 198—34 see:  
 Patent No. 3,519,108

**3,519,120**  
**CONVEYOR**  
 Gunnar Reidar Ohlson, 640 10 Jogsjo, Hogsjo, Sweden  
 Filed June 28, 1968, Ser. No. 740,989  
 Int. Cl. B65g 15/00, 17/00

U.S. Cl. 198—131

10 Claims



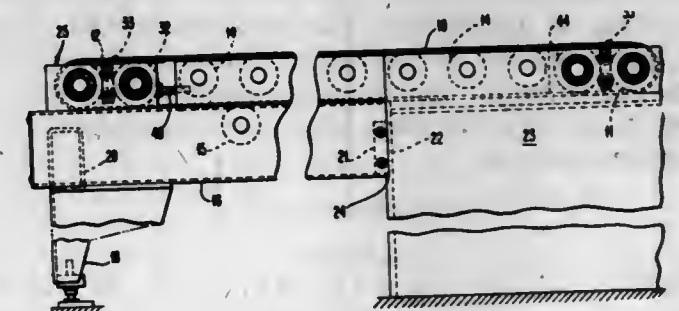
A conveyor for elongated objects such as logs comprising a support framework, a pair of driven endless flexible

members defining upper and lower flights, the upper flight moving in the direction of movement of conveyed objects, a plurality of spaced support means carried between said driven endless members, and a plurality of load support members carried by each of said support means in spaced relationship to one another, each of said load support members being swingably carried by the associated support means with the center of gravity of each of the load support members spaced from the swinging axis thereof whereby the load support members automatically conform to the shape of a conveyed object.

**3,519,121**  
**SUPPORT STRUCTURE FOR ENDLESS BAND**  
 Herman J. Baldwin and David I. McDonald, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio  
 Filed Aug. 5, 1968, Ser. No. 750,032  
 Int. Cl. B65g 15/00

U.S. Cl. 198—184

12 Claims

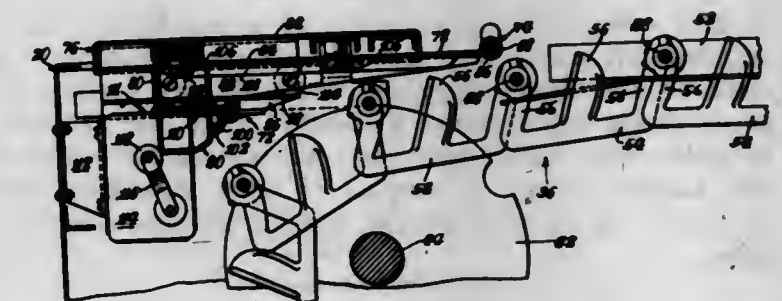


The end rollers, which support an endless band passing thereover, are formed with a bow or camber therein prior to the belt being placed under tension. When the belt is tensioned, the end rollers form a substantially straight line over which the belt passes rather than the roller being curved inwardly as normally occurs when the belt is tensioned.

**3,519,122**  
**CONVEYOR STOP MEANS FOR DISHWASHING MACHINE**  
 Casimer Janiszewski, Chicago, Ill., assignor to G. S. Blakeslee & Co., Cicero, Ill., a corporation of Delaware  
 Filed Jan. 15, 1968, Ser. No. 698,037  
 Int. Cl. B65g 43/08

U.S. Cl. 198—232

7 Claims



Stop means for the endless conveyor means of a dishwashing machine wherein actuator means is located at the unloading end of the conveyor and is movable rectilinearly in a horizontal path longitudinally of the conveyor means, either upon engagement by an article moving with the conveyor means, or manually, to stop the conveyor means.

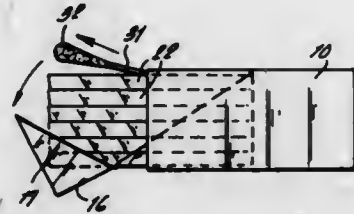


3,519,123

**SWAB DISPENSING PACKAGE**

Edward M. Nagle, Valley Stream, and Joseph L. Rich, Merrick, N.Y., assignors to Quality Swabs Inc., Valley Stream, N.Y., a corporation of New York  
 Filed Aug. 19, 1968, Ser. No. 753,667  
 Int. Cl. B65d 65/18, 83/02, 5/04  
 U.S. Cl. 206—45.34

3 Claims



A package for a plurality of double ended cotton swabs in which a plurality of stacked trays are removably carried within a box-like container. The bottom of each tray is embossed to form two parallel upwardly extending ridges. A plurality of transverse recesses in each of the ridges support the swabs in spaced parallel relationship. A carrier for the trays is slidable within the container to permit individual trays or swabs to be removed from the package.

3,519,124

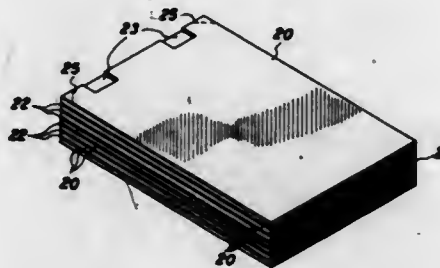
**ARTICLE TO FACILITATE FEEDING OF IMAGE RECEIVING SHEETS**

Thomas B. Barker and Bruce D. MacLellan, Webster, and Casimir J. Mytych, Penfield, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 1, 1966, Ser. No. 598,279  
 Int. Cl. B65h 55/00; B32b 3/02

U.S. Cl. 206—57

7 Claims



Paper backing or interleaving to facilitate the feeding seriatim of non-fibrous, flexible sheets from a stack. In one preferred embodiment a paper backing is secured to at least one corresponding edge of a non-fibrous sheet and the unit is fed. In a second preferred embodiment a stack of non-fibrous sheets is interleaved by a stack of paper sheets bound along a common edge, for example in tablet form, each paper sheet including a cut out portion adapted to permit contact of sheet separating and advancing means to successive non-fibrous sheets to feed same.

3,519,125

**TRAY FORMING BUNDLE WRAP**

Neil Macneale, Wyoming, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

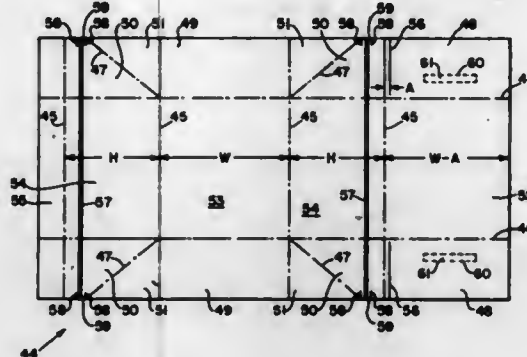
Filed June 25, 1968, Ser. No. 739,677  
 Int. Cl. B65d 71/00

U.S. Cl. 206—65

1 Claim

A bundle of packages contained within a taut over-wrap of flexible paper is disclosed. Tear tapes are suit-

ably located to permit opening the bundle into a low-walled tray. Several bundle end structures are disclosed



which can be adapted to facilitate access to the ends of the tear tapes.

3,519,126

**CONTAINER CARRIER DEVICE**

Ernest Ray Cunningham, Libertyville, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed July 31, 1968, Ser. No. 749,210  
 Int. Cl. B65d 7/00

U.S. Cl. 206—65

13 Claims



A container carrier device formed from a single piece of sheet material and comprising a center ring member for encircling and gripping, near a first end, a group of containers, first and second panels each of which extends outwardly from the ring member at opposite sides thereof and includes pocket members and base support members for engagement with the side walls and bases, respectively, of the containers to be held in the carrier, and handle means connected to separator means interposed between adjacent rows of containers, for carrying the container carrier device.

3,519,127

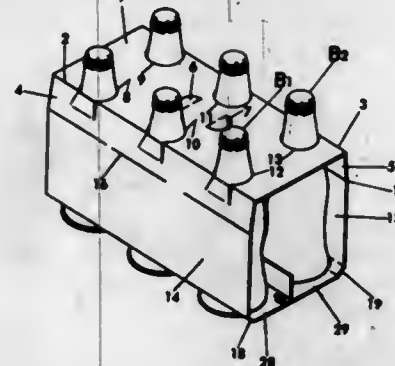
**BOTTLE CARRIER**

Prentice J. Wood, Jonesboro, Ga., assignor to The Mead Corporation, a corporation of Ohio  
 Filed Oct. 14, 1968, Ser. No. 767,078

Int. Cl. B65d 5/02, 71/00, 85/62

U.S. Cl. 206—65

3 Claims



A bottle carrier of the tubular type having top, bottom and side walls and apertures formed in its top wall for receiving the bottle necks is adapted to accommodate

variations in bottle sizes by means of an expansion feature. In order to render the carrier expandable, the apertures for the bottle necks which are formed in the top panel are spaced apart by a distance between centers which is slightly less than the diameter of one bottle and the peripheral portion of each aperture which is remote from the oppositely disposed aperture is rendered yieldable by suitable slits.

3,519,128

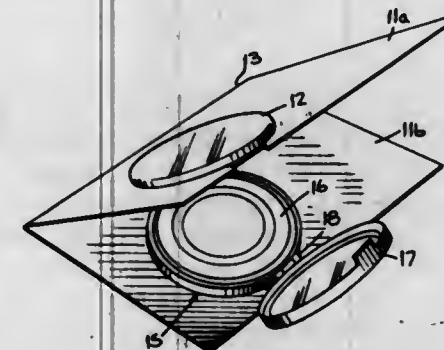
**DISPLAY PACKAGE**

Robert Swanberg, Westwood, N.J., assignor to Union Camp Corporation, New York, N.Y., a corporation of Virginia

Filed Aug. 8, 1968, Ser. No. 751,253  
 Int. Cl. A44b 7/00; B65b 25/00

U.S. Cl. 206—80

5 Claims



A three-dimensional article having sections movable relative to one another is packed in a display package so that the article, while remaining packaged, may be opened to inspect the interior. The interior of the article and any contents thereof, while visible, cannot be removed or damaged as the interior is protected by a protective film which is integral with the package.

3,519,129

**CONVEYER AND SORTING STRUCTURE IN AGRICULTURAL MACHINES**

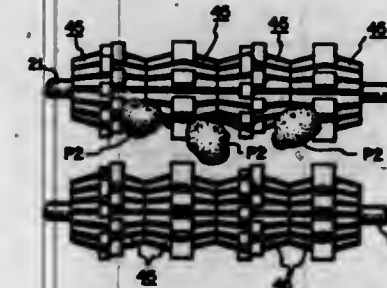
Soren E. Peterson, 1649 West 3300 South, Salt Lake City, Utah 84119

Continuation-in-part of application Ser. No. 672,220, Oct. 2, 1967. This application Feb. 7, 1969, Ser. No. 801,920

Int. Cl. B07b 13/04

U.S. Cl. 209—83

9 Claims



The present invention provides improvements in agricultural machines for conveying, aligning, eliminating, and/or grading agricultural produce items such as potatoes, apples and citrus fruits, for example; specifically, improvements are provided in improved, tapered, ribbed, and preferably nubbed, traction-tread friction rolls. These are provided so as to insure proper forward and aligned movement of produce carried thereby, and this despite the presence of slime, mud, and other debris as might be present on the surfaces of the individual produce items. Preferably, these rolls have solid cores to provide for secure shaft mounting, and resilient outer portions to prevent caking of mud onto the ribbed and nubbed portions thereof.

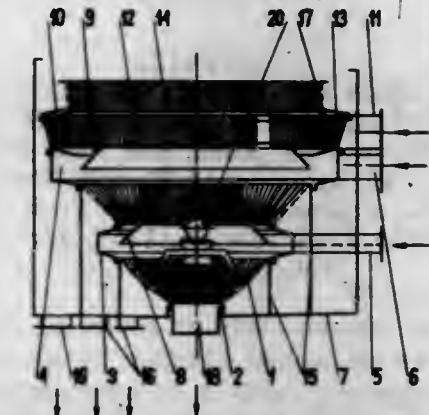
3,519,130

**APPARATUS FOR CLASSIFYING OF FINE-GRAINED SOLIDS IN WET CONDITION**

Waclaw Jachna, Lenina 7a/6, Tychy, Poland  
 Filed Sept. 13, 1967, Ser. No. 667,515  
 Claims priority, application Poland, Sept. 21, 1966, P 116,558; Jan. 24, 1967, P 118,657  
 Int. Cl. B07b 1/06, 1/46

U.S. Cl. 209—234

5 Claims



Apparatus for classifying by size of fine-grained solid aggregates in wet condition using several sieves disposed one after the other, carried out in two or more steps and means for applying a washing liquid characterized in that material being classified in fluid or powdered state is supplied to the rotating ring of a washing liquid on the entire periphery thereof or on the part of this periphery in order to set this material in motion. Because of a centrifugal force the material being classified is readily mixed with a liquid and as a result of a comparatively great overspeed of a liquid mixed with solid particles the layer of this mixture is very thin which helps in throwing-off finest particles together with the liquid.

3,519,131

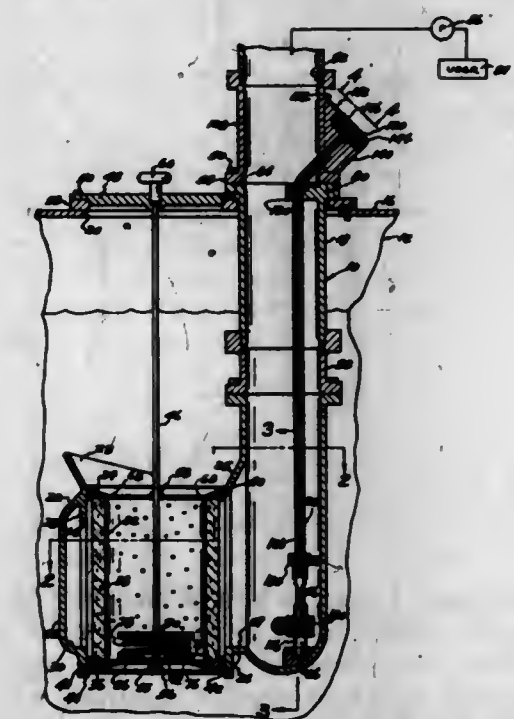
**RESERVOIR FILTER AND INDICATOR**

Nils O. Rosæen, Bloomfield Hills, Oscar E. Rosæen, Grosse Pointe, and Borje O. Rosæen, Ann Arbor, Mich., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio  
 Original application Jan. 24, 1966, Ser. No. 522,774, now Patent No. 3,441,138, dated Apr. 29, 1969. Divided and this application Jan. 28, 1969, Ser. No. 794,611

Int. Cl. B01d 27/10

U.S. Cl. 210—90

7 Claims



A filter device is mounted to the top plate of a fluid reservoir and extends downwardly to position a filter element below the level of fluid in the reservoir. The filter



element is supported by a housing mounted within the reservoir so that fluid is drawn from the reservoir through the filter element and through a tubular outlet structure connected with the housing. The filter element is removable vertically upwardly from the housing and from the reservoir. An indicator connected by a flexible member indicates the condition of the filter element exteriorly of the device.

### 3,519,132 METHOD OF FORMING COMPOSITE PHOTOGRAPHIC TRANSPARENCIES

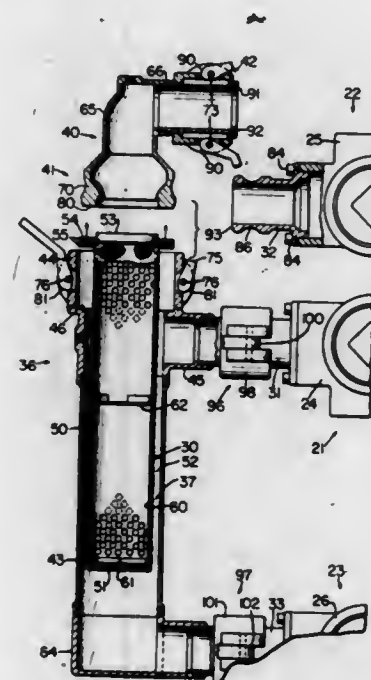
James V. Oliver, New York, and Paul Maurice Barton, Bayside, N.Y., assignors to Warsaw Studios, Inc., New York, N.Y., a corporation of New York  
No Drawing. Filed July 26, 1968, Ser. No. 747,790  
Int. Cl. G03b 27/02

U.S. Cl. 355-79 7 Claims  
A method wherein two or more photographic color transparencies are joined together by selecting a portion of one transparency and a complementary portion of another transparency to form a composite photo image. The individual separate transparencies, from which the supporting acetate backing has been removed, are individually mounted on a film base with the second transparency placed over the first transparency in a desired location. The first and second transparencies are cut while held in proper position and then the second transparency is placed into proper position with respect to the first transparency on the film base to provide a complete and accurate composite transparency.

### 3,519,133 FLUID FILTER MEANS

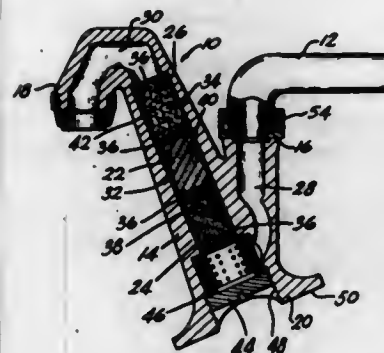
Roger F. Broering, Fort Thomas, Ky., assignor to Dover Corporation, Cincinnati, Ohio, a corporation of Delaware  
Filed July 9, 1968, Ser. No. 743,498  
Int. Cl. B01d 27/08

U.S. Cl. 210-232 12 Claims



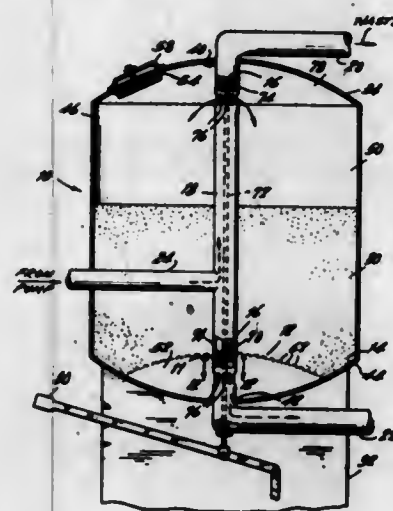
This disclosure relates to a fluid filter having quick coupling means enabling it to be easily coupled to and uncoupled from an associated fluid system and includes a head assembly which is readily removed while the remainder of the filter and adjoining members are maintained in position, whereby upon removing the head assembly a filter element provided within the fluid filter may be readily removed and replaced.

3,519,134  
TASTE TREATMENT ATTACHMENT FOR  
DRINKING WATER FAUCETS  
Donald F. Hassinger, Ann Arbor, Mich., assignor to Pure Stat Corporation, Ann Arbor, Mich., a corporation of Michigan  
Filed May 16, 1969, Ser. No. 825,313  
Int. Cl. B01d 25/06  
U.S. Cl. 210-282 1 Claim



A faucet attachment for improving the taste of drinking water consisting of a body which is readily mountable on a drinking water faucet when it is desired to draw drinking water therefrom. The body contains a replaceable cartridge in which activated charcoal and limestone particles are positioned so that water from the faucet entering the body first contacts the charcoal which functions to remove residual odors and tastes from the water and then contacts the limestone particles which impart the taste associated with spring water to the drinking water before it leaves the body. The attachment is readily removable from the faucet and supportable on a flat base surface for subsequent use when desired.

3,519,135  
FILTER TANK  
Marc Lerner, Swan Lake, N.Y. 12783  
Filed Apr. 24, 1968, Ser. No. 723,787  
Int. Cl. B01d 29/08  
U.S. Cl. 210-289 8 Claims



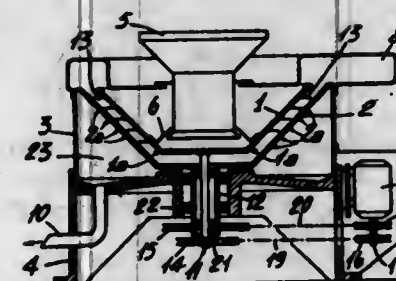
The invention is directed to providing an improved filter tank having an improved underdrain plate, valve assembly, and tank sealing means; the underdrain plate comprising a dome-shaped member provided with a plurality of closely spaced openings having a specifically defined construction, the valve assembly comprising a pair of valve discs connected by a valve shaft within a valve chamber, said valve chamber having a plurality of openings acting in association with said valve discs to provide for ingress or egress of liquids therethrough, the tank sealing means being provided on the tank head and comprising a mounting collar integrally formed in the tank head and a detachable sealing unit therefor, said mounting collar defining opening means into said tank.

### ERRATUM

For Class 210-316 sec:  
Patent No. 3,519,560

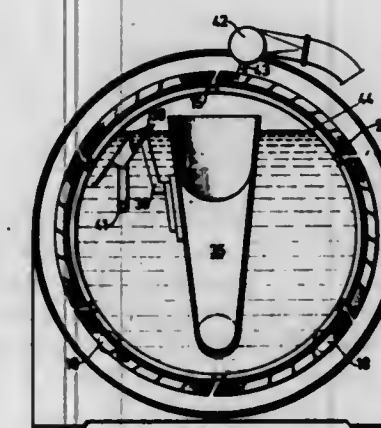
### 3,519,136 CONTINUOUS OPERATING CENTRIFUGE HAVING COAXIAL BASKETS ROTATING AT DIFFERENT SPEEDS

Berlando Lega and Giannangiolo Cecchi, both of Piazza Ferravilla 3, Milan, Italy  
Filed Oct. 25, 1968, Ser. No. 770,616  
Claims priority, application Italy, Oct. 26, 1967, 22,030/67  
Int. Cl. B04b 3/04  
U.S. Cl. 210-374 6 Claims



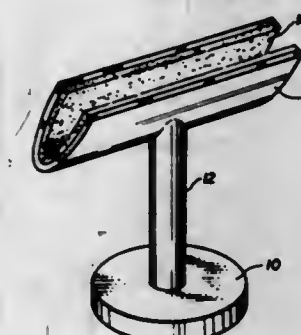
A continuous operating centrifuge, particularly for textile flock processing, comprising two rotating coaxial baskets between which the material to be processed is caused to pass, said baskets being driven by control means causing rotation thereof at different speeds.

3,519,137  
ROTARY FILTER DRUM FOR CONCENTRATING  
DILUTED FIBRE SUSPENSIONS  
Harry Wilhelm Nilsson, 19 Dammvagen, S-460 60 Vargon, Sweden  
Filed Mar. 25, 1969, Ser. No. 810,305  
Claims priority, application Sweden, Apr. 3, 1968, 4,448/68  
Int. Cl. B01d 29/06  
U.S. Cl. 210-403 1 Claim



A rotary filter drum comprises a rotatable cage which carries a bellows-shaped strainer jacket mounted on triangular plates extending crosswise to the folds of the strainer and in peripheral rows. The cage rotates in partial immersion in a suspension to collect pulp and a stationary funnel is positioned in the cage with an opening above the level of the suspension to receive pulp which is blown from the strainer jacket. In order to retain the collected pulp until it is blown from the strainer jacket, the triangular plates are tilted rearwardly with respect to the direction of rotation of the cage and the edges of the plates are bent forwardly in the direction of rotation to provide a shovel shape for the plates.

3,519,138  
SPECTACLE RACK  
Donald F. Murray, 1822 Warren Ave., Cheyenne, Wyo. 82001  
Filed Apr. 12, 1968, Ser. No. 720,928  
Int. Cl. A47f 7/02  
U.S. Cl. 211-13 7 Claims



A rack designed to hold open spectacles consists of a tilted cradle mounted on a base for keeping the lenses away from the sides thus providing protection from scratching. The cradle is lined with foamed plastic or similar soft textured surface serving as an added cushioning protection to the lenses.

3,519,139  
WARDROBE HANGER BAR  
Francis P. Brennan, 1057 Rolling Drive, Lisle, Ill. 60532  
Filed Mar. 22, 1968, Ser. No. 715,333  
Int. Cl. B65d 85/18  
U.S. Cl. 211-124 11 Claims



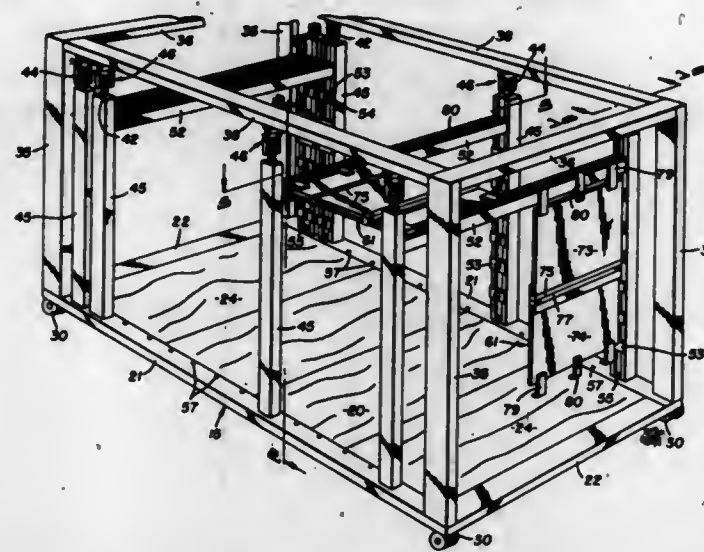
A hanger bar having a channel shaped bar member with a transverse inverted U-shaped support at each end attaining a high strength-to-weight ratio and a high degree of safety through the provision of outwardly projecting ridges along the hanger bar, a transverse ridge-notch-ridge configuration around the base of the U in the end supports and further notches in the outer edges of the portion of the end supports corresponding to the base of the U. In one modification a locking device is secured atop the hanger bar by bending over prongs projecting upwardly from the modified hanger bar through holes in the locking device.

3,519,140  
ARTICLE SUPPORTING RACK  
Roy L. Wellman, Jr., Columbus, Ohio, assignor to Federated Department Stores, Inc., The F. & R. Lazarus and Co. Division, Columbus, Ohio, a corporation of Delaware  
Filed Aug. 17, 1967, Ser. No. 665,665  
Int. Cl. A47f 5/13  
U.S. Cl. 211-148 3 Claims

A cargo transporting device. In general, it comprises a portable rack which is provided with various adjustable supports to vary the cargo-receiving spaces in accordance with the cargo to be loaded therein. This permits loading of odd-shape articles into the rack with a maxi-



proper time the loaded rack can be moved into a transporting or delivery vehicle such as a truck.



3,519,141

## PAPER CUTTING MACHINES

Rudolf Mohr, Hattersheimerstrasse,

Hofheim, Taunus, Germany

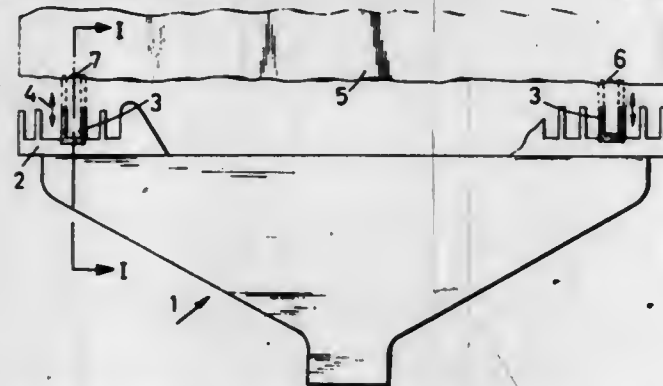
Filed May 6, 1968, Ser. No. 726,944

Claims priority, application Germany, May 6, 1967, 1,536,466

Int. Cl. B23q 5/22

U.S. Cl. 214-1.6

4 Claims



A paper stack cutting machine stack guide rake having adjustable rake teeth for obtaining accurate alignment and abutment of the stack against the rake during cutting.

3,519,142

## APPARATUS FOR HANDLING BARGES

Elmer A. Squires, Rte. 4, Box 447,

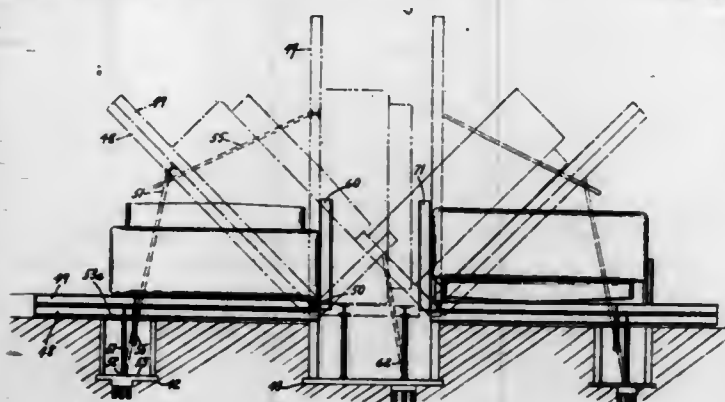
Little Rock, Ark. 72203

Filed Feb. 10, 1969, Ser. No. 798,053

Int. Cl. B65g 7/00

U.S. Cl. 214-1

5 Claims



Means for removing floating barges from a shore, to a predetermined position, subsequently inverting the barges through substantially 180° at said location to

expose surfaces normally below the water line, and to subsequently transfer the barges in inverted condition to a second predetermined point for repair. Upon completion of the repair, the barges are subsequently re-inverted, and returned to the water.

3,519,143

## METHOD AND APPARATUS FOR MANIPULATING ROD SHAPED ARTICLES

Horst Kochalski, Hamburg-Bergedorf, Willy Rudszinat, Hamburg-Lohbruegge, and Harry David and Otto Erdmann, Hamburg-Bergedorf, Ludwig Rode, Neu-Boermesen, and Hans Suck, Hamburg-Neuengamme, Germany, assignors to Hauni-Werke Koerber & Co. K.G., Hamburg-Bergedorf, Germany

Continuation of application Ser. No. 533,942, Mar. 14, 1966, which is a division of application Ser. No. 306,368, Sept. 3, 1963, now Patent No. 3,245,558, dated Apr. 12, 1966, which in turn is a division of application Ser. No. 181,669, Mar. 22, 1962, now Patent No. 3,190,459, dated June 22, 1965. This application Mar. 6, 1969, Ser. No. 806,035

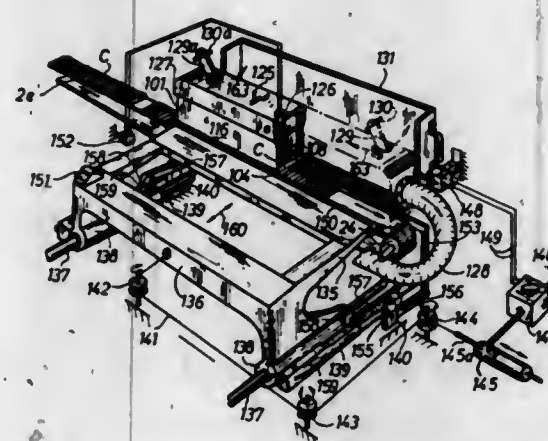
Claims priority, application Great Britain, Mar. 23, 1961, 10,676/61; Apr. 24, 1961, 14,708/61; May 18, 1961, 18,163/61; Aug. 14, 1961, 29,241/61; Sept. 8, 1961, 33,415/61; Nov. 9, 1961, 40,146/61

The portion of the term of the patent subsequent to Apr. 12, 1983, has been disclaimed

Int. Cl. B65g 57/18

U.S. Cl. 214-6

31 Claims



Groups of cigarettes or other rod shaped articles are transferred from a collecting station to a receiving station which accommodates a storing device and is spaced from the collecting station in the longitudinal direction of articles. Articles are fed to the collecting station in random distribution and are arrayed at the collecting station to form a succession of groups each of which contains a predetermined number of parallel articles. The groups are transferred lengthwise of the articles to the receiving station and are arrested so as to be accurately stacked in the storing device on top of each other. The storing device is lowered intermittently to provide room for transfer of additional groups and the articles of successive groups are guided from above, from both sides and/or from below during transfer into the storing device.

3,519,144

## STACKING SYSTEM FOR PAPERBOARD BLANKS

Mircea Calistrat, Baltimore, Md., assignor to Koppers Company, Inc., a corporation of Delaware

Original application Sept. 11, 1967, Ser. No. 666,605, now Patent No. 3,447,696, dated June 3, 1969. Divided and this application Nov. 27, 1968, Ser. No. 810,867

Int. Cl. B65g 57/30

U.S. Cl. 214-6

3 Claims

Apparatus for stacking alternate stacks of corrugated paperboard blanks discharged from a blank-forming machine face up and face down to reduce warping comprising an intermittently rotating transverse storage conveyor means for receiving and temporarily storing stacks

of blanks in face-up position from an in-line conveyor adjacent the blank-forming machine; an inverter for sequentially receiving stacks from the storage conveyor and inverting alternate stacks to a face-down position on a rising conveyor comprising a guide for directing the stacks into a substantially vertical position with the stack resting on its leading edge on the rising conveyor where a pivoting finger carried by the rising conveyor engages the bottom edge of a first stack on the conveyor to advance it along the conveyor thereby positioning the first stack face up, an inverting lever adjacent the underside of a subsequent stack intermittently operable to engage the underside surface of this second stack to pivot it about its bottom edge so that it descends onto the rising conveyor with its underside up, first and second advancing fingers for sequential engagement with the trailing edges

for acceptance by the sorting machine at a rate synchronized with the sorting machine. The accumulator accomplishes this with a first rotary compartmented member which is stepped at the rate of the feeder to accept articles, a second rotary compartmented member which is actuated upon article-requisition of the sorting machine and at the rate of the sorting machine, together with an article transfer mechanism between the members which preserves the receipt order of articles in the first member in transferring them to the second member. Preserving the receipt order enables the earliest articles entering the first member to be the earliest to be discharged by the second member of the accumulator.

3,519,146

## JIB CRANE CONSTRUCTION HAVING A VERTICAL CONVEYER

Bonde Moeller, Stafa, Zurich, Switzerland, assignor to Geschäfts- und Industriebau B. Moeller & Co., Zurich, Switzerland

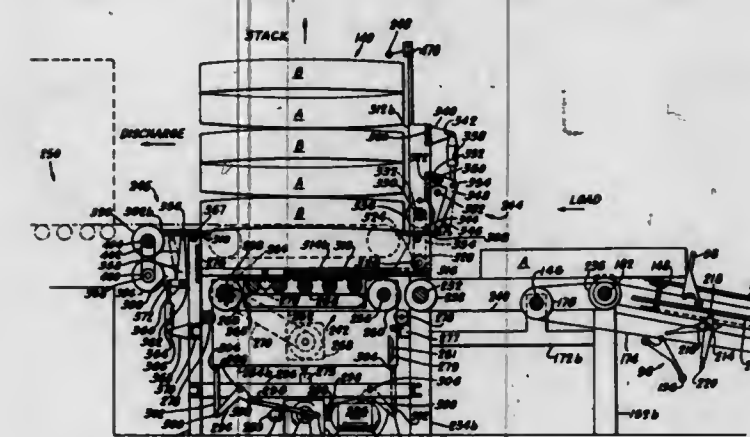
Filed Jan. 25, 1968, Ser. No. 700,484

Claims priority, application Switzerland, Jan. 31, 1967, 1,372/67

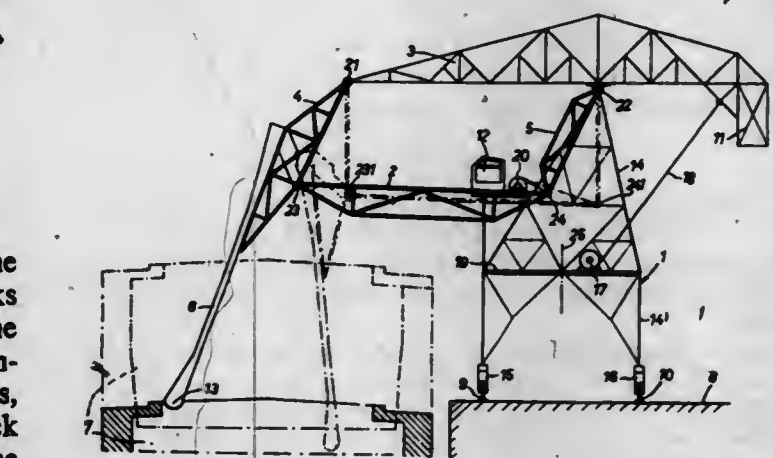
Int. Cl. B65g 67/58

U.S. Cl. 214-14

7 Claims



of the first and second stacks to advance them along the rising conveyor; a stacker for receiving stacks of blanks from the rising conveyor and stacking them one under the other to form a pile of blanks comprising a lifting conveyor including a stop for positioning each of the stacks, means for raising the lifting conveyor, with the stack thereon, a distance slightly greater than the height of the stack, a support for engaging the bottom face of the lifted stack to maintain the stack in its lifted position, means for lowering the lifting conveyor to receive another stack for repeating the foregoing lifting operation, and means rotating the lifting conveyor in its uppermost position when the pile of blanks reaches a selected height to discharge the pile on a skid or other conveyor for further handling.



A jib crane carries a vertical conveyor such as a chain conveyor or bucket elevator for bulk goods or loose flowable material. The crane frame comprises parallel upper and lower jibs, one of the jibs being mounted for pivoting movement in a vertical plane, about a horizontal axis on the crane frame. The other jib has its inner end hingedly connected to an inner yoke beam itself hingedly connected to said horizontal axis of the first mentioned jib, and its outer end is hingedly connected to an outer yoke beam itself hingedly connected to the free end of said pre-mentioned jib. The vertical conveyor is rigidly connected to said outer yoke beam. The two inner and outer yoke beams also are parallel and, together with the two parallel upper and lower jibs, form a link parallelogram for transmitting movement to the vertical conveyor.

3,519,145

## SORTING APPARATUS

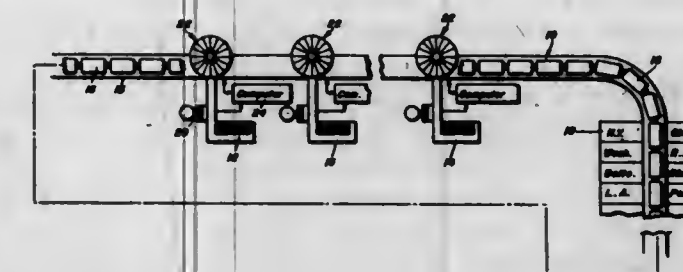
John G. Macdonald, Washington, D.C., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Jan. 19, 1968, Ser. No. 699,139

Int. Cl. B65g 43/00

U.S. Cl. 214-11

9 Claims



An accumulator for temporary storage of articles fed by an asynchronous feeder to a fixed-speed sorting machine. The articles, for instance postal letters, are accumulated at the speed of the feeder and are discharged

3,519,147

## SHIP LOADING AND UNLOADING

Fedde Walda, 15 Leendert Sparreboomstraat,

Rotterdam, Netherlands

Filed Apr. 1, 1968, Ser. No. 717,623

Claims priority, application Great Britain, Mar. 31, 1967, 14,920/67

Int. Cl. B65g 67/58

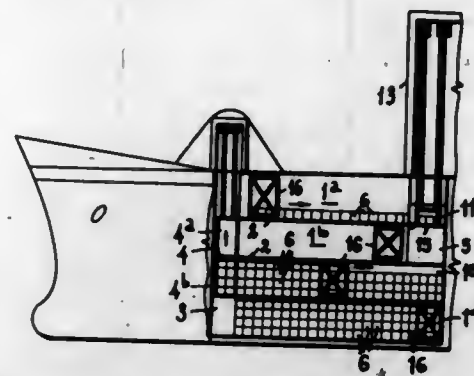
U.S. Cl. 214-15

3 Claims

A ship having a plurality of superimposed holds, separated by decks, for stowing containers, has two superimposed hatch openings which lead through the side of the ship into two of the holds. Apparatus is provided for loading or unloading the ship with containers in groups each of which comprises a row of containers extending



athwartship across the width of a hold. The apparatus permits such groups of containers to be loaded or unloaded in an uninterrupted succession, using the two hatch openings alternately. While one hold is being loaded or unloaded through its hatch opening, the second hold having a hatch opening is being prepared for loading or unloading by transferring the containers between that hold and a third hold, by means of an elevator which connects the superimposed holds and extends laterally across the width



of the holds so as to receive a row of containers extending across the width of the hold. The two hatch openings are located at a point remote from the elevator, and separate pusher apparatus is provided in each hold for moving a layer of containers longitudinally in order to move successive rows of containers to and from the elevator, or in order to move successive rows of containers to or from a position in front of a hatch opening.

3,519,148

**AUTOMATIC STORAGE APPARATUS**

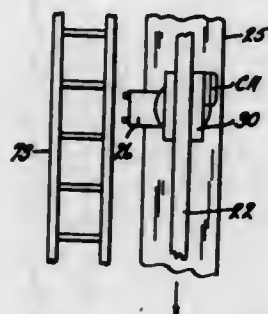
Jerome H. Lemelson, Metuchen, N.J., assignor to The Triax Company, Cleveland, Ohio, a corporation of Ohio

Division of application Ser. No. 468,532, June 30, 1965, which is a continuation of application Ser. No. 219,357, Aug. 13, 1962, which is a continuation-in-part of application Ser. No. 577,415, Apr. 10, 1956, which in turn is a continuation-in-part of application Ser. No. 449,874, July 28, 1954. This application Apr. 16, 1969, Ser. No. 816,653

Int. Cl. B65g 1/00

U.S. Cl. 214-16.4

5 Claims



An automatic conveying apparatus for storing and unstoring loads. The apparatus comprises a storage rack having a plurality of storage volumes opening onto a generally vertical plane, a load carrier transfer device, and an out-flow conveyor, with the load carrier being operative to transfer loads to and from the storage rack and to remove loads from the storage rack and deposit them on the out-flow conveyor. The load carrier is adapted for movement in a travel zone running alongside the storage rack and above the out-flow conveyor, the latter running along the travel zone generally parallel to the travel zone. The load carrier includes an extensible load handling fixture mounted on a vertically movable elevator, with the fixture being adapted to move into and then out of the selected storage volume to remove a load therefrom, together with means for then rotating

the fixture in a generally horizontal plane through approximately 90°, for positioning the fixture in the direction of movement of the outflow conveyor, for subsequently depositing the load supported on the fixture, onto the conveyor. Control means are provided for preventing interference between the load carrier and a load previously deposited on the out-flow conveyor by the load carrier, together with control means for providing the 90° rotation of the fixture to orient the latter in the direction of movement of the out-flow conveyor only after the load carrier has removed a load from a confronting storage volume in the storage rack.

3,519,149

**OVER HEIGHT LOAD PROTECTION FOR AUTOMATIC STORAGE SYSTEM**

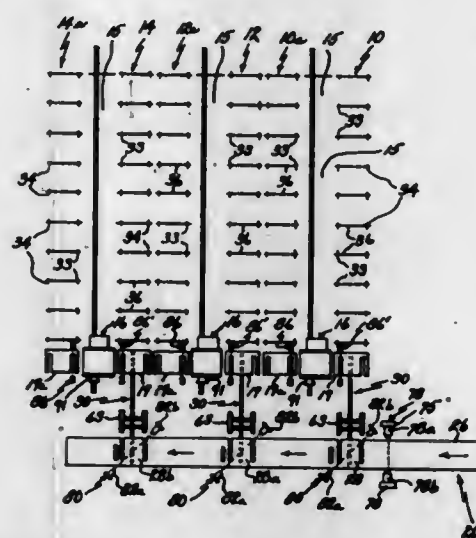
Sanford Saul, Cleveland, Ohio, assignor to The Triax Company, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 7, 1968, Ser. No. 711,428

Int. Cl. B65g 1/00

U.S. Cl. 214-16.4

12 Claims



A mechanized remotely controlled transfer apparatus having conveyor mechanism for moving a load to a selected pick-up and discharge station disposed adjacent a storage frame of an automatic warehousing system, with the system having a mechanized load carrier for depositing loads at selected locations in the storage frame for storage of the loads, and for returning loads from the storage frame back to the pick-up and discharge station and thence back to the conveyor mechanism, for further rehandling of the loads. The transfer apparatus includes a main conveyor line means and spur conveyor line means extending from the main conveyor line means. At least one transfer station is provided on the main conveyor at the juncture between the main and spur conveyor means. The spur conveyor means includes a transfer cart movable on tracks between the transfer station on the main conveyor and the associated pickup and discharge station adjacent the storage frame, with such cart having elevatable means thereon so as to lift a load from or deposit a load at either of said stations. Photoelectric sensing means are provided for checking the maximum height of a load on the main conveyor entering the system, and other photoelectric sensing means are provided for checking the maximum load heights at each transfer station on the main conveyor, prior to movement of the load on the spur conveyors to the respective pick-up and discharge station disposed adjacent the storage frame. If the photoelectric sensing means indicates that the incoming load on the conveyor means is over-height for the size of the storage bins in the storage frame to which the load is being directed for storage, the photoelectric sensing means automatically stops the conveyor means and prevents further movement of the load toward the pickup and dis-

charge station. Photoelectric sensing means are also located at the pickup and discharge stations, for sensing the height of loads removed from the respective pickup and discharge station by the mechanized load carrier for transference to a selected storage opening in the storage frame, for preventing loads exceeding predetermined sizes from being attempted to be deposited in storage openings which have not been designated to receive them.

3,519,150

**STORAGE SYSTEM WITH MEANS FOR TRANSFERRING A VEHICLE BETWEEN A PLURALITY OF PATHS THAT HAVE CONTROL MEANS THEREIN**

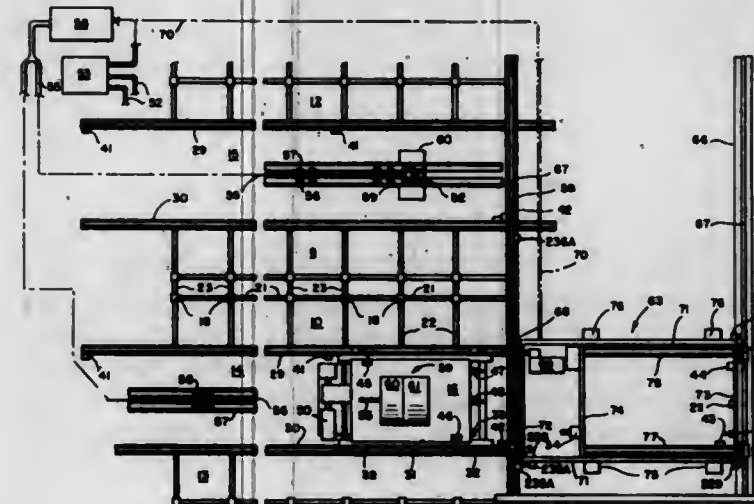
Thomas A. Keenan and Howard A. Zollinger, Buffalo, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 5, 1968, Ser. No. 719,172

Int. Cl. B65g 1/00

U.S. Cl. 214-16.4

19 Claims



A system is shown for automatically transferring a cable controlled first vehicle from any one to another of a plurality of paths of operation by means of a transfer vehicle that carries the first vehicle along a transfer course extending from the transfer end of a path to the transfer end of another of the paths. There is a control cable for each path, and a connector at one end of each cable is detachably connectable to a terminal arrangement on the first vehicle. The other end of each cable is connected to a remote control station. When connected to any of the cables, the first vehicle is controlled by information transmitted through the cable. A command via the cable from the control station initiates the automatic transfer which involves a break of the first vehicle from the cable in one path, and connection to the cable of another path after the first vehicle is transferred to the other path.

3,519,151

**AUTOMATIC STORAGE APPARATUS**

Jerome H. Lemelson, Metuchen, N.J., assignor to The Triax Company, Cleveland, Ohio, a corporation of Ohio

Original application June 30, 1965, Ser. No. 468,532, which is a continuation of abandoned application Ser. No. 219,357, Aug. 13, 1962, which is a continuation-in-part of application Ser. No. 577,415, Apr. 10, 1956, now Patent No. 3,049,247, which in turn is a continuation-in-part of abandoned application Ser. No. 449,874, July 28, 1954. Divided and this application May 28, 1968, Ser. No. 732,710

The portion of the term of the patent subsequent to Jan. 28, 1981, has been disclaimed

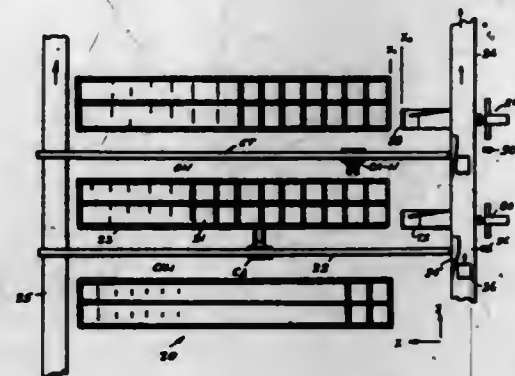
Int. Cl. B65g 1/00

U.S. Cl. 214-16.4

7 Claims

An automatic storage apparatus comprising a storage rack having a plurality of storage volumes and a powered load carrier movable alongside the storage rack for de-

positing loads into and removing loads from the storage rack. The load carrier may include a horizontally movable conveyor portion, a vertically movable elevator portion mounted on the conveyor portion, and a generally horizontally extendible fixture mounted on the elevator and adapted for supporting a load and transferring the latter between the load carrier and the storage rack. Servo drive means for the load carrier are provided together



with positional controls for deactivating the servo drive means when the load handling fixture is aligned with a selected storage volume, and a plurality of sequence controls are provided for controlling the servo drive means, for the transfer of a load from the load carrier to the storage rack and from the latter to the load carrier, together with means for actuating the selected sequence control.

3,519,152

**ROTARY CUTTER MEANS HAVING POSITIVE INDEXING DRIVE**

Leonard E. Broberg, Milwaukee, Wis., assignor to A. O. Smith Harvestore Products, Inc., Arlington Heights, Ill., a corporation of Delaware

Filed Oct. 10, 1968, Ser. No. 766,589

Int. Cl. B65g 65/42

U.S. Cl. 214-17

5 Claims



This disclosure relates to a positive indexing drive system for a rotary cutter arm mounted to undercut silage in a silo.

A bottom unloader is mounted in the base of the storage structure and includes a cutter arm which is centrally pivoted and driven at the center of the silo. A recess in the base surrounds the center pivot structure. A driven worm is secured to the underside of the cutter arm in mesh with a rack secured within the recess to index the arm about the center of the silo.

A hydraulic piston unit and ratchet drive are secured within the arm and coupled to rotate the worm to provide controlled indexing motion.

3,519,153

**FIBER BLENDER (SRRL BALE-OPENER-BLENDER)**

James I. Kotter and Harold L. Salama, Jr., Metairie, Eugene F. Wallace, Chalmette, and James P. Lanigan, Jr., Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture

Original application Apr. 21, 1967, Ser. No. 632,657, now Patent No. 3,458,904, dated Aug. 5, 1969. Divided and this application Feb. 19, 1969, Ser. No. 817,215

Int. Cl. B65g 1/18, 57/02

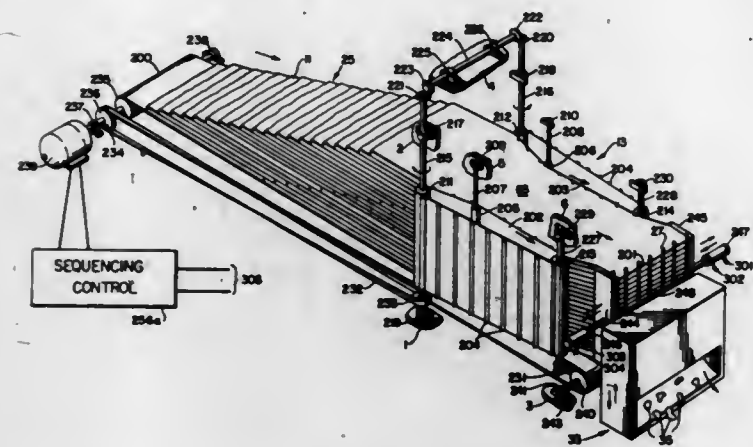
U.S. Cl. 214-152

1 Claim

An endless, stagger-layered fiber package is produced from a plurality of individual fiber packages by forming a



first layer of fibers from one of the individual packages, forming a second layer from another individual package, offset in a forward direction from the first layer, and so



on until a continuous package of offset layers is produced from the individual packages. The object is to produce a blend by continuously plucking fibers from the leading face of the layered package.

3,519,154

#### MOTOR VEHICLE BOAT LOADING AND UNLOADING HOIST MEANS

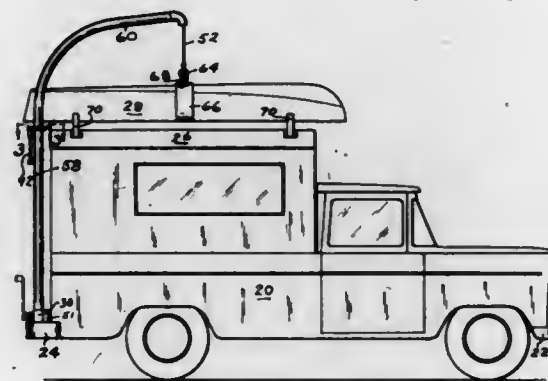
Noble T. Riley, Tacoma, Wash., assignor to Bellevue Boat Lift Corporation, Seattle, Wash., a corporation of Washington

Filed Feb. 7, 1968, Ser. No. 703,628

Int. Cl. B60p 1/54

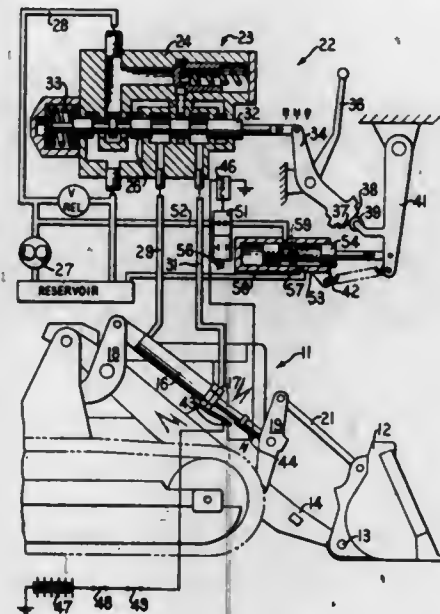
U.S. Cl. 214-450

2 Claims



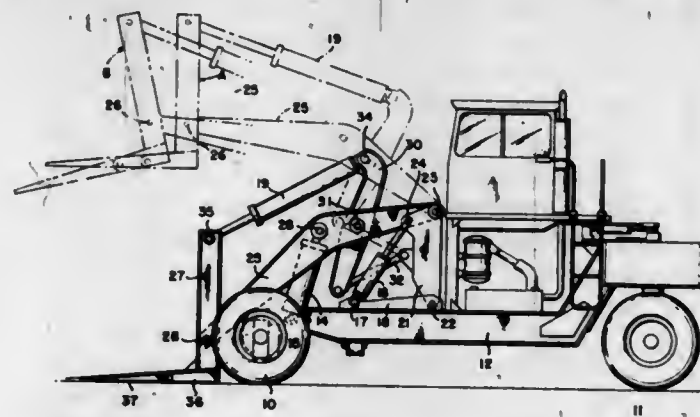
This invention relates to a motor vehicle boat loading and unloading hoist means characterized by a gear box, having therein driving and driven gears, and which gear box is mounted on, and is supported by, a bumper of the vehicle. It is further characterized by a driving gear, actuated either manually or by a motor, and wherein the driven gear drives a rope drum. It is further characterized by a tubular member, having vertical and horizontal portions, and with its vertical portion connected with the gear box and such connection is preferably detachable and rotatable. A further characteristic is a hoist rope connected with and reeved about said drum and with the free end of such rope fed through said tubular member, suspended therefrom, and secured to the boat. A further characteristic is that a vertical portion of the tubular member has a top bearing supported by an upper portion of the vehicle. A further characteristic is that the boat is suspendedly supported by the free end portion of the rope and the rope is urged downwardly towards the vehicle by suitable holddown means, as straps—thus, the weight of the boat and the hold down means hold the boat in place and in turn hold the hoist means to the vehicle.

3,519,155  
**BUCKET POSITIONING DEVICE**  
 Charles R. Jefferson, Pekin, and Allan L. Freedy, Aurora, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California  
 Filed Oct. 25, 1968, Ser. No. 770,670  
 Int. Cl. E02f 3/28  
 U.S. Cl. 214-764 4 Claims



In a loader having a bucket pivotably supported upon a lift frame, tilt jacks interconnected between the lift arms and bucket by tilt linkage and a detented control valve by which the tilt jack is operated, a proximity switch and actuating magnet positioned respectively upon the cylinder and rod of the tilt jack for disengaging the control valve from a detented position as the bucket approaches its load position.

3,519,156  
**FRONT-END LOADER WITH AUTOMATIC TILT**  
 John E. Magnuson, Seattle, Wash., assignor to Pacific Car and Foundry Company, Renton, Wash., a corporation of Washington  
 Filed June 7, 1968, Ser. No. 735,395  
 Int. Cl. B66f 9/12  
 U.S. Cl. 214-777 5 Claims

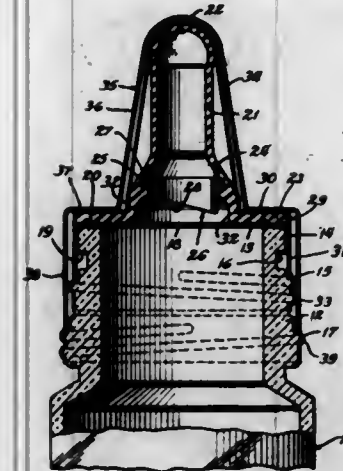


A reaching type of front-end loader characterized in that the load-handling head automatically tilts forwardly to dump a load by the act of giving reach movement to the boom which carries the head.

3,519,157  
**SEALED FEEDING BOTTLE ASSEMBLY**  
 Eugene J. Meierhoefer, Columbus, Ohio, assignor to Abbott Laboratories, a corporation of Illinois  
 Filed May 15, 1964, Ser. No. 367,799  
 Int. Cl. A61j 9/08  
 U.S. Cl. 215-11 15 Claims  
 A disposable sealed feeding bottle assembly adapted to hold an individual sterilized serving of water, a liquid

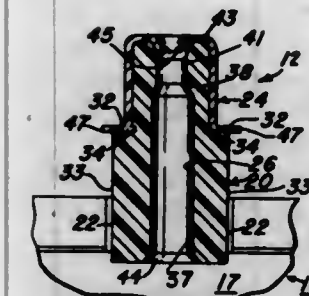
milk product or other liquid food, etc. in sterile condition with a nipple arrangement on its open end and means

on the cap skirt to define a rip-tab which is torn from the skirt to release the closure when the package is opened. Threads are provided on the glass finish above the cap retaining bead which cooperate with threads or indents



to break a seal interiorly of the nipple without destroying the sterile condition of the nipple arrangement.

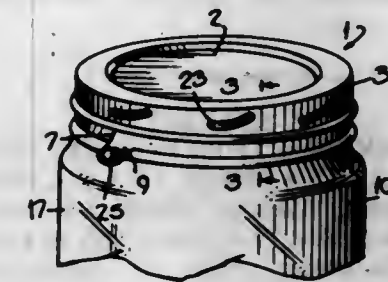
3,519,158  
**ASEPTIC CONNECTOR AND CLOSURE**  
 Douglas W. Anderson, Palatine, Ill., assignor to Dave Chapman, Goldsmith & Yamasaki, Inc., Chicago, Ill., a corporation of Delaware  
 Filed Sept. 27, 1968, Ser. No. 763,097  
 Int. Cl. B65d 51/00  
 U.S. Cl. 215-37 14 Claims



An aseptic connector and protective closure for use with a package containing intravenous fluids includes a plastic connector member having an aperture extending therethrough and an imperforate cap disposed over one end of the connector member. The cap includes an internal depending portion which extends into the aperture in the connector member to provide an aseptic seal, and an annular bead which is disposed in an annular groove in the connector member to lock the cap on the connector member. The connector member is injection molded in the cap to provide an aseptic seal between the connector member and the cap, which seal is maintained until the package is ready for use.

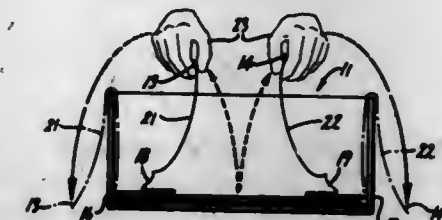
3,519,159  
**CLOSURE CAP WITH RIP-TAB RELEASE AND CAM-OFF MEANS**  
 George J. Foss, Daniel D. Acton, and Alexander W. Hart, Lancaster, Ohio, assignors to Anchor Hocking Corporation, Lancaster, Ohio, a corporation of Delaware  
 Filed Apr. 1, 1968, Ser. No. 717,696  
 Int. Cl. B65d 41/36  
 U.S. Cl. 215-39 10 Claims

A metal closure cap for sealing glass containers and having a cover and depending skirt. The lower portion of the skirt is rolled into engagement with a cap retaining bead on the glass jar finish and a score line is provided



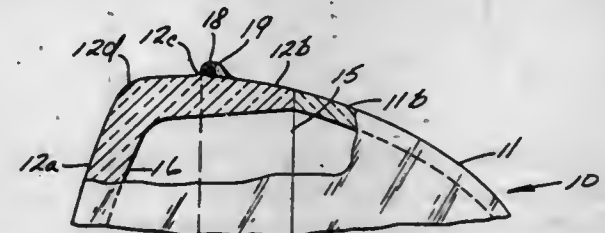
formed in the cap skirt to cam the cap off as it is twisted after the rip-tab is removed. The cam-off threads or indents are also positioned to refasten the closure cap to the container for resealing it.

3,519,160  
**FLUID IMPERVIOUS LINER FOR PACKING BOX**  
 Theodore J. Lorenz, Jr., and Nicholas V. Poletika, Fort Bragg, Calif., assignors to Union Lumber Company, Fort Bragg, Calif., a corporation of California  
 Filed Aug. 19, 1968, Ser. No. 753,470  
 Int. Cl. B65d 25/14  
 U.S. Cl. 217-3 4 Claims



A plastic liner for a fruit packing box which is folded polyethylene film glued to a supporting pad of similar dimensions which orients the liner in the box. The low coefficient of kinetic friction of the polyethylene film provides for easy unfolding.

3,519,161  
**IMPLOSION-RESISTANT CATHODE-RAY TUBE AND METHOD OF MAKING**  
 Daryl E. Powell, Waterville, and Burton W. Spear, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio  
 Filed Aug. 14, 1968, Ser. No. 752,567  
 Int. Cl. H01j 61/30; C03c 27/04  
 U.S. Cl. 220-2.1 9 Claims



A direct-viewing implosion-resistant cathode-ray television picture tube comprising a glass envelope having a funnel portion and a flanged faceplate portion. An annular reinforcing member comprising at least one strand of metallic wire is closely fitted around the external surface of the faceplate flange disposed either within a circumferential recess or in partially embedded relation. The

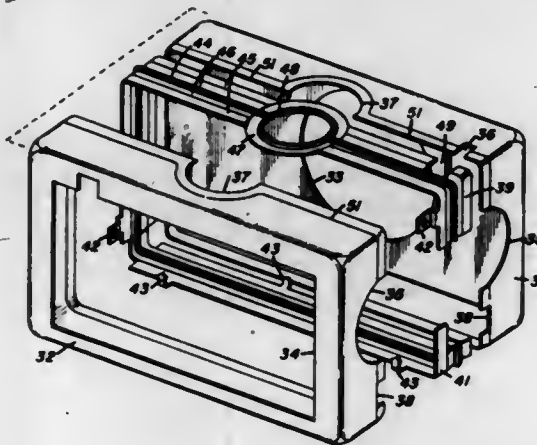


reinforcing strand is sealed to the exterior surface of the faceplate flange either by a layer of low melting solder glass or by direct glass-to-metal sealing. A protuberance is also formed at the faceplate mold match line at a region of substantially maximum cross-sectional dimensions of the tube to provide an annular restraining recess for the reinforcing wire.

**3,519,162**  
**CASING CONSTRUCTION FOR PHOTOGRAPHIC APPARATUS SUCH AS A CAMERA**  
Dean M. Peterson, William Windle, Jr., and Charles E. Pickering, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 18, 1967, Ser. No. 610,089  
Int. Cl. B65d 7/12; G03b 17/02  
U.S. Cl. 220-4

4 Claims



A light-tight boxlike casing adapted to enclose an internal body member of photographic apparatus such as a camera or similar article and retained thereon only by an inwardly inclined peripheral lip on the casing edge cooperating with mating circumferential surfaces on the body member.

**3,519,163**  
**CONTAINER AND CLOSURE THEREFOR**  
Ralph V. Bardell, Homewood, Ill., assignor to Growth International Industries Corporation, a corporation of Delaware

Filed Dec. 3, 1968, Ser. No. 780,718  
Int. Cl. B65d 43/10  
U.S. Cl. 220-60

24 Claims

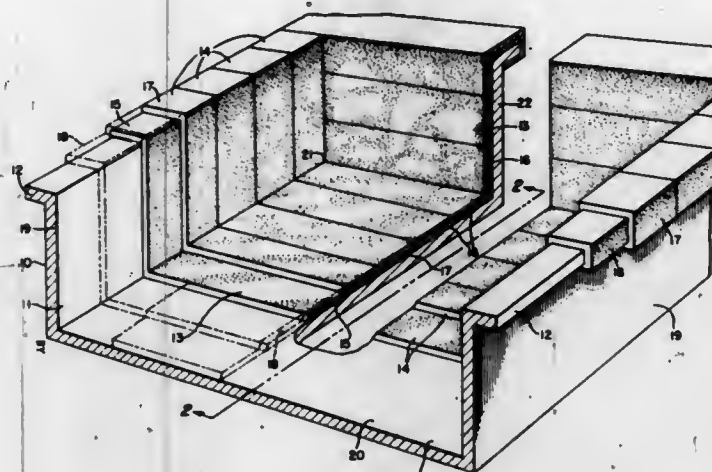


A plastic closure adapted for application to an open head container body comprises a perimetral inverted U-shaped channel provided at the periphery thereof, with the channel being formed by an inner flange, outer flange, and an integral interconnecting top section. Interlocking means, provided on the interior of the outer flange, are adapted to engage the side wall structure of the container body. Means are provided for separating the lower portion of the outer flange into separate sections in order to facilitate disengagement of the closure, with such means preferably taking the form of at least one vertical tear line severable with a screwdriver or the like.

**3,519,164**  
**MULTI-LAYER LINER FOR A CONTAINER**  
Charles N. Lehto, Hudson, Ohio, assignor to The Good-year Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed July 9, 1968, Ser. No. 743,534  
Int. Cl. B65d 25/14  
U.S. Cl. 220-63

13 Claims

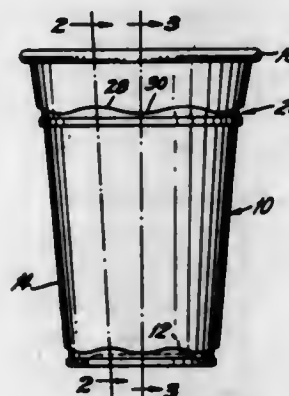


A multi-layer lining of flexible corrosive-resistant material and the method by which it is applied, the lining covering the interior surface of a receptacle for corrosive substances. The lining includes at least one base or starter sheet adhered to the interior surface of the receptacle and a series of successive overlapping sheets to form a "chain-mail" type construction. A portion of each successive sheet is adhered to the interior of the receptacle and one or more remaining portions of each sheet overlaps and are adhered to a portion of the immediately preceding sheet to form a relatively smooth even multi-layer lining substantially free of splice projections. The smooth multi-layer lining is particularly useful to cover the interior surface of a pickle tank in which courses of brick are applied interiorly of and adjacent to the lining so as to be in direct contact with the acid in the tank.

**3,519,165**  
**CUP STACKING MEANS**  
Harry R. Hawley, Lombard, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 17, 1969, Ser. No. 807,600  
Int. Cl. B65d 21/00  
U.S. Cl. 220-97

5 Claims

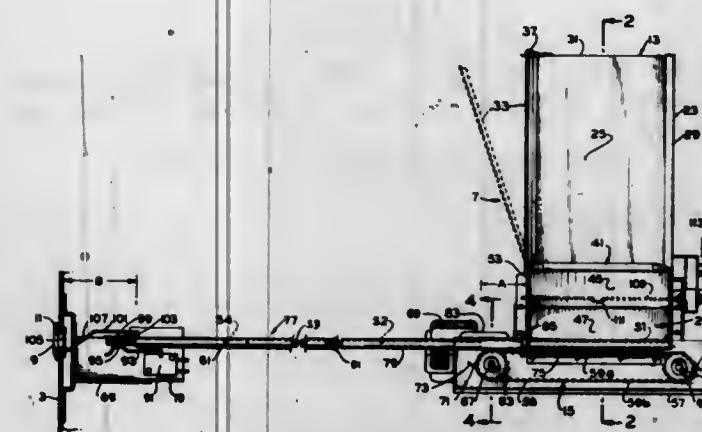


A nestable container has a stacking shoulder having a wavy configuration which is more conducive to flexure, thereby enabling a stack of nested cups to absorb greater shock loading. The wavy configuration also provides an air vent space which facilitates release of two nested cups.

**3,519,166**  
**DRINKING STRAW DISPENSER**  
Thomas O. Yingst, Herculaneum, and Donald L. Whiteaker, Imperial, Mo., assignors to UMC Industries, Inc., St. Louis, Mo., a corporation of Delaware

Filed Oct. 11, 1968, Ser. No. 766,761  
Int. Cl. G07f 11/00  
U.S. Cl. 221-13

16 Claims

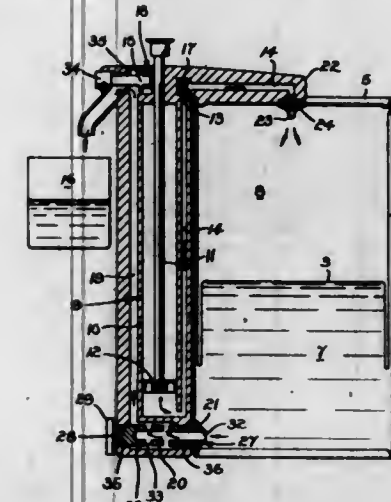


An automatic drinking straw dispenser, for use in a drink vendor, comprises a magazine for holding a supply of straws in the cabinet of the vendor, and means for feeding straws endwise from the supply toward and through an outlet in the front of the cabinet. Prior to each vend cycle of the vendor, a straw is disposed in position ready for being dispensed through the outlet with its forward end slightly rearward of the outlet. On a vend cycle, this straw is fed forward, part way out through the outlet to a final delivery position in which its forward end is presented to the purchaser so that he may grasp it and pull the straw out the rest of the way. In response to the straw being pulled out, another straw is fed into the ready position for the next vend cycle.

**3,519,167**  
**STORAGE AND DISPENSING DEVICE FOR AERATED LIQUIDS**  
Wlodzimierz Rast, 38 Hillcrest Drive, Eden Hills, South Australia, Australia  
Filed May 13, 1968, Ser. No. 728,486  
Claims priority, application Australia, May 10, 1967, 21,586/67  
Int. Cl. B67b 7/26

U.S. Cl. 222-82

3 Claims

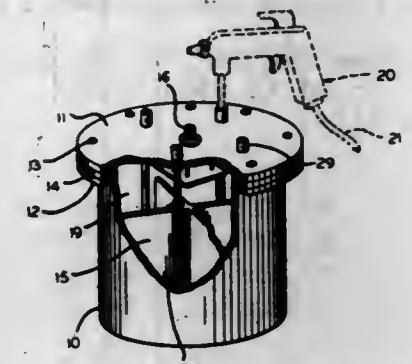


A storing and dispensing device for aerated liquids using a flexible membrane in a container so arranged that air pressure on one side of the membrane keeps the liquid under pressure to prevent the degasification of the liquid, a dispenser on the container maintaining the air pressure to force out the liquid through an outlet valve.

**3,519,168**  
**SPRAY CONTAINERS**  
Clarence W. Carr, 5844 Saloma 63120, and William J. Halbert, 4505 Clayton Ave. 63110, both of St. Louis, Mo.

Filed Feb. 26, 1968, Ser. No. 708,374  
Int. Cl. B67d 5/60  
U.S. Cl. 222-132

3 Claims



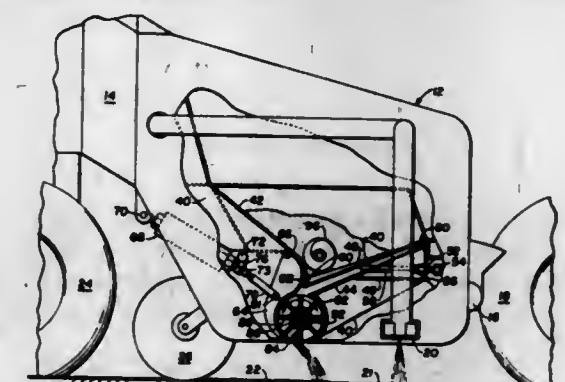
A device for spraying coatings on articles or surfaces wherein a container comprising a plurality of discrete compartments is employed to permit coatings of diverse substance or color to be applied from a single loading.

**3,519,169**  
**AGGREGATE METERING AND SPREADING SYSTEM**

John H. Holland, Norman, Okla., assignor to J. H. Holland Company, Norman, Okla., a corporation of Oklahoma

Filed Nov. 24, 1967, Ser. No. 685,645  
Int. Cl. A01c 15/00  
U.S. Cl. 222-178

15 Claims



A vehicular aggregate spreader having a hopper for holding a supply of aggregate with an elongated slot of variable width extending across the bottom of the hopper and transversely of the vehicle. The slot is positioned above an elongated valve cavity in which an elongated rotating, vaned valve body is disposed. The elongated slot is defined by a series of pivotally supported, adjustable plates and by a pivotally supported scroll which also forms the back wall of the valve cavity. The adjustable plates permit the width of the slot to be varied to pass, by gravity, different sized aggregate at different rates, and a hydraulic cylinder pivots the scroll away from the adjustable plates and away from the valve body to pass oversized particles which may jam in the slot. This procedure also dumps an excess quantity of particles which may be used to cover over any voids caused by oversized particles clogging a portion of the slot. During operation the vaned valve body is rotated at a speed which will result in cavitation so that the volume of aggregate will be determined by gravity flow through the slot. The vaned valve body is also rotated counter to the rotation of the support wheels of the spreader so that the aggregate will not have a rearwardly directed motion vector which would tend to cause ripples in the spread of aggregate. The vanes



of the valve body are divided into longitudinal sections and are staggered in order to uniformly load the drive motor used to rotate the vaned valve body and prevent ripples in the aggregate spread due to stuttering movement of the valve body.

3,519,170

**PRESSURIZED COSMETIC CONTAINER**

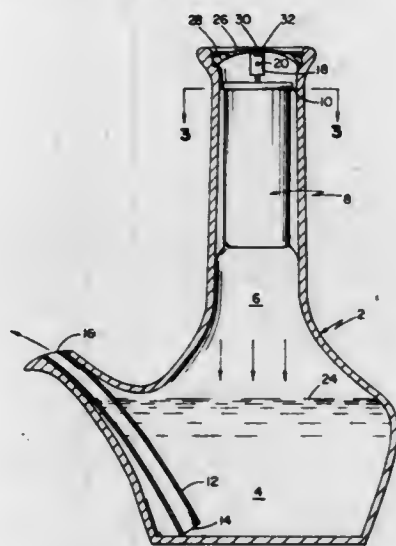
Herman Peter Lankelma, Jr., Chicago, Ill., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

Filed Sept. 21, 1967, Ser. No. 669,611

Int. Cl. B65d 83/14

U.S. Cl. 222-212

2 Claims



Liquid dispensing, a product container being normally unpressurized, but having a propellant container with a normally closed valve which when opened releases propellant into the product container thereby forcing the product out through a dispensing passage. Product flow is terminated by allowing the valve to close and at the same time venting the product container to the atmosphere.

3,519,171

**DISPENSING CONTAINER WITH METERING AND TIME DELAY VALVE MECHANISM**

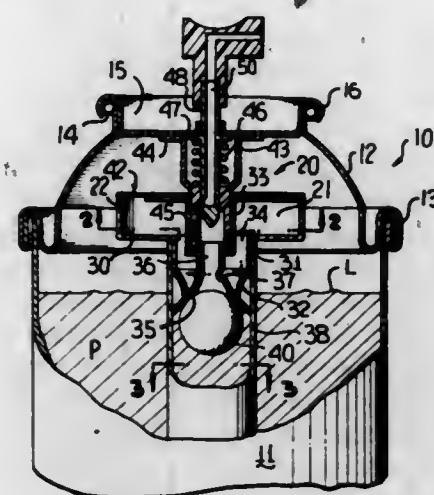
James W. Kinnavy, Westmont, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Apr. 26, 1968, Ser. No. 724,398

Int. Cl. B65d 47/00

U.S. Cl. 222-394

10 Claims



This disclosure relates to an aerosol-type container which includes a metering and time delay valve mechanism. The valve mechanism includes a passage which can be closed by a ball-like valve member under the influence of a pressurized product. A chamber having a permeable wall portion surrounds the passage and after a dispensing

operation the pressure in the chamber is balanced to that in a dip tube by propellant migrating through the permeable wall portion, thereby establishing a time delay between successive dispensing operations dependent upon the time required for the propellant to migrate into the chamber and the passage after which the valve member will descend to the bottom of the dip tube to permit a subsequent metered dispensing operation.

3,519,172

**FLUID DISPENSER**

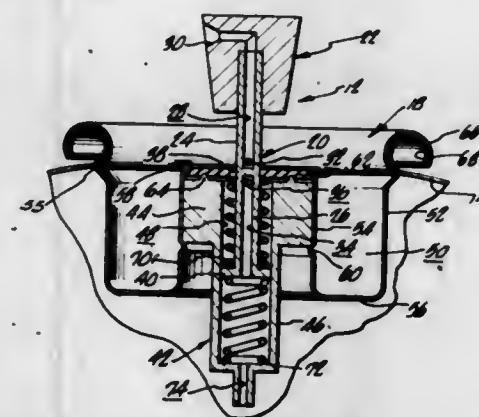
John K. Bruce, Burbank, Calif., assignor to Sterigard Company, Burbank, Calif., a California limited partnership

Filed Mar. 1, 1968, Ser. No. 709,563

Int. Cl. B65d 83/14

U.S. Cl. 222-396

15 Claims



The dispensing valve of this fluid dispenser has a stem with a pressure vent port and a stem port. These ports are separated by a partition and communicate respective passages with the outside of the stem. The stem is spring-biased to maintain the pressure vent port normally within the dispenser and out of communication with the dispenser's exterior. Upon reaching a predetermined excessive pressure, the stem moves against the spring bias to position the pressure vent port outside the dispenser and, through its passage, relieve the excessive pressure buildup within the container.

3,519,173

**SELF-HOLDING ACTUATOR CAP FOR AEROSOL DISPENSERS**

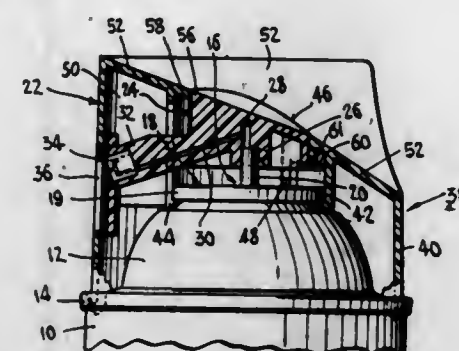
Philip H. Sagarin, Bridgeport, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware

Filed Feb. 13, 1968, Ser. No. 705,185

Int. Cl. B65d 83/14

U.S. Cl. 222-402.13

8 Claims



A self-holding actuator cap for aerosol dispensers, wherein a centrally located depress button is guarded against accidental operation by a high, surrounding stationary guard cap. The button has a rockable connection with the depressible valve stem of the dispenser, and when depressed and rocked it effects an interference engagement with the cap whereby it is retained in the depressed, discharging position. A reverse rocking releases the button to its non-discharging position.

3,519,174

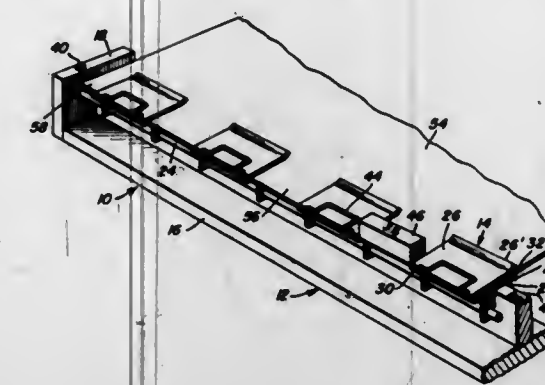
**DRAPERY PLEATER**

Marshall J. Ronay, Ashland, Ky., assignor of thirty percent to C. B. Creech, Ashland, Ky.  
Continuation-in-part of application Ser. No. 674,257, Oct. 10, 1967. This application June 18, 1968, Ser. No. 744,271

Int. Cl. A41h 43/00

U.S. Cl. 223-34

13 Claims



An elongated support member having a plurality of clamp assemblies supported therefrom for adjustable positioning therealong and including opposing plate-like jaw portions adapted to clampingly engage spaced marginal edge portions of a drapery section. A plurality of different length spacing members are provided and positionable between the clamp assemblies for spacing the latter precisely along the support member, the clamp assemblies each being adapted to maintain the portions of the associated drapery section gripped thereby in coplanar relation and the spacing members being readily removable from between the clamp assemblies, whereby the latter may be shifted lengthwise of the support member into closely spaced positions after having been engaged with an associated drapery marginal edge portion to thereby fold the portions of the drapery marginal edge portion disposed between adjacent clamp assemblies for pleating purposes.

3,519,175

**HOSIERY FINISHING BOARD**

Oscar Fregeolle, Hickory, N.C., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 22, 1967, Ser. No. 669,758

Int. Cl. D06c 5/00

U.S. Cl. 223-75

4 Claims



A hosiery finishing board comprising a flat plate having a welt area adjoining a downwardly tapered symmetrically edged lower portion terminating in an arcuate-shaped bottom; a first group of markings located in said welt area for designating various leg lengths; and a second group of markings located in said tapered lower portion for designating various foot sizes.

3,519,176

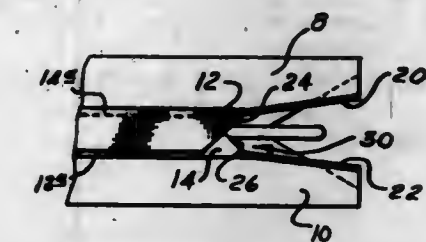
**GARMENT HOLDER**

Jacob H. Sturm and Lucille I. Sturm, both of Rte. 1, Box 362, Lone Oak, Tex. 75453  
Filed Feb. 7, 1969, Ser. No. 797,496

Int. Cl. A41j 51/08

U.S. Cl. 223-96

3 Claims



A garment holder, connectable to a clothes hanger, having resilient downwardly extending legs with intumed flanges on the lower ends thereof adapted to disengageably grip a portion of a garment, such as trouser legs, therebetween.

3,519,177

**KEY RING CARRIER**

Sweeny Voinovich, Minerva, Ohio, assignor of one-half to Enno A. Knoche, Carnegie, Pa.  
Filed July 9, 1968, Ser. No. 743,494

Int. Cl. A44b 15/00; A41d 9/00

U.S. Cl. 224-26

5 Claims



There is disclosed a key ring carrier comprised of a single strip of metal folded to form an elongated flat loop through which a belt may be passed. An integral tongue struck from one end of the strip passes through an opening in the overlapping other end and provides a key ring holding clip.

3,519,178

**AUTOMOTIVE LUGGAGE RACK AIR DEFLECTOR**

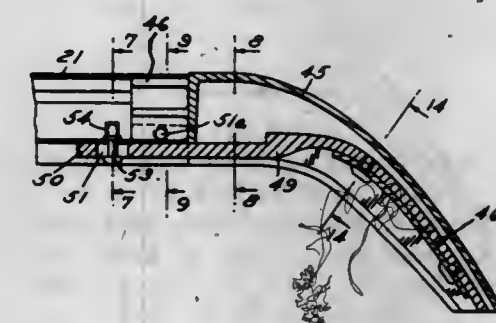
Frederick A. Helm, Detroit, and James Stephen, Royal Oak, Mich., assignors to Helm Design & Manufacturing, Inc., Detroit, Mich., a corporation of Michigan

Filed Apr. 3, 1968, Ser. No. 718,385

Int. Cl. B60r 9/04

U.S. Cl. 224-42.1

14 Claims



A luggage rack including side rails and cross rails mounted on the top of an automobile of the station wagon type. An air deflector is mounted on the rear of



the side rails for movement longitudinally of the side rails to adjust the relative position of the deflector with respect to the automobile body.

3,519,179

## CAR TOP CARRIER

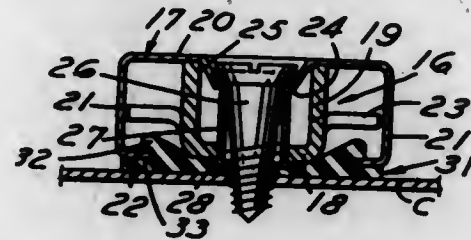
James Stephen, Royal Oak, Mich., assignor to Helm Design & Manufacturing, Inc., Detroit, Mich., a corporation of Michigan

Filed May 1, 1968, Ser. No. 725,662

Int. Cl. B60r 9/04

U.S. Cl. 224-42.1

29 Claims



A base deck for a car top carrier comprising a plurality of strip assemblies fastened to the car top. Each strip assembly comprises a U-shaped channel member and a strip having a base and side walls telescoped over the channel member. Portions of the channel member are struck outwardly and extend into closely adjacent relationship with the inner surfaces of the side walls of the strip. Fastener means are provided at longitudinally extending points and extend through the strip and the channel member to fasten each strip assembly to the car top.

3,519,180

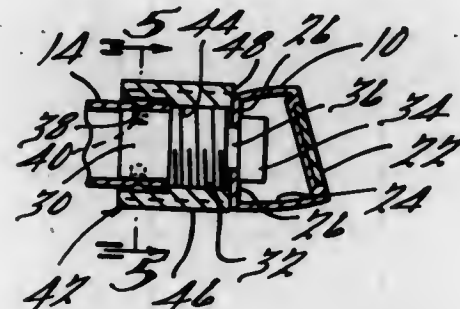
## LUGGAGE RACK

John A. Bott, 931 Lake Shore Drive, Grosse Pointe Shores, Mich. 48236  
Filed Oct. 21, 1968, Ser. No. 769,306

Int. Cl. B60r 9/04

U.S. Cl. 224-42.1

6 Claims



An automobile luggage rack in which a pair of side rails extending longitudinally of the vehicle are supported by stanchions which enclose the opposite ends of the side rails. Cross bars extend between the side rails and are adjustable longitudinally of the side rails. The cross bars are locked in desired positions by threaded locking collars which clamp against the side rails.

3,519,181

## FEED MECHANISM FOR STRANDULAR MATERIAL

Hans G. Faltin, 4135 Wilshire Drive, and Carl A. Sutton, 4281 Old Orchard Road, both of York, Pa. 17402  
Filed Jan. 18, 1968, Ser. No. 698,969

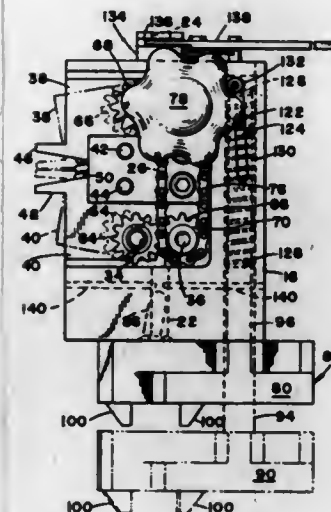
Int. Cl. B65h 25/12

U.S. Cl. 226-11

16 Claims

Mechanism for feeding continuous strandular material comprising guide means defining a path therefor, power driven feed means engaging a first strand of material for

movement along said path, supporting means engaging and positioning the leading end of a second, standby strand of material for movement to said guide means upon exhaustion of said first strand, and control means



3,519,182

## WIRE COATING APPARATUS

Sheridan S. Cannaday, Pasadena, Calif., assignor, by mesne assignments, to Physical Sciences Corporation, Arcadia, Calif., a corporation of California

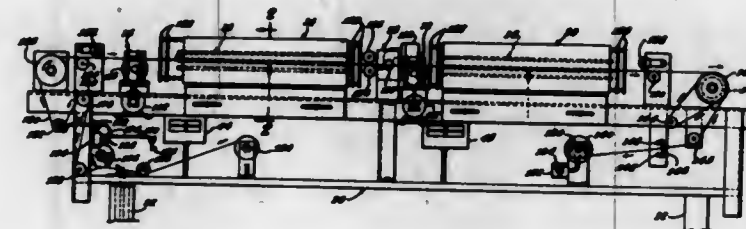
Original application Apr. 19, 1962, Ser. No. 277,975.

Divided and this application Aug. 31, 1967, Ser. No. 683,040

Int. Cl. B65h 23/22

U.S. Cl. 226-42

1 Claim



An apparatus for moving a wire through a heat processing zone with substantially zero tension. A constant speed motor pulls the wire through the zone at a substantially constant speed. A two speed motor feeds the wire toward the zone at one speed greater than the constant speed and at a second speed less than the constant speed. A sensing device operates in response to a loop in the wire to select the feeding speed.

3,519,183

JOEL H. LEVINE, SMITHTOWN, and ROBERT E. SCHOENEMAN, EAST SETAUKET, N.Y., assignors to POTTER INSTRUMENT COMPANY, INC., PLAINVIEW, N.Y., a corporation of New York

Filed Oct. 7, 1968, Ser. No. 765,419

Int. Cl. B65h 17/22

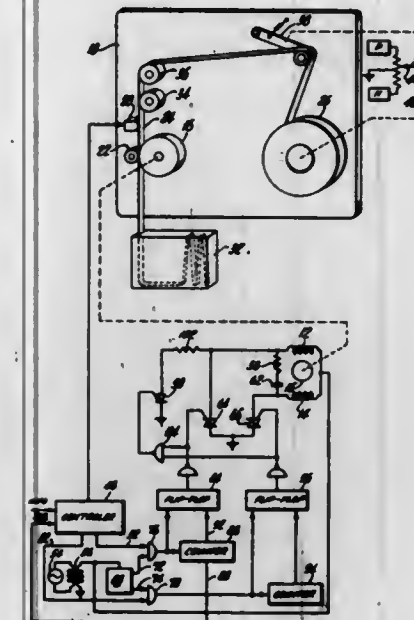
U.S. Cl. 226-49

6 Claims

The specification and drawings disclose a transport for bi-directionally driving magnetic information storage tape

through a fixed distance by means of a single capstan driven by a synchronous inductor motor which is coupled

from a tape magazine and which includes a zone means for forming a zone and a plurality of predetermined tape paths within the tape magazine. The zone is positioned within the tape magazine relative to a tape driving unit so that a substantial length of the tape may always be fed into the tape magazine by a tape driving unit even



to an A.C. power supply for a predetermined number of A.C. cycles.

3,519,184

## FILM TRANSPORT DEVICE FOR FILM PROJECTOR

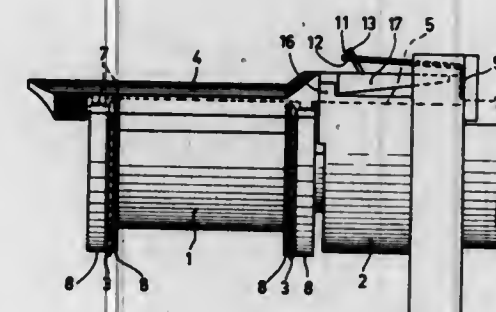
Jan Jacob Kotte and Bernardus Johannes Kuppens, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware  
Filed Sept. 27, 1967, Ser. No. 670,983

Claims priority, application Netherlands, Sept. 30, 1966, 6613814

Int. Cl. G03b 1/24

U.S. Cl. 226-83

7 Claims



An improved device for transporting and guiding film in a film projector, including a pressure pad and a sprocket wheel having corresponding curved running surfaces, the pad being accurately positionable both radially and axially relative to the wheel, and being removable radially before axially to prevent damage to the running surfaces, the sprocket wheel teeth, and film therebetween.

3,519,185

## TAPE DEVICE WITH ZONE

Fred C. Bolick, Jr., Atlanta, Ga., assignor to Lanier Electronic Laboratory, Inc., Atlanta, Ga., a corporation of Georgia

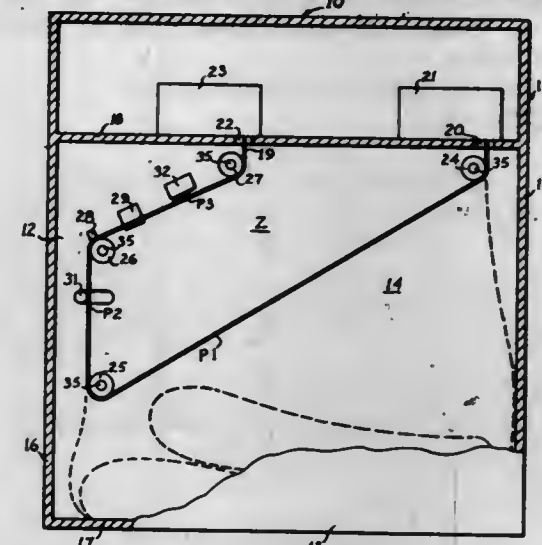
Filed Mar. 8, 1968, Ser. No. 711,716

Int. Cl. B65h 17/20

U.S. Cl. 226-118

15 Claims

A tape device in which a plurality of tape driving units feed an endless tape into and remove the endless tape



though the tape device includes a motion restricting means and an erasing means. The plurality of tape paths define the sides of the zone and motion of the tape into the plurality of tape paths provides for reliable operation of various control elements.

3,519,186

## SAFETY MECHANISM FOR PORTABLE FASTENER DEVICES

Dieter Volkman, 49 Leinstrasse, Neustadt, Rubenberge, Germany

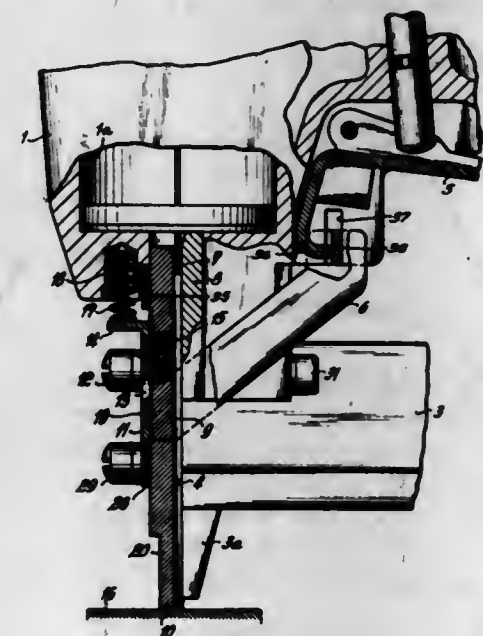
Filed Oct. 12, 1967, Ser. No. 674,875

Claims priority, application Germany, Oct. 13, 1966, H 60,740

Int. Cl. B25f 7/06

U.S. Cl. 227-8

5 Claims

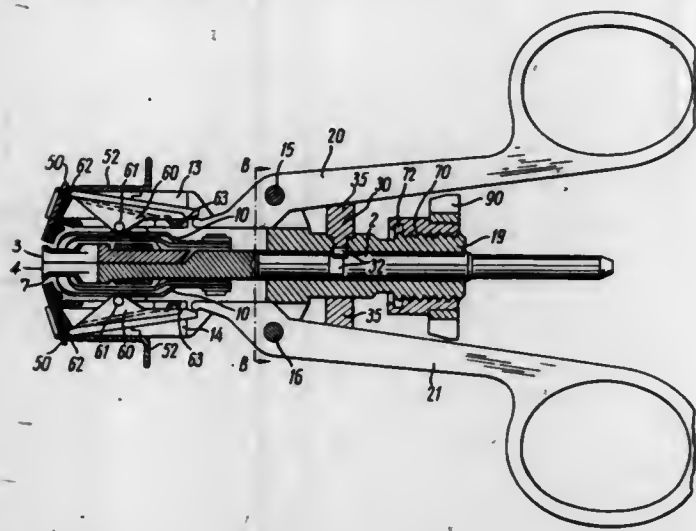


In a portable pneumatic fastener driving device, to prevent unintentional ejection of a fastener when the device is not in working position, the trigger of the air admission valve is obstructed by a blocking mechanism connected with a plate which forms the front wall of a stable driving track and has limited movability. When the lower end of the plate is pressed against a workpiece, the trigger is unblocked. The plate is also adjustable for control of the extent of penetration of the fastener.



3,519,187

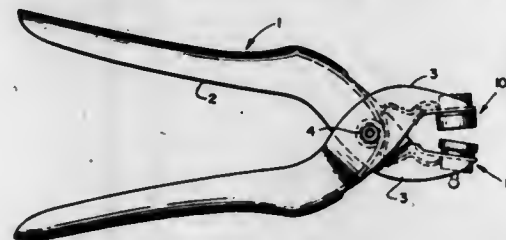
**INSTRUMENT FOR SUTURING VESSELS**  
 Nikolai Nikolajevich Kapitanov, 8th St. Oktjabrskogo, Polja 5, Apt. 9; Natalija Petrovna Petrova, Second Peschanaja St., 8, Apt. 44; and Nina Vasiljevna Jurasova, Donskaja St., 44, Apt. 40, all of Moscow, U.S.S.R. Continuation-in-part of application Ser. No. 365,325, May 6, 1964. This application Dec. 6, 1966, Ser. No. 599,565  
 Int. Cl. B25c 5/02, 5/16; A61b 17/11  
 U.S. Cl. 227—19 6 Claims



Apparatus to suture vessels (arteries, the aorta and veins) and their soft prostheses by the "end-to-end" and "end-to-side" methods and to apply a patch on a defective portion of a vascular wall, without replacing parts and without changing the working procedure. The apparatus permits vessel-suturing without flanging or cuffing one of the vessel ends and when one of the ends is short which makes it possible to suture prostheses with sclerotic vessels.

3,519,188

**FASTENER ATTACHING PLIERS**  
 William A. Erhardt, Jr., Cambridge, Mass., assignor, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware  
 Filed Jan. 10, 1968, Ser. No. 696,772  
 Int. Cl. B21j 15/38; B25b 7/00  
 U.S. Cl. 227—144 4 Claims



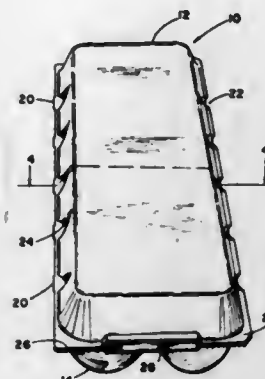
A fastener attaching pliers carries setting tools which are removably mounted in the pliers jaws. In one mounted position of the setting tools the pliers are adapted for the attachment of snap fastener stud and socket components to a workpiece. When one of the setting tools is removed and remounted in an inverted condition, the pliers are adapted for setting eyelets in a workpiece.

3,519,189

**PROTECTIVE CONTAINER**  
 John D. Bambara, Paterson, N.J., and Howard A. Rohdin, Waquoit, Mass., assignors to Packaging Industries, Inc., Hyannis, Mass., a corporation of Massachusetts  
 Filed July 10, 1968, Ser. No. 743,673  
 Int. Cl. B65d 1/24, 85/32  
 U.S. Cl. 229—2.5 6 Claims

There is disclosed an egg carton made of a material such as foamed polystyrene in which at least one longitudinal edge, where the top and bottom of the carton

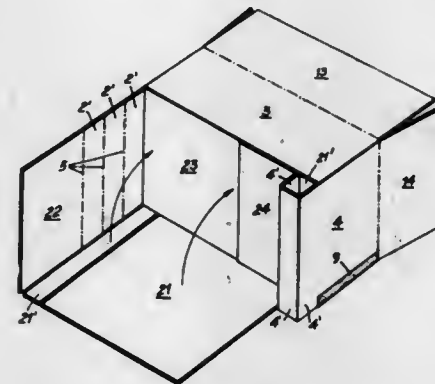
come together, has spaced indentations and a heat sealed joining of the top and bottom portions at these indentations. In one embodiment, the second longitudinal edge where the top and bottom portions come together has relatively short spaced hinges so that when the carton is open, the top portion can either be refolded back or



can be torn off, at option of the user. In addition, each of these hinges has a length sufficiently small so that they can readily be melted through and a heat seal effected. When a heat seal is effected at various spots along both longitudinal edges of the carton, the top of the carton can easily be torn off by the user.

3,519,190

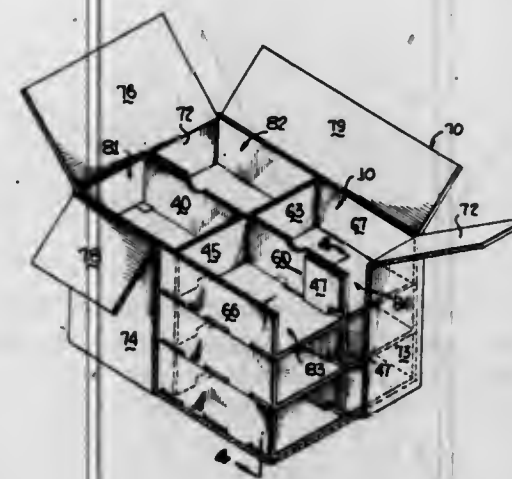
**COLLAPSIBLE PALETTE BOX MADE OF CORRUGATED CARDBOARD AND THE LIKE**  
 Werner Achermann and Franz Achermann, both of 71 Rumlangstrasse, 8052 Zurich, Switzerland  
 Filed Feb. 13, 1968, Ser. No. 705,071  
 Int. Cl. B65d 5/02  
 U.S. Cl. 229—37 28 Claims



This disclosure provides a collapsible palette box which has four wall panels connected side by side to form a rectangular container. Each of the wall panels includes a top section, a side wall section and a bottom section. The several wall sections are separated by folding lines. A first wall panel has a folded bottom section which forms an inner bottom ply of the box bottom. A second and third wall panel are located on opposite sides of the box with respect to each other and have folded bottom sections. These opposed bottom sections form a hollow brace joist along opposite bottom edges of the box bottom and at least a portion of the opposed bottom sections comprise an intermediate bottom ply juxtaposed said inner box bottom ply. A fourth wall panel is located opposite the first wall panel and has a folded bottom section which forms an outer box bottom ply juxtaposed said intermediate ply. The disclosure also provides a collapsible palette box blank to form the palette box of the disclosure.

3,519,191  
PARTITION

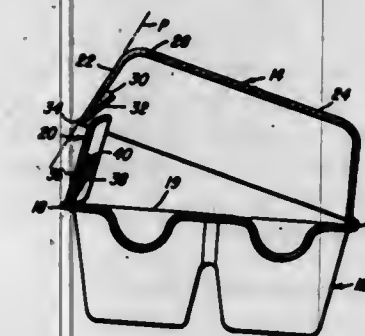
Mark B. Royce, Ho-Ho-Kus, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York  
 Continuation-in-part of application Ser. No. 542,278, Apr. 13, 1966. This application June 19, 1967, Ser. No. 646,814  
 Int. Cl. B65d 5/48  
 U.S. Cl. 229—42 23 Claims



This invention relates to a novel partition structure of the type adapted to be positioned in a container for separating articles packaged therein. The partition includes a pair of base panels to each of which is joined first and second partition forming panels disposed generally normally to each other. The base panels are provided with means for interlocking the same in a generally common plane while opposite edge portions of the base panels are provided with upstanding flanges. The flanges normally tend to spring away from each other for grippingly engaging interior surfaces of a container in which the partition is housed. Means are also provided adjacent the flanges for interlocking securing together like constructed partitions in stacked relationship.

3,519,192

**MOLDED CARTON LOCK**  
 Kenneth D. Bixler, Huntington, N.Y., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware  
 Filed Feb. 6, 1969, Ser. No. 796,990  
 Int. Cl. B65d 5/66  
 U.S. Cl. 229—44 7 Claims

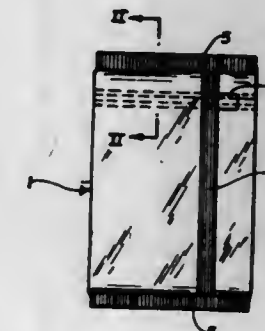


A molded carton having a tray, integral hollow cover and lock flap and including cooperating lock portions in the forward wall of the cover and the lock flap, in which a lock portion on the flap comprise one or more indented walls terminating in upper transverse ledges, and a lock lip defined by an inwardly extending wall complementary to the indented portion on the lock flap and bordering a hole through the forward wall of the cover exposing

therebeneath, when the carton is closed, the lock flap which, when depressed, permits the cover to be opened, and in which a bulge or indicia provided on the lock flap above the transverse lip is exposed at the hole in the cover forward wall but beneath the outer surface thereof whereby a user is apprised as to where to depress the lock flap to operate the lock.

3,519,193

**TEAR TAPE CONSTRUCTION**  
 Charles E. Palmer, Somers, Conn., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed Sept. 16, 1968, Ser. No. 762,174  
 Int. Cl. B65d 17/20  
 U.S. Cl. 229—51 10 Claims

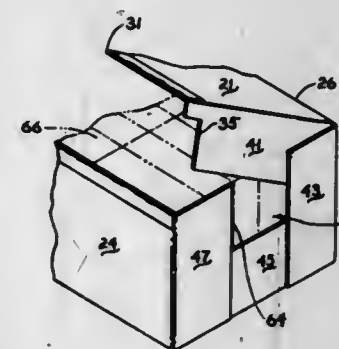


Tear tapes for packages made of plastics, paper, paper-plastic laminates and like materials are disclosed. The tapes comprise a flexible plastic strip having a longitudinally extending recessed central portion bounded on each side by a raised longitudinally extending side margin and a steel foil band having sharp cutting edges positioned within the recessed central portion of the strip.

3,519,194

**END-LOADING EASY-OPENING SHIPPING CARTON**

Frank A. Kohlhaas, Hillsborough, and Frederic S. Weiss, Tiburon, Calif., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada  
 Continuation-in-part of application Ser. No. 710,302, Mar. 4, 1968. This application July 7, 1969, Ser. No. 843,280  
 Int. Cl. B65d 7 Claims



A regular slotted shipping carton adapted for end-loading and top-opening. The manufacturers seal is made along the connection between the top panel and a side wall panel. The top wall closure flaps are free of adhesive connection with said front and rear wall closure flaps so that the top wall panel may be readily removed when the manufacturers seal is broken. Openings are provided



between the front and rear wall closure flaps for easy access to the goods packaged in the carton when the top wall panel is removed.

3,519,195

# **BOTTOM CLOSURE FOR BAG WITH RECTANGULAR CROSS-SECTION**

Paul Kuhnle, Winnenden, Germany, assignor to Fr. Hesser Maschinenfabrik A.G., Bad Canstatt, Germany, a corporation of Germany

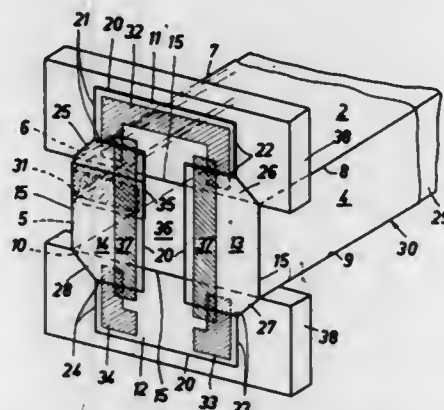
Filed Aug. 28, 1968, Ser. No. 755,905

Claims priority, application Germany, Sept. 1, 1967, 1,586,711

Int. Cl. B65d 31/00, 33/00

U.S. Cl. 229—58

7 Claims



Bottom closure for a bag of rectangular cross-section in which the closure flaps extending from the narrow wall panels are spaced relative to each other; slits are provided in the broad panel connected flaps to cause portions of these flaps to be followed in response to the folding of the narrow panel flaps; and each of the four flaps are provided with adhesive means for seal tight engagement with each other.

3,519,196

# **PLASTIC BAG WITH EXTERNAL PATCH CONFINING CLOSURE DEVICE**

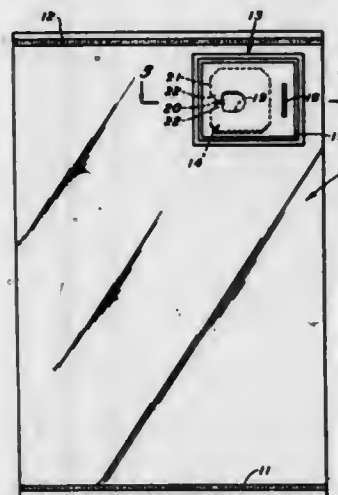
Jerre H. Paxton, Yakima, Wash., assignor to International Development Trust, Yakima, Wash., a trust of the State of Washington

Filed Feb. 13, 1969, Ser. No. 799,065

Int. Cl. B65d 27/08, 31/12

U.S. Cl. 229—62

4 Claims



A flexible bag made of a suitable sheet plastic material such as polyethylene, a patch of like material applied externally to said bag, as by thermo-sealing, to form a pocket confining a closure device, a slot in said patch being engageable by a finger for opening said pocket and removing said device for using in closing said bag.

3,519,197

# **BAG WITH WEAKENED CLOSURE**

Ernest Howard Campbell, Willowdale, Ontario, Canada, assignor to Union Carbide Canada Limited, Toronto, Ontario, Canada, a company of Canada

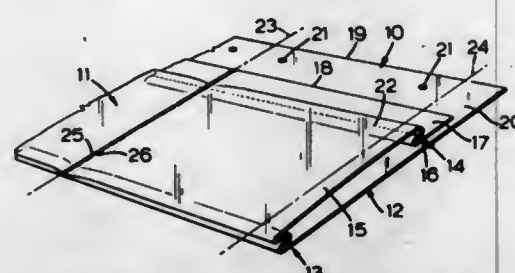
Filed Sept. 5, 1967, Ser. No. 665,633

Claims priority, application Canada, Dec. 16, 1966, 978,163

Int. Cl. B65d 33/16

U.S. Cl. 229—66

11 Claims



A bag of thermoplastic material with a front wall and a back wall joined at the bottom and sides and having a perforated line of weakness in one wall between the top and bottom edges. The front and back walls may be heat-sealed along the side of the perforated line remote from the bottom edge. Access to the interior of the sealed bag may be obtained by tearing along the perforated bag. The wall portion between the sealed edge and the perforated edge provides closure for the bag.

3,519,198

# **PARCEL DEPOSITORY APPARATUS**

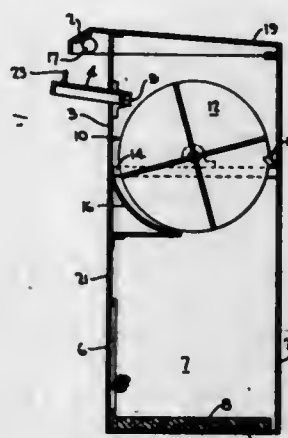
Jose B. Benollet, P.O. Box 2879, Caracas, Venezuela

Filed Sept. 12, 1967, Ser. No. 667,229

Int. Cl. A65f 1/00

U.S. Cl. 232—17

1 Claim



An apparatus for the deposit and collection of parcels which includes an enclosed cabinet with a multi-section rotatable drum in the upper end thereof. A door in the front of the cabinet communicates with the drum to permit a parcel to be placed in one of the sections of the drum. The drum can then be rotated so that the parcel drops to the lower portion of the cabinet. A locked door at the lower end of the cabinet enables authorized persons to collect the parcels at scheduled times for shipment to their destinations.

3,519,199

# **SOLIDS HANDLING CENTRIFUGAL EXTRACTOR**

David B. Todd, Saginaw, Mich., assignor to Baker Perkins, Inc., Saginaw, Mich., a corporation of New York

Continuation-in-part of application Ser. No. 630,119, Apr. 11, 1967. This application Apr. 3, 1969, Ser. No. 813,190

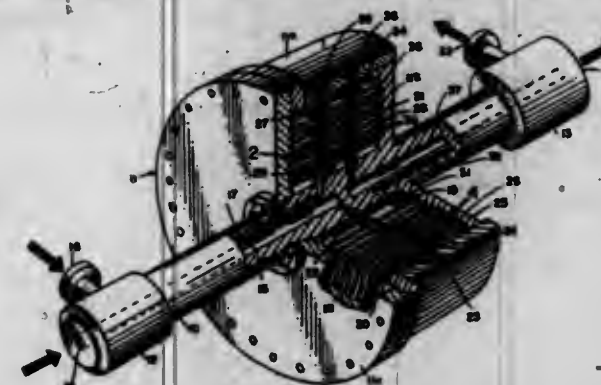
Int. Cl. B04b 1/12

U.S. Cl. 233—15

12 Claims

Centrifugal countercurrent extractors having a plurality of concentric perforated contacting elements are

coated on their radially inner surfaces with a fluorocarbon to fluidize solid material with the heavy phase adjacent the coated surfaces, which also function as surfaces for the coalescence of the heavy phase in the contacting zone. The extractor has particular utility for contacting two substantially immiscible liquid phases of different densities in the presence of dispersed solid material of greater density than the light phase and which therefore



tends to flow with the heavy phase. Where the heavy phase clarifying zone contains cylindrical perforated clarifying elements, the inner surfaces of such elements may also be coated with a fluorocarbon, but there will usually be no advantage in coating the outer surfaces of the contacting elements or the heavy phase clarifying elements, nor in coating the outer surfaces of the light phase clarifying elements.

3,519,200

# **METHOD FOR INDICATING CHANGES OF LIQUID PRESSURE IN A CENTRIFUGAL SEPARATOR**

Carl-Goran Nilsson, Tullinge, Sweden, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden

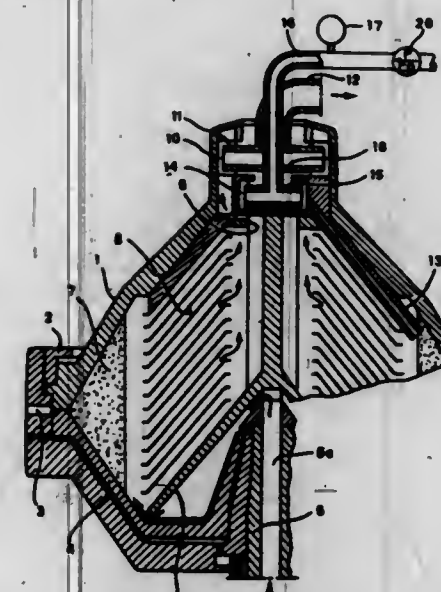
Filed Nov. 2, 1967, Ser. No. 680,218

Claims priority, application Sweden, Oct. 10, 1967, 13,825/67

Int. Cl. B04b 15/00, 11/00

U.S. Cl. 233—19

3 Claims



The rotor of the centrifugal separator has an inlet for the mixture to be separated and at least one outlet for a separated liquid, and a duct opens into the rotor at a certain radius where changes in the liquid pressure occur during operation, the duct extending from the rotor to a measuring instrument for indicating those pressure changes. A fluid is pumped through the duct and into the rotor, preferably continuously, the fluid being one which will not harm or contaminate the measuring instrument. Thus, the measuring instrument is subjected only to the fluid in the duct but provides the desired indication of the liquid pressure changes in the rotor by responding to resulting changes in the fluid pressure as the fluid is pumped.

3,519,201

# **SEAL MEANS FOR BLOOD SEPARATOR AND THE LIKE**

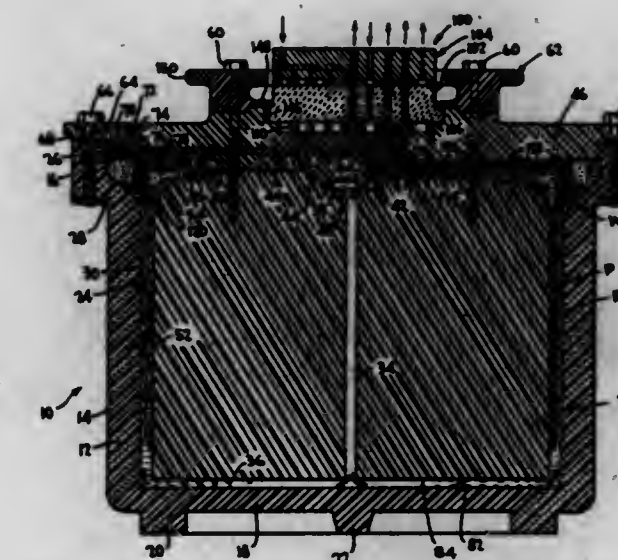
Robert J. Eisel, Kensington, and William B. Greenough III, Baltimore, Md., and Robert M. Kellogg, Endwell, N.Y., assignors to the United States of America as represented by the Secretary, Department of Health, Education, and Welfare

Filed May 7, 1968, Ser. No. 727,192

Int. Cl. B04b 11/00; A61m 5/00

U.S. Cl. 233—21

10 Claims



Sealing means for use with a face seal having one fixed element and one rotating element particularly for use with a continuous blood flow separator. Saline under pressure is forced into groove means between the channel means at the interface of the seal means to preclude seepage of the materials in the channel means across the interface. According to a preferred arrangement the most sensitive material, such as packed red blood cells, is removed through the most direct pathway to preclude damage thereto. Preferably, the rotating element is formed of ceramic and the fixed element is formed of stainless steel.

3,519,202

# **APPARATUS AND SIMPLIFIED PROCEDURE FOR BILLING FOR CREDIT PURCHASES AND THE LIKE**

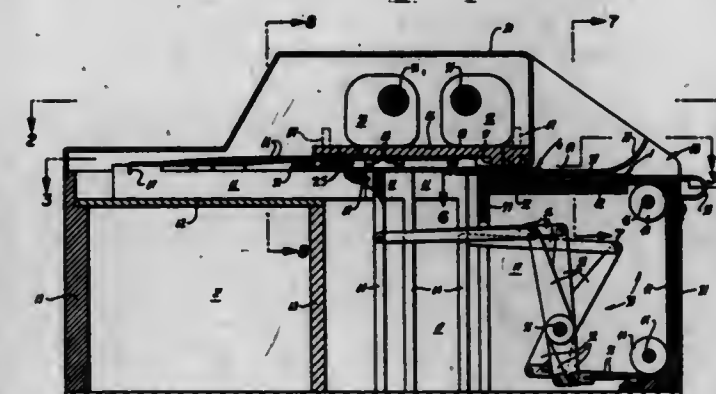
Herbert L. Rogers, 1125 Taylor St., San Francisco, Calif. 94108

Filed Dec. 20, 1965, Ser. No. 514,813

Int. Cl. G06k 1/20, 19/00, 1/14

U.S. Cl. 234—35

13 Claims



Mechanical apparatus for applying machine readable indicia onto a record slip in accordance with coded indicia carried by a master card. Insertion of the master



card effects automatic positioning of indicia applying elements relative to the record slip. The apparatus also includes other selectively positionable indicia applying elements for adding cost data or the like to the recorded slip. Handle operable means move the indicia applying elements simultaneously into engagement with the record slip. Use of the apparatus eliminates a separate key punch operation during the billing procedure for the purchase covered by the record slip.

## ERRATUM

For Class 235—99 see:  
Patent No. 3,519,803

3,519,203

## THERMO-HUMIDISTAT

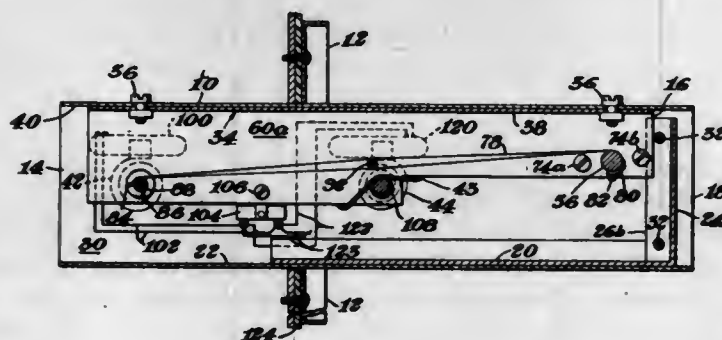
Bruce W. Engle, 315 Summer St., Box 146,  
West Burlington, Iowa 52655

Continuation-in-part of application Ser. No. 723,648,  
Apr. 1, 1968, which is a continuation-in-part of  
application Ser. No. 626,615, Mar. 28, 1967. This  
application Oct. 3, 1969, Ser. No. 863,577

Int. Cl. G05d 22/00

U.S. Cl. 236—44

7 Claims



A dryer heater control having two temperature sensitive elements and a humidity sensitive element coupled to operate switches connected to control a drying air heater so that regardless of changes in atmospheric temperature and humidity a product will be dried to a desired moisture content or at a predetermined drying temperature.

This control apparatus is particularly suitable for controlling heaters employed in drying operations wherein a predetermined final moisture content is desired, or alternatively, wherein a preselected drying temperature is preferred or required, in a product being dried, e.g. a grain.

3,519,204

## TEMPERATURE CONTROL APPARATUS

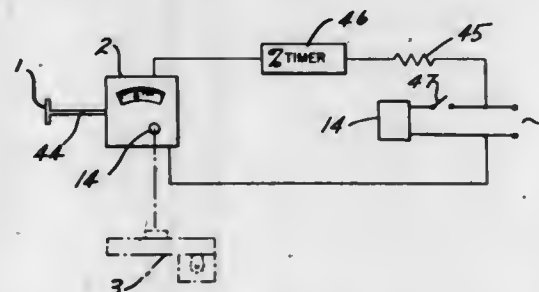
Everett Chapman, P.O. Box 207,  
West Chester, Pa. 19380

Filed May 8, 1968, Ser. No. 727,593

Int. Cl. G05d 23/22

U.S. Cl. 236—70

1 Claim



A thermo-couple on the article to be heated, a pyrotroller needle driven by the thermo-couple signal and a

drive means for moving the pyrotroller contactor at a predetermined rate either up or down the scale.

3,519,205

## ELASTIC RAIL FASTENERS

Louis Monclin and Marian Serafin, Paris, France, assignors to Société Anonyme de Traverses en Beton Arme Systeme Vagueux, Paris, France, a company of France

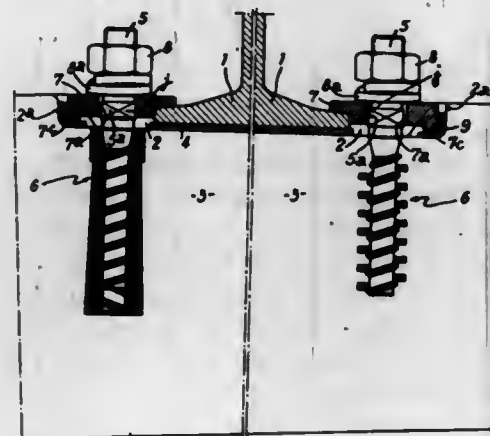
Filed Mar. 20, 1968, Ser. No. 714,677

Claims priority, application France, Mar. 30, 1967,  
100,780

Int. Cl. E01b 9/00

U.S. Cl. 238—338

8 Claims



An elastic rail fastener including a bed in the supporting face extended on each side of the rails and having indentations with substantially vertical walls which constitute stops, an elastic pad, a clip placed over a screw spike and vertically pushing against the flange of the rail by the effect of a nut and a double washer and abutting laterally against an elastically compressible plate arranged against the shoulders of the support surface, the clip being bored and located in such a manner as to leave a certain amount of play around the screw spike which traverses it, although it opposes the accidental rotation of the screw spike.

3,519,206

## TRAVELING WATER SUPPLY FOR FIELD IRRIGATION SYSTEM

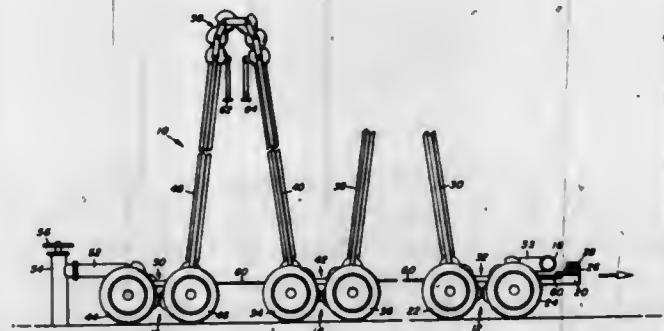
Otto W. Leaders, Ottertail, Minn. 56571

Filed Nov. 20, 1968, Ser. No. 777,356

Int. Cl. B05b 1/20

U.S. Cl. 239—213

9 Claims



A system is disclosed for supplying water under pressure to a traveling sprinkler system. A series of wheeled carriage units are provided on which are mounted sections of piping for carrying water from a stationary source to the moving sprinkler system. The pipe sections are connected by flexible joints which permit the sections to

be vertically folded and then to extend as the sprinkler moves away from the water source. When the pipes reach their full extent, the system may be refolded, as by a motor driven winch for connection to a new water source and the process repeated.

3,519,207

## NOZZLE ACTUATION SYSTEM

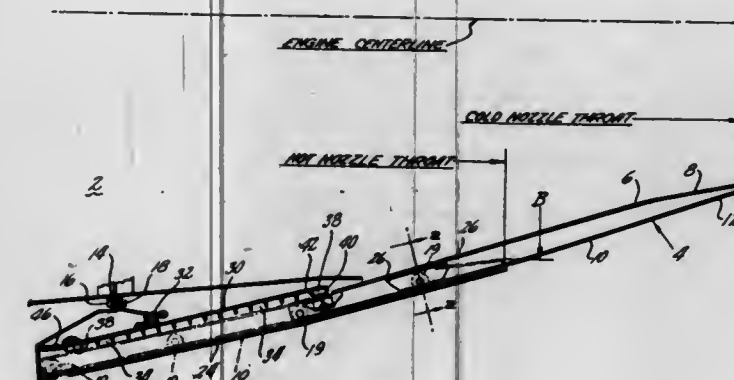
Donald S. Clough, Andover, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 20, 1968, Ser. No. 761,274

Int. Cl. B64c 15/06

U.S. Cl. 239—265.41

10 Claims



An actuation system for a variable area nozzle wherein movement of the flaps is accomplished by an annular drive cone with spiral grooves around the circumference and over its length actuating a cam roller carried on each nozzle flap and cooperating within the spiral grooves.

3,519,208

## TWO-PIECE SPRAY PLUG

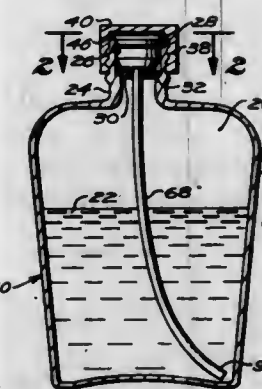
Paul A. Marchant, Kansas City, Mo., assignor to Ethyl Development Corporation, Kansas City, Mo., a corporation of Delaware

Filed June 10, 1968, Ser. No. 735,633

Int. Cl. B65d 1/32

U.S. Cl. 239—327

10 Claims



A spray emitting squeeze bottle comprising a resilient squeezable container having a hollow neck portion supporting a spray orifice structure and a check valve means, such that the check valve will permit air to enter the container when it is resiliently expanding, and to prevent air from escaping from the container through the check valve, when the container is squeezed so that compression of air in the container may cause liquid and air to be mixed and expelled through a spray orifice to attain a fine mist propulsion of fluid from the container.

3,519,209

## NOZZLE APPARATUS

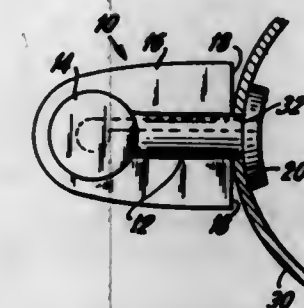
Uri Limoni, Lincoln Park, N.J., assignor to Blazer Corporation, East Rutherford, N.J., a corporation of New Jersey

Filed Sept. 27, 1968, Ser. No. 763,197

Int. Cl. B05b 1/34

U.S. Cl. 239—468

3 Claims



A nozzle for fluid distribution systems is formed of a resilient material, and includes an expanded end portion and a truncated rib portion for securing the nozzle in a desired spatial relationship on a fluid conduit. The resilient nature of the composite nozzle renders it adaptable for cleaning in situ.

3,519,210

## MECHANICAL BREAKUP BUTTON

Richard L. Du Plain, Chicago, Ill., assignor to Seaquist Valve Company, Division of Pittway Corporation, Cary, Ill., a corporation of Pennsylvania

Filed Apr. 18, 1968, Ser. No. 722,410

Int. Cl. B05b 1/34

U.S. Cl. 239—492

4 Claims



A mechanical breakup type aerosol valve button with an annular rotation chamber and a tangential passage-way leading into a central swirl chamber behind the terminal orifice. The orifice is contained within an insert.

3,519,211

## DISINTEGRATION PROCESS FOR FIBROUS SHEET MATERIAL

Richard M. Sakulich, Cincinnati, and Mario S. Marsan, Springfield Township, Hamilton County, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed May 26, 1967, Ser. No. 641,549

Int. Cl. B02c 13/08

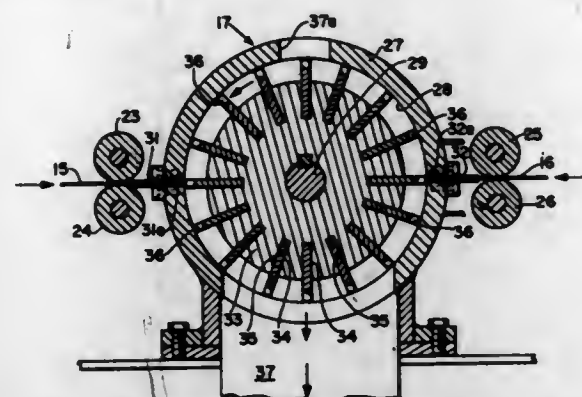
U.S. Cl. 241—18

5 Claims

A process for continuously converting dried cellulosic fibrous sheet material into a dispersion of individual fibers in air. The fibrous sheet is advanced into a disintegrating



device wherein the end of the sheet is repeatedly impacted at a predetermined velocity by one or more impacting



elements. The fibrous sheet is entirely disintegrated into individual fibers at relatively high rates.

3,519,212

**CRUSHER FEEDING METHOD**

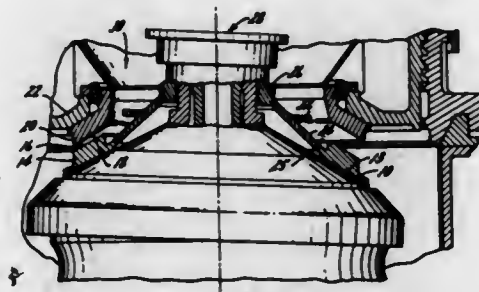
Thomas D. Davis, Hillsborough, and Allan D. Watson, San Diego, Calif., assignors to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Application Mar. 24, 1964, Ser. No. 354,216, now Patent No. 3,329,356, dated July 4, 1967, which is a continuation-in-part of application Ser. No. 232,843, Oct. 24, 1962. Divided and this application Apr. 10, 1967, Ser. No. 629,715

Int. Cl. B02c 2/04

U.S. Cl. 241—30

6 Claims



A method of operating a gyratory crusher by applying a positive congesting pressure to the material within the crushing zone as the gyrating member of the crusher is moving away from the stationary crushing member, and agitating the material above the crushing cavity as the gyrating member is moving toward the stationary member. The areas of pressure application and material agitation are diametrically opposed. A frictional force is applied to drag material into the crushing cavity as the gyrating crushing member is moving away from the stationary crushing member. The combination of positive pressure and frictional force applied to the material moves the material at a speed greater than that of gravity into the crushing zone.

3,519,213

**INDICATOR ASSEMBLY FOR CONVOLUTED BAND MATERIAL IN MOTION PICTURE CAMERAS OR THE LIKE**

Wilfred Hofmann, Munich, and Josef Pfeiffer, Unterhaching, near Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

Filed Apr. 18, 1968, Ser. No. 722,465

Claims priority, application Germany, Apr. 22, 1967, A 55,513

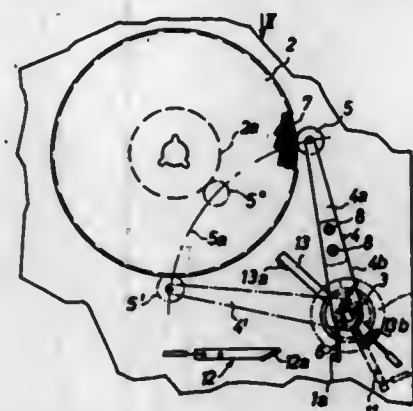
Int. Cl. B65h 25/04; G03b 1/04; G11b 15/32

U.S. Cl. 242—57

8 Claims

A motion picture camera wherein the outermost convolution of the film on the supply reel is tracked by the follower of a pivotable lever whose angular position

changes as a function of changes in the diameter of convoluted film when the supply reel pays out the film. The lever moves the slider of a rheostat which is in circuit with a galvanometer so that the needle of the galvanometer



indicates the resistance of the rheostat and hence the diameter of film on the supply reel. A lamp lights up when the diameter of film on the supply reel decreases to a predetermined minimum value.

3,519,214

**APPARATUS FOR ROLLING FABRIC BANDAGES**

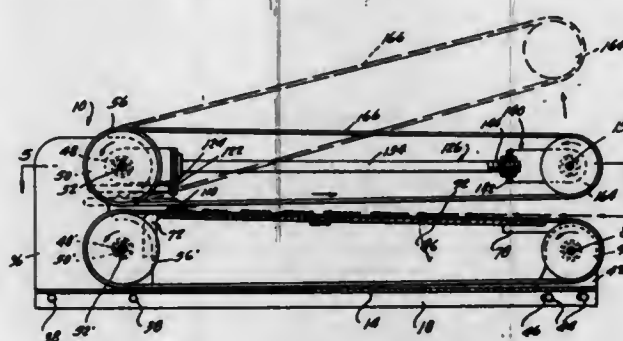
Alexander Konrad, Parma Heights, and Lester E. Hawkins, Cleveland, Ohio, assignors of twenty-five percent each to Lucille L. Konrad, Parma Heights, and Gloria R. Hawkins, Cleveland, Ohio

Filed Nov. 25, 1968, Ser. No. 778,569

Int. Cl. B65h 17/14

U.S. Cl. 242—67.1

10 Claims



A machine for converting a flat length of fabric material into a roll of said material and including a base, a pair of vertically spaced and juxtaposed continuous belts supported on said base and adapted to receive the leading end of said fabric material therebetween, roll starting means on said base, means pivotally connecting one end of one of said belts to permit pivotal movement of the other end of said one belt relative to the other of said belts, and means driving said belts in contra directions and at differing speeds relative to one another.

3,519,215

**RECORDING APPARATUS**

Tommy N. Tyler, Littleton, and Harold J. Brikowski, Englewood, Colo., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 4, 1967, Ser. No. 636,070

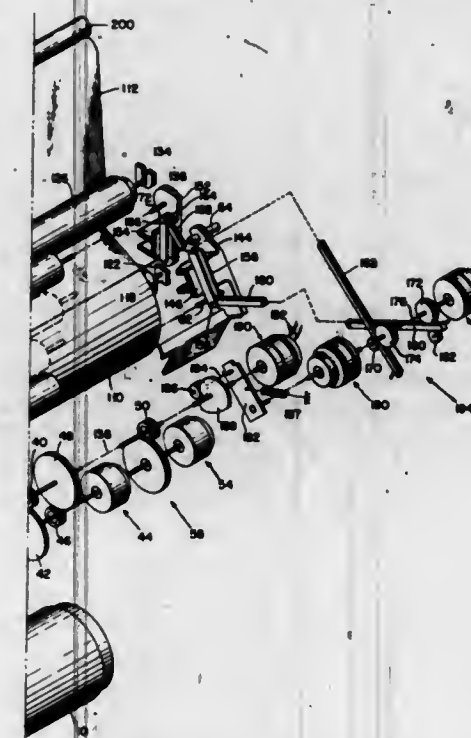
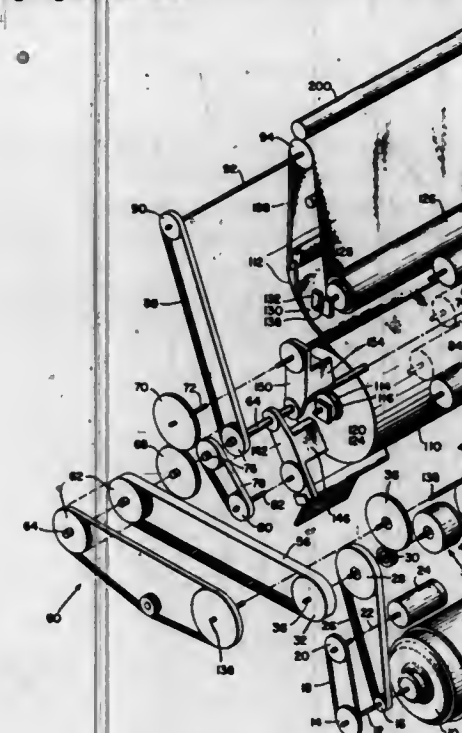
Int. Cl. B65h 17/08, 17/12

U.S. Cl. 242—67.4

6 Claims

An apparatus for maintaining the proper tension in a chart as it is moved directly at any one of a selected number of different speeds in an unwinding direction from a supply spindle to a take-up spindle and in reverse (rewinding) direction in order to prevent undesired transverse movement, buckling and rupture of the chart from taking place which comprises an electro-mechanically actuated mechanism to:

(1) Move a first drive roller driven at one of a selected number of speeds into driving engagement against an outer surface of the chart that is wound on the take-up spindle and simultaneously move a second drive roller being driven at the selected speed out of its driving contact with the outer surface of the chart that is wound on the supply when the chart is being moved from the supply to the take-up spindle and



(2) To move the first (take up) roller out of driving contact with the surface of the chart on the take-up spindle and the second roller simultaneously into driving engagement against the supply spool when the chart is moved in a reverse (rewinding) direction from the take-up to the supply spindle.

3,519,216

**MANDREL**

Dominick Rienzi, Nutley, and William C. Lohrlink, Livingston, N.J., assignors to Tosto Corporation, Nutley, N.J., a corporation of New Jersey

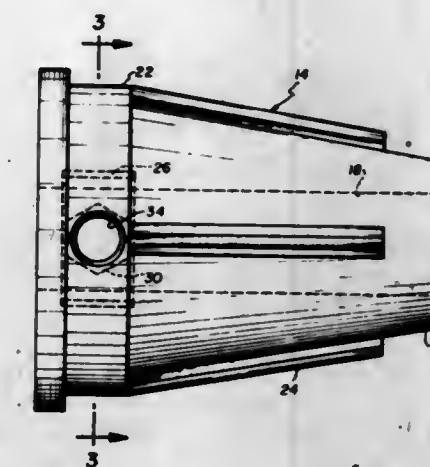
Filed Aug. 15, 1968, Ser. No. 752,921

Int. Cl. B65h 17/02

U.S. Cl. 242—68.2

6 Claims

A mandrel for use with large rolls of sheet material wherein two mandrels are placed on opposite sides of the roll within the core thereof. The mandrels each have a



core of the roll, which material will return to its original shape after use. Further, an endless stress bearing non-elastic ring is made integral with the mandrel and conforming to the inner surface of the key opening so as to retain the mandrel on the shaft of the driving apparatus.

3,519,217

**REEL HUB FOR MAGNETIC TAPE TRANSPORTS**

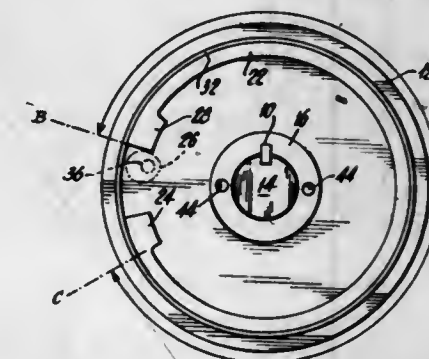
Warren H. Enners, Farmingdale, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York

Filed Jan. 2, 1969, Ser. No. 788,430

Int. Cl. B65h 17/02

U.S. Cl. 242—68.3

10 Claims



The specification and drawings disclose a reel hub for magnetic tape transports in which an expansible shoe is formed integrally with the base ring or disk against which the reel presses when in position.

3,519,218

**STRIPPER FOR A FILM OR TAPE END**

Robert Mees, Wissmar, Kreis Wetzlar, Germany, assignor to Firma Ernst Leitz GmbH, Wetzlar, Germany

Filed Nov. 4, 1968, Ser. No. 772,937

Claims priority, application Germany, Nov. 11, 1967, 1,524,923

Int. Cl. B65h 27/00

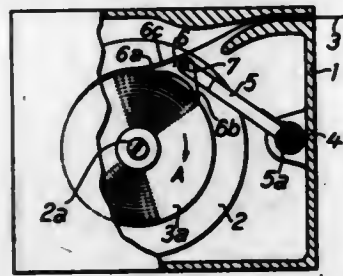
U.S. Cl. 242—76

1 Claim

A pivotable one-armed lever having its pivot outside the circumference of a film or tape reel and being urged by resilient means between the flanges of the reel is at its end provided with a pivotable guide member. The guide member is basically of the shape of an isosceles triangle which is linked to the one-armed lever at the vertex of the triangle so that the ends of the triangle



sides can simultaneously be brought into contact with the top winding of the film or tape coil. The outer surface of one side provides the guiding surface for the film or



tape in such a manner that the angle between the guiding surface and the film or tape winding remains almost constant regardless of the coil diameter.

3,519,219

# TAPE MEASURE CONSTRUCTION INCORPORATING A TAPE HOOK BUMPER

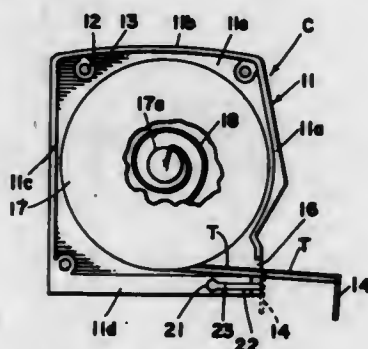
Charles Zelnick, Saginaw, Mich., assignor, by mesne assignments, to Cooper Industries, Inc., Houston, Tex., a corporation of Ohio

Filed July 19, 1967, Ser. No. 654,468

Int. Cl. B65h 75/16, 75/48

U.S. Cl. 242—84.8

15 Claims



A tape measure construction comprising: a tape casing formed of a pair of mating sections having aligned slots forming a frontal tape opening therein; a tapeline coiled in the casing and having a free end with a tape hook thereon extending out the opening; a resilient bumper mounted in parallel slots in the casing sections in a position to be engaged by the tape hook on the end of the tapeline before the tape hook can engage the measuring tape casing.

3,519,220

# TAPE MEASURE CONSTRUCTION INCORPORATING A SPRING MAINTAINED TAPE HOOK BUMPER

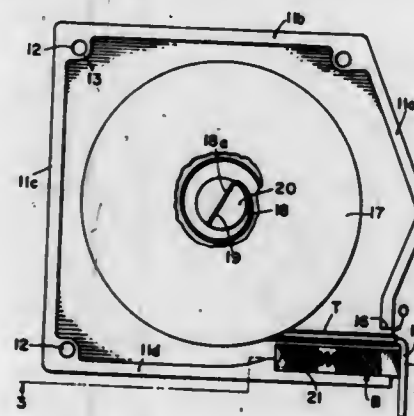
Charles Zelnick, Apex, N.C., assignor to Cooper Industries, Inc., Houston, Tex., a corporation of Ohio

Filed Aug. 22, 1968, Ser. No. 754,620

Int. Cl. B65h 75/48

U.S. Cl. 242—107.2

10 Claims



A tape measure construction comprising a tape casing formed of a pair of mating sections having aligned

slots forming a frontal tape opening therein; a tapeline coiled in the casing and having a free end, with a tape hook thereon, extending out the opening; a resilient bumper mounted for forward and rearward movement adjacent the tape opening in the casing; and spring means maintaining the bumper projecting from the casing in position to be engaged by the tape hook on the end of the tapeline before the tape hook can engage the measuring tape casing.

3,519,221

# AUTOMATIC CHAFF CUTTING AND DISPENSING APPARATUS

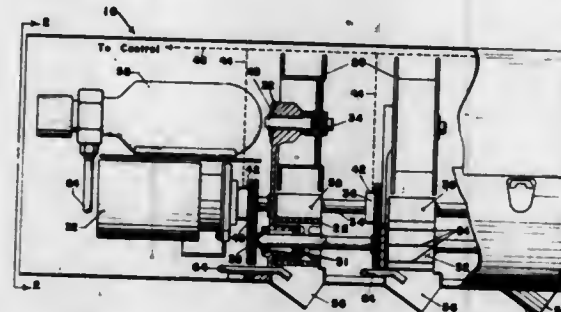
Harry T. Kifor, Canton, Ohio, assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

Filed June 13, 1967, Ser. No. 645,688

Int. Cl. H01q 15/14; F41f 5/02

U.S. Cl. 343—18

5 Claims



The invention provides apparatus capable of remotely and automatically cutting and dispensing chaff lengths for selected radar frequencies. It includes a plurality of chaff carrying spools mounted for rotational movement within a pod secured to a vehicle. Means are provided to remove the chaff from the rolls and automatically cut it to desired lengths and simultaneously effect dispersion thereof.

3,519,222

# AUGMENTED GRAVITY GRADIENT SATELLITE STABILIZATION SYSTEM

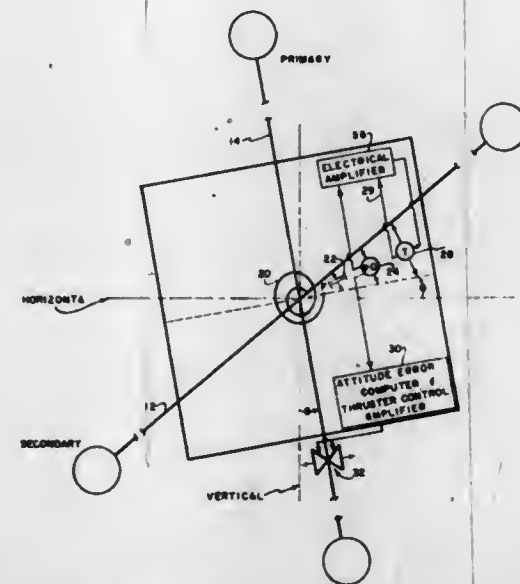
John L. Altekruze, Cuyahoga Falls, and Albert C. Buxton, Akron, Ohio, assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

Filed Jan. 27, 1967, Ser. No. 612,235

Int. Cl. B64g 1/00

U.S. Cl. 244—1

8 Claims



An augmented gravity gradient satellite stabilization system is defined which includes, an electronic control element to measure deflections of the satellite relative to a known reference to thereby generate correction signals to control small thrust rockets and/or an electric torquer to counteract the displacing forces.

3,519,223

# DEPLOYMENT DEVICE FOR SURVIVAL KIT

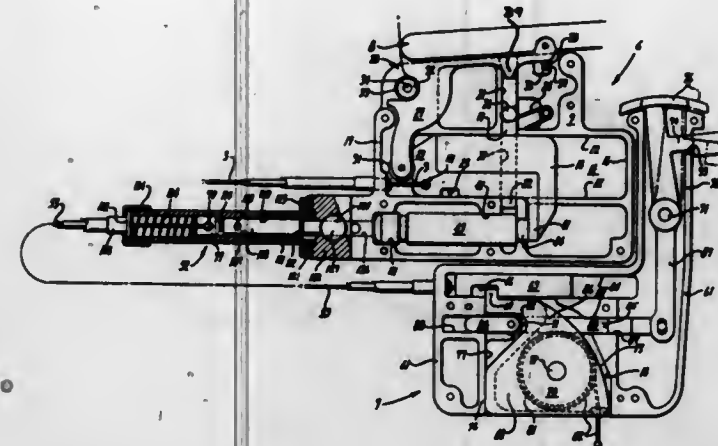
Paul W. Poehlmann, San Anselmo, and Derek M. Baylis, Belvedere, Calif., assignors to H. Koch & Sons, Inc., Corte Madera, Calif., a division of Global Systems, a Gulf Western company

Filed Nov. 12, 1968, Ser. No. 783,163

Int. Cl. B64d 25/00

U.S. Cl. 244—1

20 Claims



The deployment of a survival kit for flight personnel is illustrated in general in U.S. Pat. No. 3,182,928, granted to John A. Gaylord on May 11, 1965. There are various types of emergency release handles whereby the emergency kit can be deployed, for instance, in the manner shown in FIG. 11 of the aforementioned patent.

The herein deployment device has a selector for selecting either manual or automatic deployment of the kit. In the case of automatic deployment the release mechanism is operated through a detonator actuated piston motor, which is in the form of a cartridge with a detonator cap in one end which detonates a slow-burning pyrotechnic charge of predetermined characteristics to delay for a predetermined period the igniting of the main charge, which main charge is also comparatively slow-burning so that the gases developed by combustion expel a piston from the cartridge, and the piston operates the releasing mechanism. A trigger device with a firing pin is in registry with the detonator cap in the end of the cartridge, and is cocked for firing and is actuated by a device connected to the seat of the crewman so that when the crewman separates from the seat the firing pin is actuated. In another form the firing pin assembly is actuated by a device connected to the parachute so that when the parachute opens the pull exerted by the parachute releases the firing pin and then the piston motor, after a predetermined time, operates the deployment mechanism.

3,519,224

# VERTICAL TAKEOFF AND LANDING AIRCRAFT

Edward S. Boyd, Anaheim, and Mason Mallory, Torrance, Calif., and Loren R. Skinner, Tulsa, Okla., assignors to Turbo-Circle-Wing, Inc., Beverly Hills, Calif., a corporation of California

Filed Mar. 18, 1966, Ser. No. 535,546

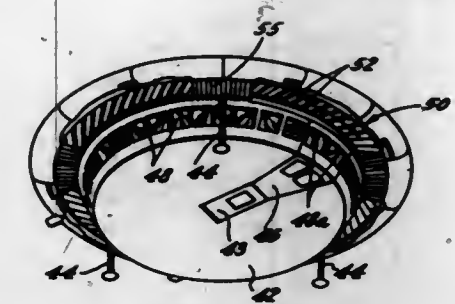
Int. Cl. B64c 25/32, 29/00

U.S. Cl. 244—23

23 Claims

A circular aircraft has an outer circumferential fan-type ducted rotor mounted on air bearings and the rotor has outer circumferential turbine blades to permit the rotor to be driven by outboard gas generators. Upper radial stator blades above the rotor are adjustable to restrict the airstream through the rotor to vary the lift, the upper stator blades in the forward and rearward quadrants being adjustable differentially to control the attitude of the aircraft with respect to its pitch axis, the upper radial stator blades in the left and right side quadrants being adjustable differentially to vary the attitude of the

aircraft with respect to its roll axis. In addition the aircraft has a plurality of lower radial stator blades on the fuselage below the rotor to react with the airstream from the rotor to counter the tendency of the aircraft to rotate in reaction to the rotor, at least some of the lower radial



stator blades being adjustable to vary the heading of the aircraft. The lower radial stator blades at the left and right side quadrants of the rotor normally divert the airstream rearward for forward propulsion of the aircraft but are reversible to divert the airstream forward for rearward propulsion of the aircraft.

3,519,225

# INTERNAL CHEMICAL SYSTEM FOR DECELERATOR

Frederick Bloetscher, Cuyahoga Falls, and Fred R. Nebeker, Akron, Ohio, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed May 27, 1968, Ser. No. 732,228

Int. Cl. B64b 1/58; B64d 17/80

U.S. Cl. 244—32

6 Claims



Two bladders filled with wood alcohol and water have their necks projecting through holes in a fabric holder which is attached at opposite ends to the forward and rearward end of a decelerator. Cords are tied around the necks of the bladders and attached to the ends of the fabric holder so that the necks are ruptured when the fabric holders are pulled apart during decelerator deployment. Due to heat, the wood alcohol and water vaporize and partially inflate and cool the decelerator.

3,519,226

# AIRCRAFT ENGINE COWLING VENTRAL DOOR

Gerhard Kopp, Munich, Germany, assignor to Entwicklungsring Sud G.m.b.H., Munich, Germany

Filed Sept. 30, 1968, Ser. No. 763,864

Claims priority, application Germany, Oct. 6, 1967, 1,531,400

Int. Cl. B64d 29/06

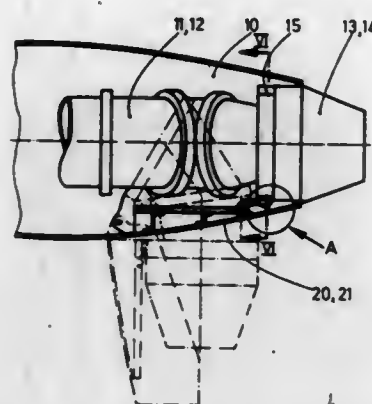
U.S. Cl. 244—53

3 Claims

An engine cowling ventral door particularly adapted for use with aircraft having selectively positionable

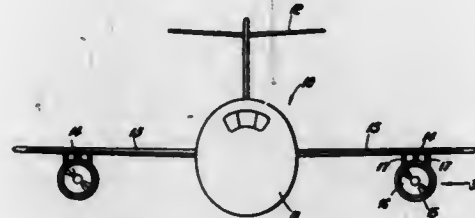


nozzles. The ventral door is maintained in positive engagement with its respective nozzle. A guide rail is secured to the inwardly disposed surface of the ventral door.



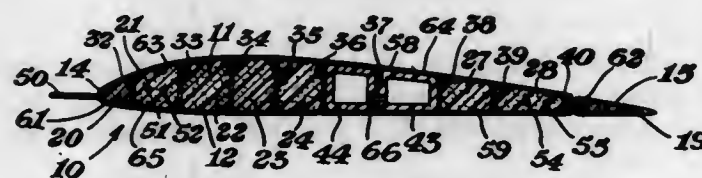
Received by the guide rail for movement along same is a slide which is secured to the nozzle. Thus, as the discharge end of the engine is downwardly positioned the ventral door is caused to correspondingly open.

**3,519,227**  
**MOUNTING MEANS FOR AN AIRCRAFT ENGINE**  
Leslie J. Brooks, Aston-on-Trent, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company  
Filed Oct. 20, 1967, Ser. No. 676,855  
Claims priority, application Great Britain, Dec. 30, 1966, 58,269/66  
Int. Cl. B64d 29/02  
U.S. Cl. 244—55 7 Claims



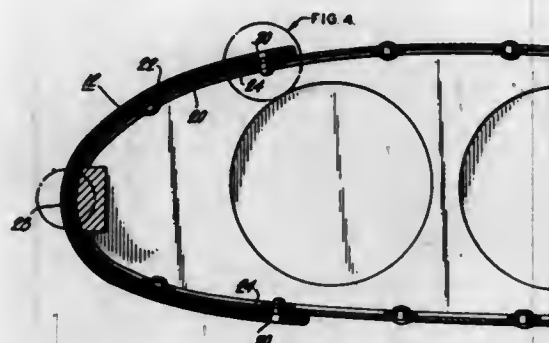
Mounting means for mounting an aircraft engine from adjacent aircraft structure comprises a pod adapted to contain the engine, the pod being mounted from the aircraft structure and there being at least one fence extending from the pod to the aircraft structure to control airflow.

**3,519,228**  
**AIRFOIL STRUCTURE**  
Leo J. Windecker, Midland, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
Filed Sept. 29, 1967, Ser. No. 671,746  
Int. Cl. B64c 3/18, 3/24  
U.S. Cl. 244—123 16 Claims



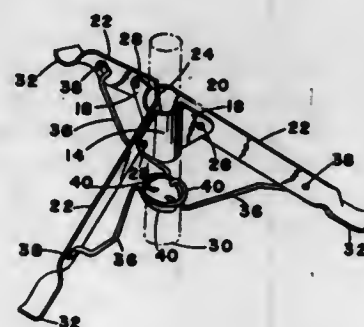
An improved airfoil structure is prepared employing a foamed core having a plastic-glass fiber-reinforced skin and spars which are a laminate of reinforced plastic and metal joining the upper and lower surfaces of the skin.

**3,519,229**  
**DEICING BOOT AND METHOD OF MAKING THE SAME**  
Herbert H. Son Gullberg, Moylan, Pa., assignor to H. H. Son Gullberg, Inc., Moylan, Pa., a corporation of Pennsylvania  
Filed Oct. 22, 1968, Ser. No. 769,493  
Int. Cl. B64d 15/18  
U.S. Cl. 244—134 6 Claims



A deicing boot for preventing accumulation of ice formations on edge portions of vehicles comprising a casing shaped to conform to the surface of the edge portion of the vehicle on which it is adapted to be mounted, a flexible skin adhered to the peripheral edge of the casing under slight tension and a lubricant interposed between the skin and outer surface of the casing.

**3,519,230**  
**CHRISTMAS TREE HOLDER AND SUPPORT**  
James R. Meade, 302 Newington Drive, Hatboro, Pa. 19040  
Original application Apr. 25, 1967, Ser. No. 633,520, now Patent No. 3,454,246, dated July 8, 1969. Divided and this application Dec. 26, 1968, Ser. No. 796,260  
Int. Cl. A47g 33/12  
U.S. Cl. 248—47 3 Claims

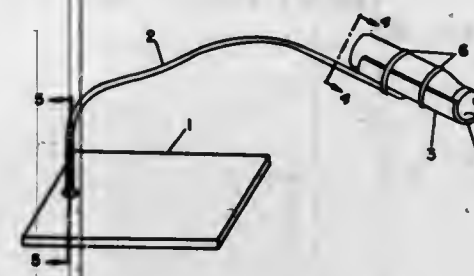


A holder to support a Christmas tree vertically and braced at two vertically spaced locations by circumferentially spaced legs pivoted to collar means and having cam surfaced means at one end to engage said trunk by said cam surfaces with increasing firmness as said legs are moved outward and upward at the outer ends relative to engaging a horizontal supporting surface, and bracing means connected to said legs intermediately of the ends thereof engage a lower portion of said tree trunk than the cam means engage as the legs move outward as aforesaid to support the tree braced in vertical position.

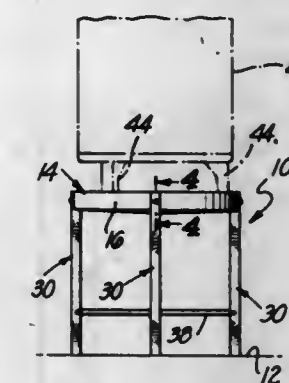
**3,519,231**  
**NURSING BOTTLE STAND**  
Gary B. Miller, 1312 7th Ave., Honolulu, Hawaii 96816  
Filed May 13, 1968, Ser. No. 728,596  
Int. Cl. A47d 15/00  
U.S. Cl. 248—106 1 Claim  
A baby bottle holder which eliminates the need of a person holding a bottle while the baby is feeding from the bottle. The holder includes a base, a flex tube, and

a holder portion. The flex tube connects the base to the holder portion. The base can be placed under a pillow or can be slept on. The flex tube is soft and pliable enough

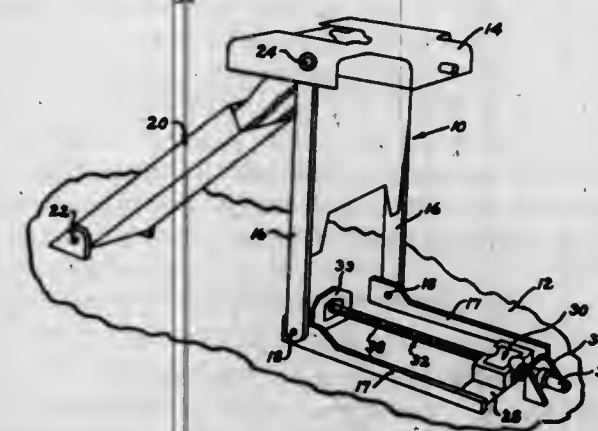
supporting the pan and a drain leading from the bottom of the pan. In use a water heater is located within the interior of the pan so as to be supported in an adequate manner in an elevated position in compliance with cer-



to be bent by hand, yet firm enough to maintain its bent position and support a baby bottle. The flex tube can be wrapped into a small coil for easy carry in a diaper bag.



**3,519,232**  
**ELEVATING SCREW NUT FOR TRAILER HITCHES ON RAILWAY CARS**  
James C. Hammonds and Robert W. Randolph, St. Charles, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey  
Filed Oct. 3, 1968, Ser. No. 764,820  
Int. Cl. F16b 37/00  
U.S. Cl. 248—119 2 Claims



A nut for an elevating screw on a trailer hitch to move the hitch between erect and collapsed positions. The nut has a central well containing lubricant for the elevating screw and wiper means are provided adjacent the ends of the nut to minimize the entry of foreign matter into the well and the passage of lubricant from the nut. The wiper adjacent one end of the nut engages the external screw threads on the screw and wipes any foreign matter from the screw threads before the foreign matter enters the nut and lubricant well. The wiper means adjacent the opposite end of the nut wipes excess lubricant from the screw and prevents the passage of the lubricant from the nut.

#### ERRATUM

For Class 248—119 see:  
Patent No. 3,519,244

**3,519,233**  
**WATER HEATER STAND AND DRAIN PAN**  
Duane D. Logsdon, 31461 Alta Vista St., Redlands, Calif. 92373  
Filed Sept. 4, 1968, Ser. No. 757,244  
Int. Cl. A47g 23/02  
U.S. Cl. 248—146 1 Claim  
A water heater stand and drain pan is disclosed which includes an upwardly concaved pan, a plurality of legs

tain regulations regarding the installation of water heaters. The combined stand and pan is constructed so that it may be shipped in a knocked-down configuration and may be easily assembled for use.

**3,519,234**  
**COMBINATION REMOVABLE POST AND DRIVER**  
Carl G. Matson, 401 E. Central Blvd., Kewanee, Ill. 61443  
Filed Jan. 18, 1968, Ser. No. 698,939  
Int. Cl. E01f 9/01  
U.S. Cl. 248—156 4 Claims



Basically a two-part post having a lower ground-penetrating part and an upper reciprocally mounted upper part that can be used selectively as a hammer for driving the lower part into or out of the ground and having means for locking the two parts together against relative angular movement after the lower part is inserted into the ground so that display media attached to the upper part cannot be twisted out of viewable position.

**3,519,235**  
**FOLDING SIGN SUPPORT**  
Lewis E. Walter, 94—11 59th Ave., Rego Park, N.Y. 11374  
Filed Apr. 17, 1968, Ser. No. 722,066  
Int. Cl. F16m 11/38  
U.S. Cl. 248—166 5 Claims  
A folding sign support is provided which comprises a main support frame and two support leg assemblies pivotally mounted thereon. The support leg assemblies



are movable from first positions thereof wherein the same are folded substantially within the main support frame to second positions thereof wherein the support leg assemblies are unfolded from the main support frame and are operative to support the latter above a support surface.



By this construction is provided a folding sign support which is compact, truly portable and assemblable and disassemblable by one man, and which functions to satisfactorily support a sign at a high, readily visible level under adverse conditions.

3,519,236

**BALL TYPE POSITIONING COMPONENT**

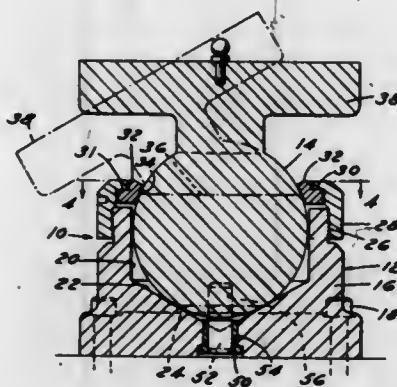
Robert T. Schmidt, Port Huron, and Frederick J. Sicheneder, Royal Oak, Mich., assignors to Medical Dynamics Corporation, Detroit, Mich., a corporation of Michigan

Filed Aug. 14, 1967, Ser. No. 660,273

Int. Cl. F16m 11/14

U.S. Cl. 248—181

2 Claims

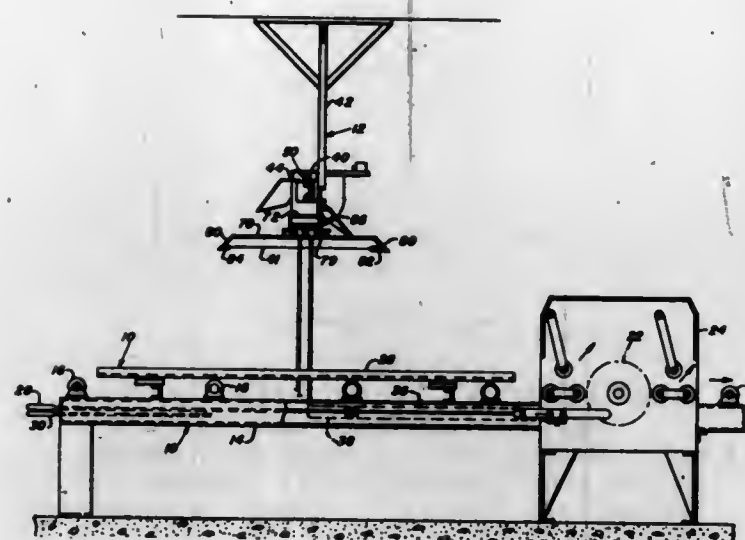


The positioning component has a ball-shaped element which is rotatably received in a recess provided in a base member. The ball-shaped element carries a mounting platform upon which may be secured a tool, measuring instrument, production part and like structures which are to be oriented at a particular angle with respect to a plane of reference. Clamping means are provided for initially securing the ball-shaped element in the desired position. The ball-shaped element is permanently secured in this position by means of a pin which is received in an opening in the ball-shaped element, the opening being formed after the ball-shaped element has been positioned.

3,519,237  
**SHADOW LIGHT**  
Robert M. Dunn, 2730 Pennsylvania Ave. W.,  
Warren, Pa. 16365  
Filed May 21, 1968, Ser. No. 730,810  
Int. Cl. F21v 21/34

U.S. Cl. 248—327

10 Claims



An assembly for supporting a shadow light including a first support secured to the shadow light housing extending along an axis transversely disposed relative to the shadow line, a second support releasably secured to the first support pivotally about the first mentioned axis and for adjustably positioning the first support longitudinally along the first mentioned axis and a supporting hanger attached to the second support and having wheels adapted to engage a horizontal rail member.

3,519,238

**TOOL HANGER ASSEMBLY**

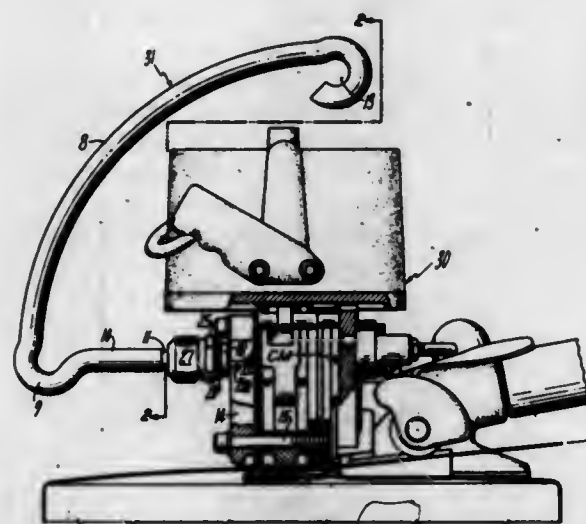
Benjamin Dunn, Newington, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Apr. 8, 1968, Ser. No. 719,626

Int. Cl. B25g 3/24

U.S. Cl. 248—359

5 Claims



A strapping tool hanger assembly comprising a one piece contoured arm including a tool engaging portion extending therefrom. The carrier engaging portion features a relatively infinite number of positions along which the carrier can be slidably engaged for supporting the tool

in a rest position relative to a workpiece, each such position being radially equidistant from the tool's center of mass. The assembly also includes a bearing mechanism for quickly connecting the tool to the arm for controlled frictional engagement with and positioning of the tool.

3,519,239

**RECREATIONAL DEVICE**

Gerhard Rohrer, Holderweg 10, Brugg, Switzerland

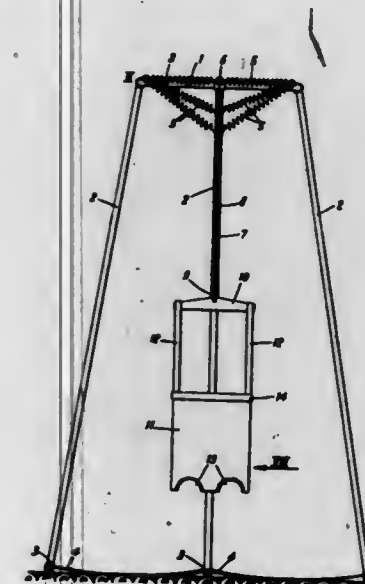
Filed Mar. 4, 1968, Ser. No. 710,059

Claims priority, application Switzerland, Mar. 2, 1967, 3,100/67

Int. Cl. A63g 9/14

U.S. Cl. 248—370

18 Claims



A recreational device for children comprises four legs which carry at their upper ends an annular member. Four contraction springs are secured to the annular member at equi-angularly spaced locations thereof and extend radially inwardly across the annular member so that their inner ends are connected with one another. A chain is secured to the inner ends and depends therefrom. A pocket or bag-shaped seat adapted to accommodate a child is connected to the chain so that a child can sit in this support and, when carrying out bobbing motions, will move upwardly and downwardly as a result of contraction and expansion of the springs.

3,519,240

**SEAT SUSPENSION**

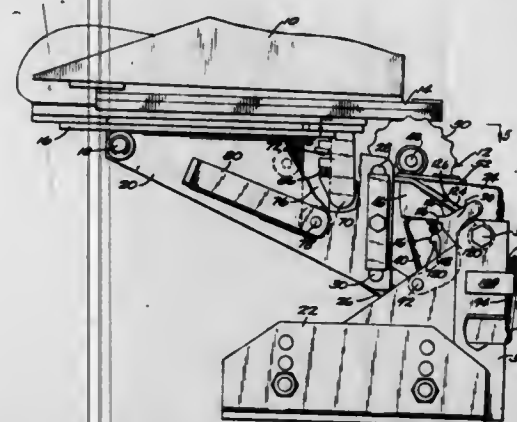
Richard F. Swenson, Milwaukee, Wis., assignor to Swenson Corporation, Redgranite, Wis., a corporation of Wisconsin

Filed Sept. 27, 1968, Ser. No. 763,202

Int. Cl. B60n 1/02

U.S. Cl. 248—399

3 Claims



A resilient vehicle seat suspension embodying means for selectively limiting the amount of movement imparted

to the seat through the resilient support independently of the customary adjusting mechanisms.

3,519,241

**ROCKER GUIDE FOR SPRUNG SEATS**

Arnold Tschursch, Hinrichsegen, Germany, assignor to Georg Fritzmeier KG, Grosshelfendorf über, Munich, Germany

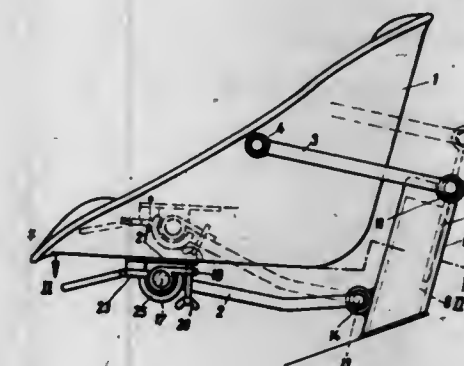
Filed May 23, 1967, Ser. No. 640,643

Claims priority, application Germany, May 31, 1966, F 49,352

Int. Cl. B60n 1/02

U.S. Cl. 248—399

12 Claims



An arrangement for resiliently mounting a seat in a vehicle or the like including a support member fixed to the vehicle, a seat, and at least one rocker arm pivotally connected at one end to the seat and at the other end to the support member. Spring means bias the seat upwardly and releasable locking means hold the seat at a predetermined position.

3,519,242

**CONCRETE COLUMN MOLD ASSEMBLY**

John H. Harkins, R.F.D. 2, Box 186C,

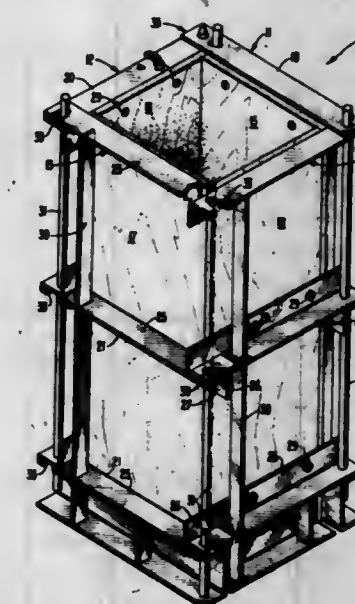
Blairsville, Ga. 30512

Filed Mar. 4, 1969, Ser. No. 804,129

Int. Cl. E04g 13/02

U.S. Cl. 249—48

8 Claims



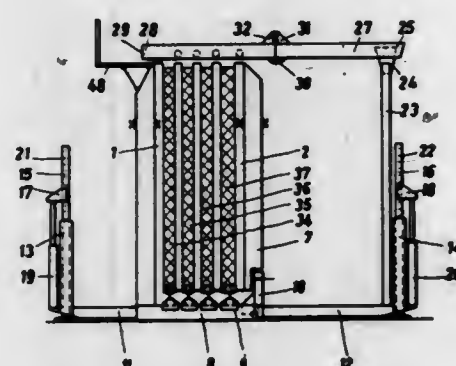
A concrete column mold assembly comprising four flat panels movable together to form a rectilinear mold closure of rectangular cross section. Hinge connecting means are provided at the adjacent edges of the panels at three of the four corners of the mold assembly for



hingedly connecting the panels together so that they can be wrapped around and unwrapped from around a column. A connecting means at the fourth corner of the mold assembly for connecting a first panel to an adjacent panel comprises a rod connected to the first panel and movable along the length of the mold, a series of spaced hooks carried by the rod, and a plurality of hook receiving openings defined in the framework attached to the first panel and the adjacent panel for receiving the hooks.

### 3,519,243 PORTABLE SLAB MOLD

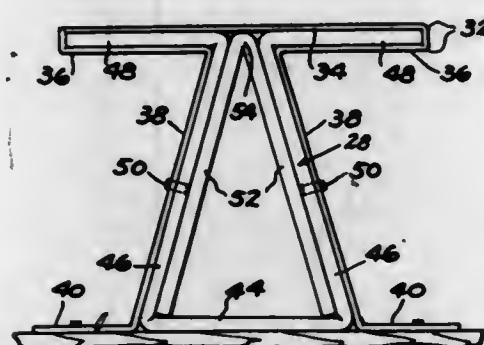
Armin Kleiber, Mobartstrasse 5, and Wilfried Schmidt, Rennbergstrasse 4, both of Karlsruhe, Germany  
Filed Aug. 15, 1967, Ser. No. 660,793  
Claims priority, application Germany, Aug. 16, 1966, K 60,030  
Int. Cl. B28b 7/04, 7/22  
U.S. Cl. 249—119 19 Claims



A slab mold for simultaneously producing a plurality of slabs and capable of being rapidly converted into a portable configuration, in which it can be carried on a conventional truck trailer, and of being rapidly erected for use at any desired location, the mold having extensible bottom girders and overhead girders and intermediate panels suspended from the overhead girders so as to be rollable therealong.

### 3,519,244 PACKAGING SUPPORT FOR FRANGIBLE PLATE CONTAINERS

Edward J. Lidgard, Lathrup Village, Mich., assignor to Flotepak Corporation, Southfield, Mich., a corporation of Michigan  
Filed Jan. 4, 1968, Ser. No. 695,669  
Int. Cl. B60p 7/10; B65d 85/48  
U.S. Cl. 248—119 22 Claims

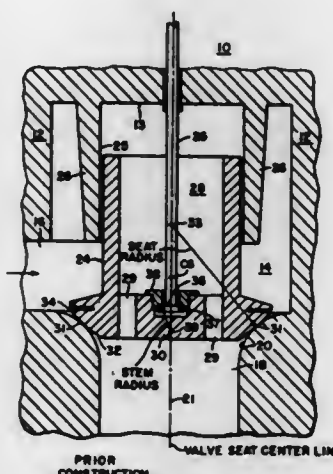


This invention is an improved packaging support for containers used in shipping and storing frangible plates such as automobile windshields. The support comprises interfitted outer shell, main frame and inner support elements, each of which is formed from a rectangular piece

of flexible resilient material such as corrugated cardboard by providing a series of integral flexible hinge lines or folds in the rectangular sheets and by attaching a portion of the outer shell to the main frame. This structure provides a support surface which will readily conform to surfaces containing various compound curvatures.

### 3,519,245 VALVE STRUCTURE

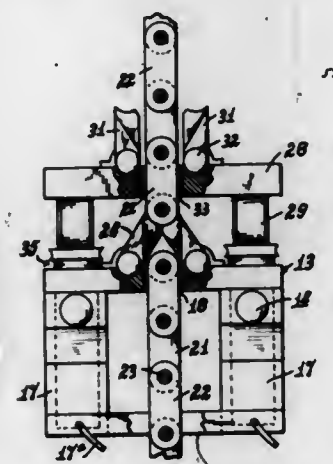
Gilbert F. Hyde, Chester, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Aug. 23, 1968, Ser. No. 754,767  
Int. Cl. F16k 25/00, 29/00, 51/00  
U.S. Cl. 251—86 5 Claims



The invention comprises a valve structure having a valve member with a spherical seating surface and spherical valve stem lifting surface, the radii of said spherical surfaces being coincident with the center of gravity of said valve member, said center of gravity being below the location of the valve stem lifting surface. With such a structure the valve member is stable and the center of the seat radius of the valve member will not move from the valve seat centerline when the member is tilted by an external force, for example.

### 3,519,246 HOISTING UNIT

Hartley Belding, Rte. 1, Box 29B, Bartlett, Ill. 60103  
Filed June 28, 1968, Ser. No. 741,134  
Int. Cl. B66d 1/00  
U.S. Cl. 254—135 6 Claims

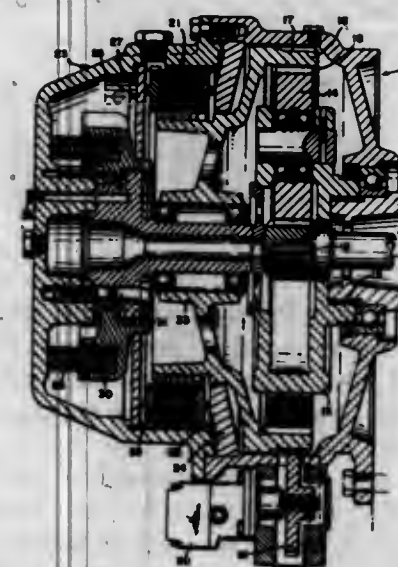


A gantry jack or similar hoisting unit having hydraulic lift means and means to successively engage with a load carrying chain to incrementally elevate the chain and its

load. The hydraulic lift means includes lock means to prevent inadvertent lowering of the load when hydraulic pressure is relieved.

### 3,519,247 FREEWHEEL FINAL DRIVE ASSEMBLY

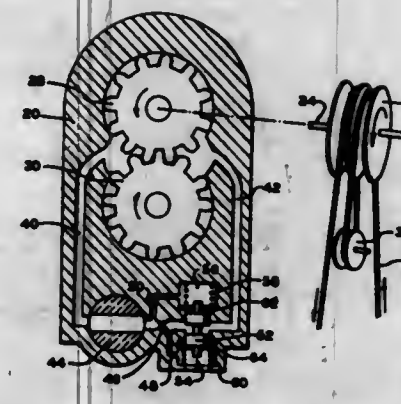
Sommerville G. Christison, North Surrey, British Columbia, Canada, assignor to Gearmatic Co. Ltd., North Surrey, British Columbia, Canada, a corporation of Canada  
Filed Mar. 25, 1968, Ser. No. 715,611  
Int. Cl. B66d 1/40  
U.S. Cl. 254—150 7 Claims



A planetary reduction final drive for a reversible winch and having a multi-disc brake functional to a ring gear included in the planetary gearing, the brake being spring applied and hydraulically released with its control circuit characterized in that a load carried by the winch can be given either a controlled lowering or an emergency free fall.

### 3,519,248 CONSTANT VELOCITY LOWERING DEVICE

Eishiro Kushiro, Tokyo, Japan, assignor to Nihon Regulator Co., Ltd., Tokyo, Japan, a corporation of Japan  
Filed Nov. 18, 1968, Ser. No. 776,541  
Int. Cl. B66d 1/40  
U.S. Cl. 254—150 8 Claims

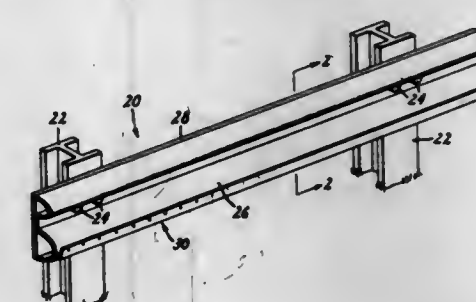


A system for alternately raising and lowering opposite ends of a rope or cable arranged on a fixed pulley system so that the speed of descent remains essentially constant irrespective of the load on either end of the cable or of

the height from which a load is lowered. The pulley shaft is attached to a gear pump through which a hydraulic fluid passes as the pulleys rotate. Fluid flow is automatically regulated in accordance with the torque applied to the pulleys, and hence to the gear pump, to cause the speed of rotation to remain essentially constant.

### 3,519,249 STEEL GUARD RAIL GREASER

Vincent Nave, 20 Bennett St., North Providence, R.I. 02904  
Filed Dec. 3, 1968, Ser. No. 780,828  
Int. Cl. E01f 15/00  
U.S. Cl. 256—13.1 6 Claims



Apparatus for dispensing an oleaginous fluid in the event of an impact of a vehicle against a guard rail. A trough mounted on the guard rail serves as a fluid reservoir and is yieldable upon impact by the vehicle. The resulting reduction of the trough's volume causes the fluid to flow between the vehicle and the guard rail, thereby providing the opposed surfaces with lubrication. An absorbent material may be provided in the trough to restrict spillage of the fluid, and the outer wall may be provided with apertures to further aid in passage of the fluid out of the trough upon impact.

### 3,519,250 STORAGE AND HANDLING OF CHEMICAL SUBSTANCES

Geoffrey T. Tibbs, Woodley, England, assignor to FEB (Great Britain) Limited, Chorlton-cum-Hardy, Manchester, England, a body corporate of Great Britain  
No Drawing. Filed June 26, 1967, Ser. No. 649,034  
The portion of the term of the patent subsequent to Aug. 19, 1985, has been disclaimed  
Int. Cl. B01f 3/08, 13/00  
U.S. Cl. 259—72 3 Claims

A method for packing or storage of interactive material in layers or strata in a single container, in which at least one of the layers or strata is divided into two portions, one portion forming the intermediate layer being mixed with a thixotropic or gelling agent to act as a retardant to minimize premature mixing.

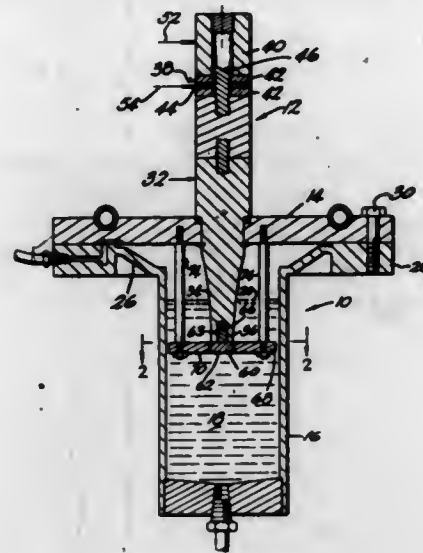
### 3,519,251 VIBRATORY UNIT WITH BAFFLE

Frederick G. Hammett, 1306 Olivia St. 48104; and Robert E. Nystrom, 1844 Traver Road 48105, both of Ann Arbor, Mich.; James F. Lafferty, 320 Greenbriar Road, Lexington, Ky. 40503, and Robert Chesewright, 122 Carver Hill Road, High Wycombe, Buckingham, England  
Filed July 11, 1968, Ser. No. 744,066  
Int. Cl. B01f 11/02  
U.S. Cl. 259—116 4 Claims

High frequency vibratory apparatus for producing cavitation damage on workpieces mounted therein where in a baffle is mounted so that it surrounds the workpiece



and is arranged in a closely spaced relation therewith to provide for increased cavitation damage which is uniformly distributed over the exposed surface of the work-



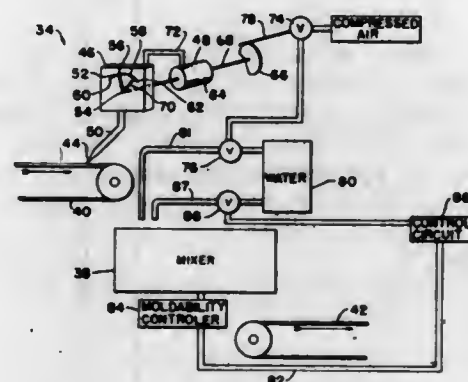
piece. The workpiece is located so that the lower surface to be damaged is located substantially in the plane of the lower surface of the baffle.

**3,519,252**  
**METHOD OF AND STRUCTURE FOR CONDITIONING GRANULAR MATERIAL**  
Harry W. Dietert, Kerrville, Tex., and Howard L. Jameson, Livonia, Mich., assignors to Harry W. Dietert Co., Detroit, Mich., a corporation of Michigan

Filed Sept. 8, 1966, Ser. No. 577,985  
Int. Cl. B28c 7/04

U.S. Cl. 259-149

10 Claims



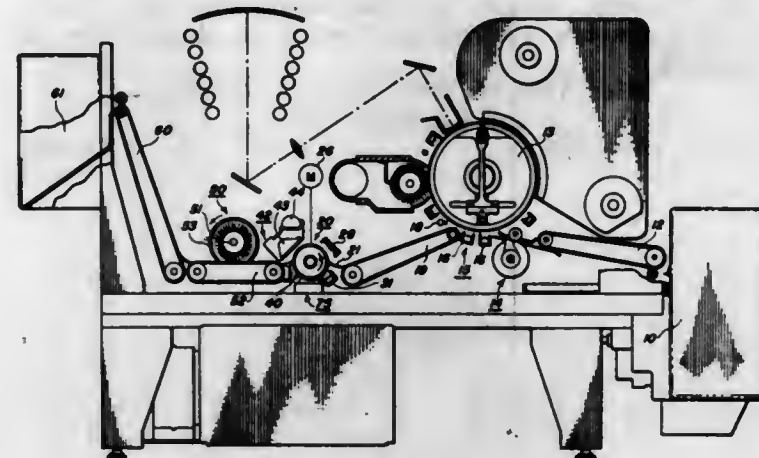
A method of conditioning granular material, such as foundry sand, comprising separately sensing the temperature of the granular material and separately adding water to the granular material in accordance with the temperature thereof, and separately sensing the temperature of the granular material and separately adding water to the granular material in accordance with the temperature thereof. The structure for performing the granular material conditioning method includes apparatus for continuously sensing at least one of the temperature and temper of the granular material and continuously adding water to the granular material in accordance with the sensed temperature or temper. Structure is also provided for adding water to the granular material in response to one of temperature or temper sensing in batches.

**3,519,253**  
**SELECTIVE XEROGRAPHIC FUSER**  
Gilbert A. Aser, Rochester, George D. Del Vecchio, North Rose, John A. Hallagan, Pittsford, and Edward A. Schwartz, Fairport, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 11, 1966, Ser. No. 585,971  
Int. Cl. G03g 15/20

U.S. Cl. 263-6

4 Claims



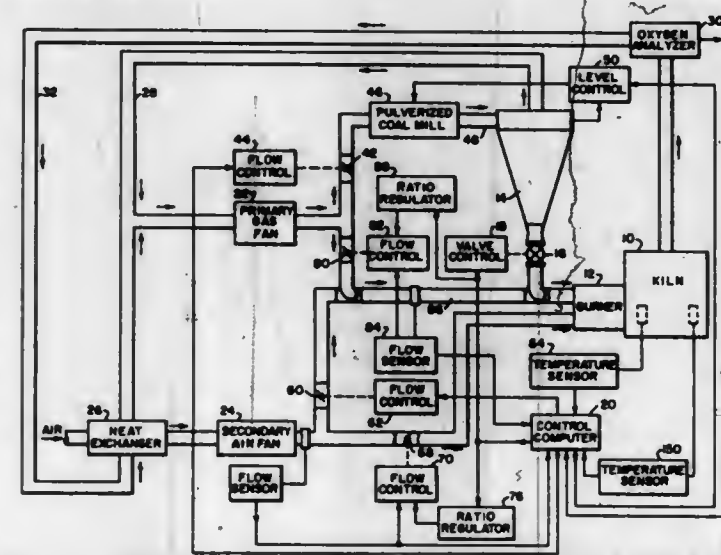
A xerographic heat fusing system for selectively heat fusing toner images above a predetermined density in the presence of less dense images without fusing said less dense images. An image bearing supporting material is electrostatically tacked image side up on a movable heated surface and the temperature of the surface accurately controlled to slightly below the fixing temperature of the toner so that the support material is rapidly heated to approximately the temperature of the movable surface. The surface and the image bearing support material are moved into thermal communication with a radiant energy source emitting energy concentrated about a wavelength at which the toner is highly absorptive and at which the support material is relatively non-absorptive. The temperature of the support material remains stable during the fusing process wherein the support acts as a heat sink controlling the selectivity of the fusing system.

**3,519,254**  
**METHOD AND APPARATUS FOR THE CONTROL OF BURNER HEAT DISTRIBUTION**  
Richard E. Putman, Penn Hills, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 5, 1968, Ser. No. 773,488  
Int. Cl. F27b 1/26

U.S. Cl. 263-10

9 Claims



There is disclosed a method and apparatus for the control of the length of the flame from a fuel burner de-

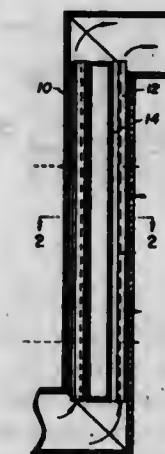
vice, for better distribution of the heat from the flame within a furnace or kiln, by including inert gas such as furnace flue gas along with the air supplied to the burner and controlling the proportion of the inert gas, to vary the total oxygen in the resulting gas flow to the burner relative to the desired supply of fuel to the burner and the desired operation of the furnace or kiln.

**3,519,255**  
**STRUCTURE AND METHOD FOR HEATING GASES**  
Hal B. H. Cooper, 4234 Chevy Chase Drive, Pasadena, Calif. 91103  
Continuation-in-part of application Ser. No. 749,005, July 31, 1968. This application Mar. 27, 1969, Ser. No. 812,562

Int. Cl. F23i 15/04

U.S. Cl. 263-20

40 Claims



A furnace particularly suitable for the heating of a corrosive gas stream, which furnace has an annular heating zone having for its outer wall a fused quartz conduit and a corrosion-resistant inner wall, with the gas flowing through the annular space. In a preferred embodiment, the furnace employs a substantially radiation-transparent fused quartz tube for its outer wall and the annular heating zone houses a plurality of radiation-absorbing surfaces provided by a structure (e.g., Raschig rings) open to the flow of the gas stream being heated.

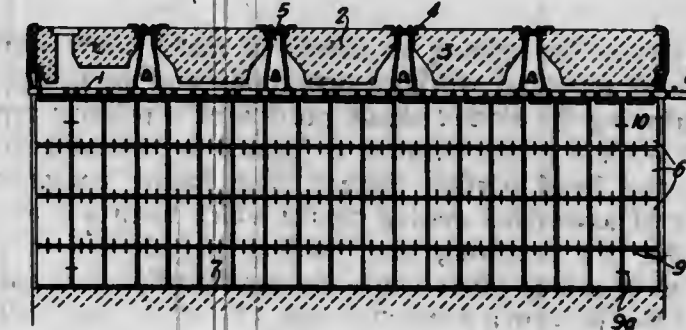
The advantage of the use of the annular heating zone in avoiding the existence of a core of cooler gas along the center portion of the tube is also applicable to furnace structures utilizing an outer radiation-absorbing (translucent) fused quartz tube, with or without a plurality of radiation-absorbing surfaces within the annular heating zone.

**3,519,256**  
**METHOD AND APPARATUS FOR INSULATING A HEATING WALL OF A COKE OVEN BATTERY**  
Wilhelm Heisterkamp, Essen, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware  
Filed Mar. 14, 1968, Ser. No. 713,230  
Claims priority, application Germany, May 27, 1967, 1,671,322

Int. Cl. F23m 5/00

U.S. Cl. 263-46

4 Claims



The invention comprises a rail fastened to the roof over a coke oven chamber to which are attached a plurality of cylindrical member having an open bottom which is

movable rollers that support downwardly hanging insulating slabs. The slabs of insulating material are movable into and out of a particular coke oven chamber.

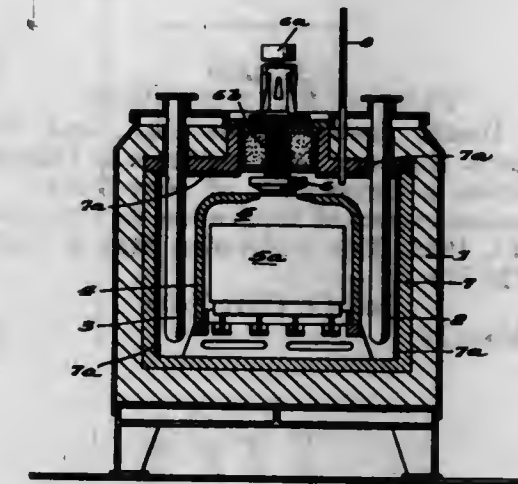
**3,519,257**  
**PROCESS FOR THE TREATMENT OF SURFACES OF WORKPIECES IN AN ANNEALING FURNACE**  
Karl-Heinz Winter, Dornigheim, and Ottwin Krach, Wolfgang, Germany, assignors to Deutsche Gold- und Silber-Schmeldeanstalt vormals Roessler, Frankfurt am Main, Germany

Filed Mar. 25, 1968, Ser. No. 715,669  
Claims priority, application Germany, Mar. 23, 1967, D 52,614

Int. Cl. F27b 11/08

U.S. Cl. 263-52

8 Claims



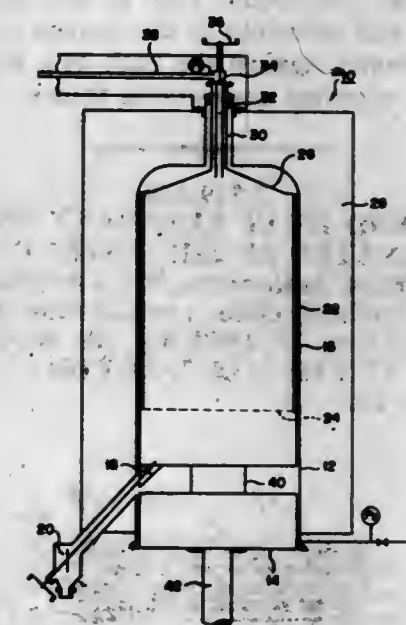
Gases which are to be used in various processes in annealing furnaces are produced in situ with the aid of catalysts applied to the inner walls of the furnaces.

**3,519,258**  
**DEVICE FOR REDUCING CHLORIDES**  
Hiroshi Ishizuka, 19-2 Ebara 6-chome Shinagawa-ku, Tokyo, Japan  
Filed Dec. 30, 1966, Ser. No. 606,331  
Claims priority, application Japan, July 23, 1966, 41/48,415

Int. Cl. C21b 7/00

U.S. Cl. 266-34

3 Claims



A device for reducing volatile chlorides and simultaneously reducing and refining same, comprising an outer cylindrical member having an open bottom which is



sealingly closed with a removable bottom plate, a furnace for heating reactants from without the outer cylindrical member, an intermediate cylindrical member having an open top and a bottom which has an outlet for discharging byproducts, an inner cylindrical member having a screen at the lower end thereof and an inlet for charging raw volatile chlorides through a pipe means, and a means for lifting said intermediate cylindrical member so as to closely fit the same between said outer and inner cylindrical members and to completely close the open bottom of said outer cylindrical member, and for descending said intermediate cylindrical member after completion of the normal reducing reaction and having discharged reducing agent and most part of byproducts formed through the reaction, so as to refine the resulting products by decreasing inner pressure and by evaporating byproducts remaining in the products.

3,519,259

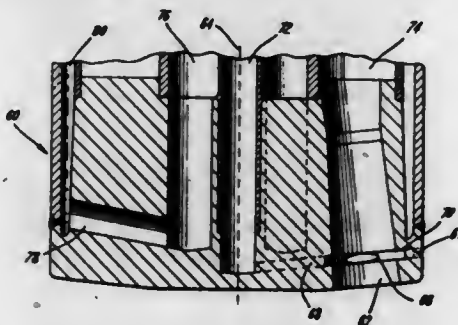
## FURNACE JET DEVICES

Frank S. Death, Scotch Plains, N.J., and Walter B. Farnsworth, Kokomo, Ind., assignors to Union Carbide Corporation, a corporation of New York  
Continuation-in-part of application Ser. No. 494,421, Oct. 11, 1965. This application May 6, 1968, Ser. No. 726,716

Int. Cl. C21c 7/04

U.S. Cl. 266—34

10 Claims



A furnace jet device for treating a bath of molten material in a furnace having a plurality of passages arranged for discharging a plurality of fluid jet streams downwardly and outwardly of said device against the top surface of the bath, each of said discharge passages being provided with an atomizer comprising an annular well formed in the discharge passage wall, a liquid fuel feed passage terminating tangentially in said annular well, and an oxygen supply passage connected to each discharge passage. The liquid fuel in the annular well is picked up by and atomized in the oxygen and discharged from the jet device against the bath as a fluid jet stream which acts to suppress undesirable fumes.

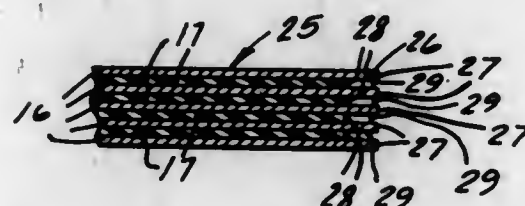
3,519,260

## FLAME AND HEAT RESISTANT RESILIENT LAMINATED BEARING STRUCTURE

Arthur S. Irwin, Jamestown, N.Y., assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio  
Filed Aug. 22, 1967, Ser. No. 662,386  
Int. Cl. F16f 1/38, 7/00; F16c 17/12

U.S. Cl. 267—152

2 Claims



A flame and heat resistant laminated bearing composed of alternate layers of bearing material and elastomer

bonded together having peripheral flame traps created by the use of thin laminae with the bearing material layer peripheries extending beyond the elastomer layer peripheries.

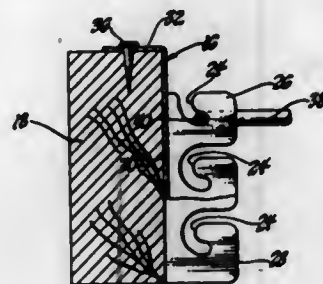
3,519,261

## SEAT SPRING ATTACHMENT MEANS

Zygmunt M. Surlatta, Detroit, Mich., and John J. Bond, Wickenburg, Ariz., assignors to Lear Siegler, Inc., Detroit, Mich., a corporation of Michigan  
Filed May 16, 1968, Ser. No. 729,631  
Int. Cl. A47c 23/16

U.S. Cl. 267—110

7 Claims



A bracket of the type for attaching a sinuous spring strip to a frame member in a seating assembly. The bracket including a base with a pair of spaced parallel flanges extending from the base and a supporting lip extending from the base in the opposite direction from the flanges and including holes so that the lip may be attached to the frame member. There are a plurality of hook slots being paired so that a portion of the spring strip may be disposed in a pair of hook slots at any one of a plurality of various different positions relative to the frame member.

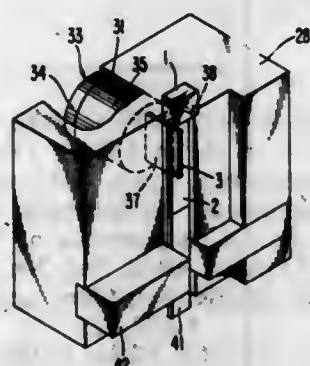
3,519,262

## HOLDING FIXTURES FOR TYPE BLANKS

Frank Dedek, Westland, and Melvin O. Hinden, Detroit, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan  
Filed Nov. 16, 1967, Ser. No. 683,518  
Int. Cl. B23q 3/06

U.S. Cl. 269—47

10 Claims



A fixture for holding an apertured metal blank while subjected to metal working operations and particularly for gripping the slotted shank portion of a printing type blank while a print character is formed on the integrally connected head portion thereof. The fixture comprises a pair of assembled mating blocks which form a central chamber for receiving and holding the slotted shank portion of a type blank while the head portion is shaped under dies to form a print character. One of the assembled blocks includes an element dimensionably fitting the slot and movable thereinto to prevent slot deformation during the character forming operation. The slot fitting element

has one end embedded in a resilient body which when acted on by an external force will urge the element into the slot and upon removal of the force will automatically withdraw the element from the slot.

3,519,263

## PAPERMAKING MACHINE

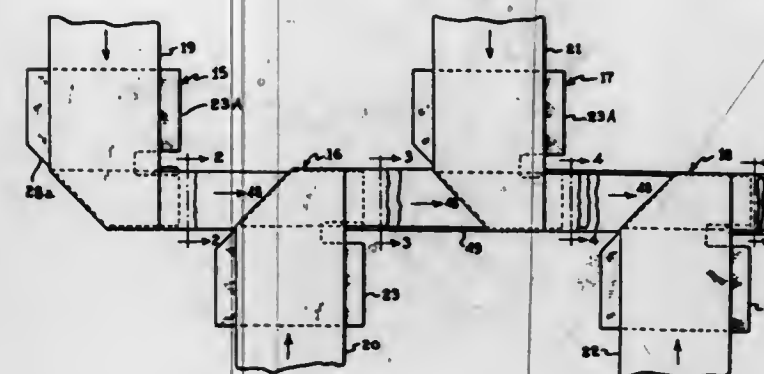
Richard H. Frick, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Aug. 4, 1965, Ser. No. 477,099

Int. Cl. B65h 45/22; B41l 1/30

U.S. Cl. 270—40

9 Claims



A folding board for flexible web material having an edge extending slantwise across the board and being bent back on itself on a transverse line so that the slantwise edge on the main body of the board and the slantwise edge of the return bent portion of the board, together with the return bend on the transverse line, form folding edges for the web.

3,519,264

## COLLATING SYSTEM WITH MALFUNCTION CONTROL

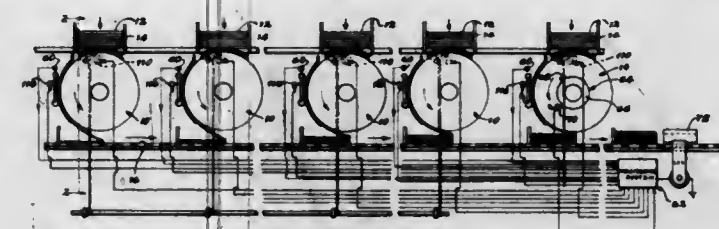
Francis W. Beacham, Williamsville, Thomas W. Bushnell, East Aurora, and Joseph R. Carson, Jr., Lancaster, N.Y., assignors to J. W. Clement Company, Depew, N.Y.

Filed June 25, 1969, Ser. No. 836,470

Int. Cl. B65h 39/02

U.S. Cl. 270—58

11 Claims



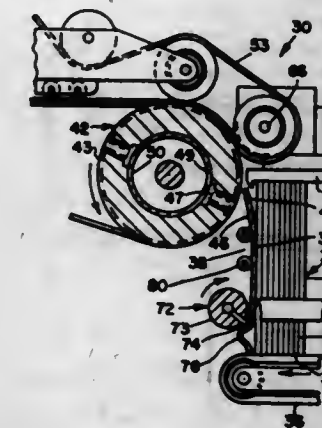
An improvement in a signature or sheet collating system having caliper devices serving to detect a malfunction in delivery of a signature by a feeder onto a collating conveyor and an electrical monitoring device including a shift register adapted to receive a signal from the caliper devices in accordance with the position at which a malfunction occurs along the conveyor and being effective to reject an imperfect book at a station beyond the last feeder; the improvement comprising means operable by successive stages of the shift register to temporarily disable the feeders and their associated caliper devices downstream of the feeder at which the malfunction occurred sequentially as the imperfect book passes thereby, without interrupting the continuous high speed operation

3,519,265  
APPARATUS AND METHOD FOR FEEDING FLIMSY SHEETS

Robert A. Tremblay, Hudson, N.H., assignor to The International Paper Box Machine Company, Nashua, N.H., a corporation of New Hampshire  
Filed Aug. 12, 1968, Ser. No. 751,903  
Int. Cl. B65h 3/30

U.S. Cl. 271—20

9 Claims



An automatic end feed magazine presents a narrow strip of the exposed face of each successive endmost sheet in a stack tangentially to a rotating suction feed roll, but with the strip spaced from the roll by a gate. A rotating friction element engages the exposed face to form a loop in the sheet while sliding the narrow strip out from behind the gate. The narrow strip may then be adhered to the roll to be slidably advanced off the stack.

3,519,266

## PAPER SHEET CONVEYING MECHANISMS

Edward John Blake and Denis Vernon McCormick, Letchworth, England, assignors to Camco (Machinery) Limited, Letchworth, England, a British company

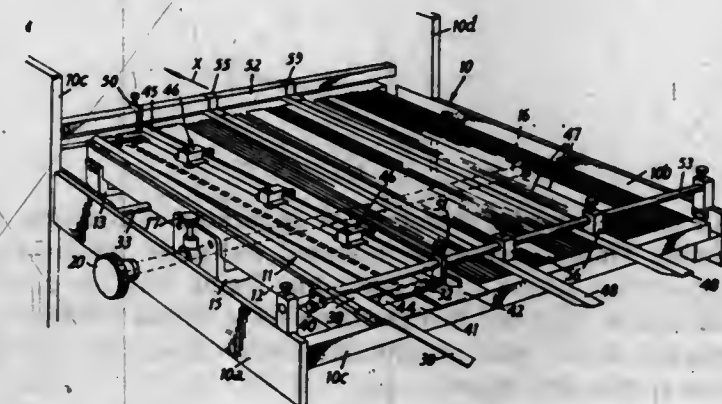
Filed Mar. 29, 1968, Ser. No. 717,186

Claims priority, application Great Britain, Apr. 10, 1967, 16,383/67

Int. Cl. B65h 9/14

U.S. Cl. 271—49

8 Claims



Paper sheet feeding table comprising an endless feed belt extending longitudinally of the table with its upper run in the horizontal plane of other sheet support means, such as transverse rollers or longitudinal slide strips and a stationary side lay plate extending longitudinally to define sheet conveyance direction, said feed belt being arranged so that its angle of inclination relative to said



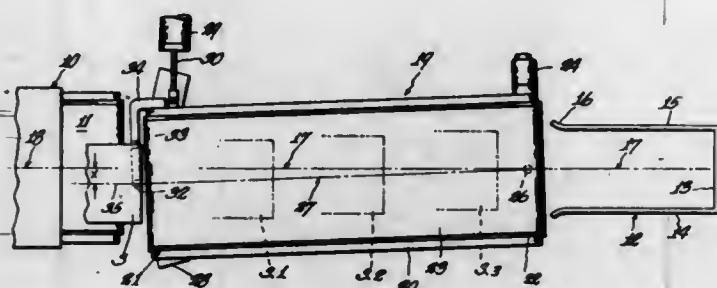
side lay plate can be varied. The side lay plate and the feed belt are mounted in a carriage movable transversely to the sheet feed direction.

### 3,519,267 METHODS OF AND APPARATUS FOR TRANSFERRING SUCCESSIVE SHEETS OF MATERIAL

Paul W. Miller, Warren, Ohio, assignor to Wean Industries, Inc., Warren, Ohio  
Filed Apr. 3, 1968, Ser. No. 718,427  
Int. Cl. B65h 29/16, 5/02

U.S. Cl. 271-76

8 Claims



Apparatus and method for transferring successive sheets of material from a sheet-discharging device to a distant sheet-receiving device along paths which insure proper entry of sheets into the sheet-receiving device despite variations in the positions of sheets successively discharged by said sheet-discharging device.

### 3,519,268 OCCUPANT-ROTATED FRAME FOR RECREATION AND EXERCISE

Alfred S. McQueen, 213 E. Unaka Ave., Johnson City, Tenn. 37601  
Filed Nov. 20, 1968, Ser. No. 777,267  
Int. Cl. A63g 1/12

U.S. Cl. 272-1

2 Claims



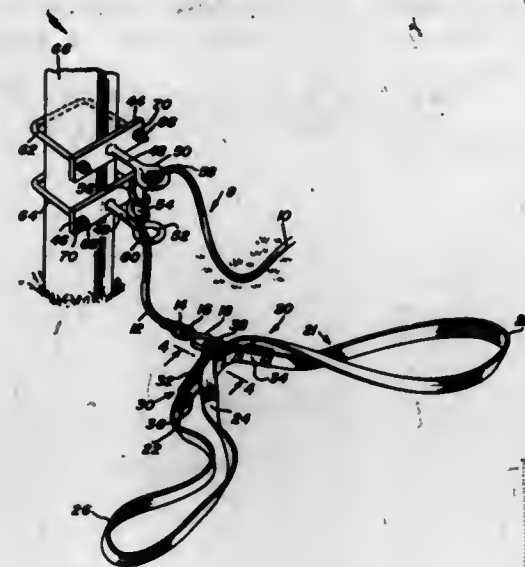
An exercising and recreational apparatus comprising a rotatable frame pivotally mounted on pivot means on a supporting frame. The rotatable frame has an elongated frame member in the shape of a closed elongated geometric figure, and an annular body supporting frame member attached thereto adjacent to the pivot means. A pair of inverted U-shaped frame members extend from the annular body supporting frame member toward the opposite end of the elongated frame member from a foot support member. The arrangement is such that a body-supporting frame work is formed by these parts. A hand grip member is connected between the elongated frame member and the closed end of each of the U-shaped frame members. This permits a person to stand in the framework and grasp the hand grip members and oscillate or rotate themselves around the pivot means.

### 3,519,269 PULLING FRICTION TYPE EXERCISING DEVICE

Joe R. Howlett, 1 Caldwell St., Auburn, Ky. 42206, and Guy D. Penny, 432 Second St., Morehead, Ky. 40351  
Filed Feb. 19, 1968, Ser. No. 706,562  
Int. Cl. A63b 21/12

U.S. Cl. 272-80

8 Claims



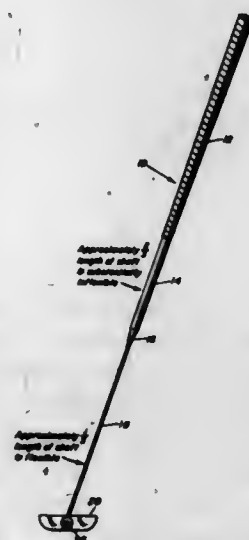
An exercising and training apparatus adaptable to indoor and outdoor use. It enables football players, baseball players, basketball players, trackmen and others to obtain needed exercising by exerting a running pull against a resisting force by way of a restraining rope, more specifically, a suitable harness-equipped rope whose median portion is snubbed around—by coiling or wrapping—a polished snubbing rod or shaft. This shaft is a component stationary part of a shacking fixture which is anchored on a goal post or the like. The player is the trainee while the coach acts as the trainer and holds and controls the inward end of the running rope.

### 3,519,270 FLEXIBLE SHAFT PUTTER

John W. Baymiller, 1708 Litz Pike, Lancaster, Pa. 17601  
Filed Mar. 4, 1968, Ser. No. 710,002  
Int. Cl. A63b 53/12

U.S. Cl. 273-80

12 Claims



A golf putter is provided which is uniformly flexible over a portion of the shaft adjacent the head of the putter. The shaft is flexible only over the lower one-third of its length, with the upper two-thirds being of

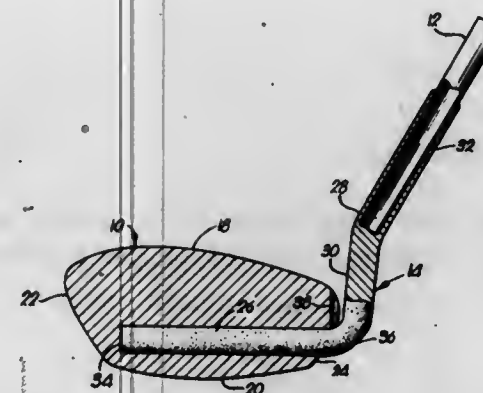
conventional construction. The head of the putter is so shaped and the weight thereof so distributed that the center of percussion coincides as nearly as possible with the geometric center of the club face.

### 3,519,271 SHAFT AND CLUB HEAD ATTACHING MEANS

Kenneth Smith, 12925 W. 71st St., Lenexa, Kans. 66217  
Filed May 10, 1967, Ser. No. 637,571  
Int. Cl. A63b 53/02

U.S. Cl. 273-80.2

5 Claims



A metallic club head is cast around a solid rod which extends into the head from the heel. The rod extends in general parallelism with the striking face of the club and is embedded in the lower half of the club head. The rod extends upwardly from the heel at approximately a right angle to the portion thereof embedded in the head. The upright section of the rod is of an obtuse, angular configuration so that its upper stretch extends generally toward the player, the lower extremity of the shaft of the club being relatively telescoped with such upper stretch and securely joined thereto.

### 3,519,272 MARKSMANSHIP TRAINING TARGET

George E. De Vogelaere, 594 Landing Road N., Rochester, N.Y. 14625  
Original application Jan. 16, 1964, Ser. No. 338,239, now Patent No. 3,402,933, dated Sept. 24, 1968. Divided and this application Sept. 3, 1968, Ser. No. 767,537  
Int. Cl. F41j 9/14

U.S. Cl. 273-105.1

4 Claims



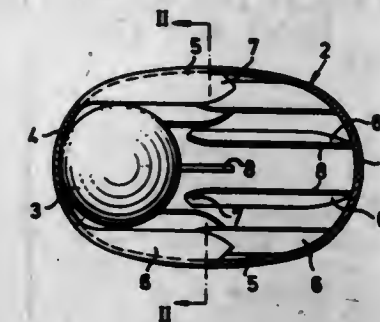
Training device comprising a target having in combination a carrying case having a lower section and an upper cover section which is removably securable on the lower section, support for holding the cover vertically above and spaced apart from the lower section, means for supporting a roll of target paper between said sections when the case is open and a shield suspended from the cover behind the target roll in position to be struck by projectiles fired at the exposed portion of the roll, thereby halting the flight of the projectile.

### 3,519,273 COMBINED TUMBLING TOY WITH RIBS AND BALL

Jette Viby, Rudersdalvej 25, Holte, Denmark  
Filed Feb. 12, 1968, Ser. No. 704,894  
Claims priority, application Denmark, Sept. 21, 1967, 4,721/67  
Int. Cl. A63b 39/08, 43/04

U.S. Cl. 273-128

6 Claims



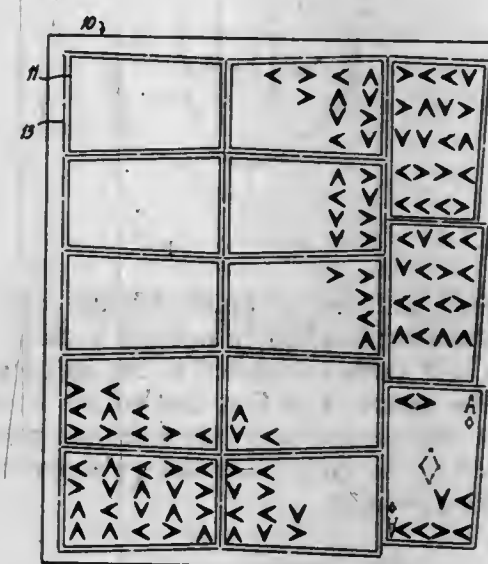
A tumbling toy having an elongated shell and internal ribs integral with the shell and presenting axially extending inner edges on which a ball may roll forth and back within the shell.

### 3,519,274 COMPOSITE PLAYING CARD SHEETS

Thomas G. Terbell, Old Church Road, Greenwich, Conn. 06830  
Continuation-in-part of application Ser. No. 610,972, Jan. 23, 1967. This application Apr. 15, 1968, Ser. No. 721,258  
Int. Cl. A63f 1/02, 1/10

U.S. Cl. 273-151

10 Claims



Playing cards are made trapezoidal so that when the side edges of the cards are brought into substantial alignment any misoriented cards are then pulled out by grasping the opposite edges of the wider ends respectively and pulling in opposite directions after which one of the packs thus separated is turned and they are superposed in register. The cards may bear markings to identify the game and hand in which each is to be played or the player to whom the card is to be dealt in a particular hand. Such markings may be directional pointers arranged in a complex design.

These cards may be made separate and assembled in decks as has been customary or a plurality of cards may



be printed on a single sheet with their edges defined by weakened lines to facilitate separation of individual cards by tensile pull. Such composite cards may have a full hand to be dealt as a unit to the player.

### 3,519,275 AUTOMATIC GOLF BALL TEEING DEVICE

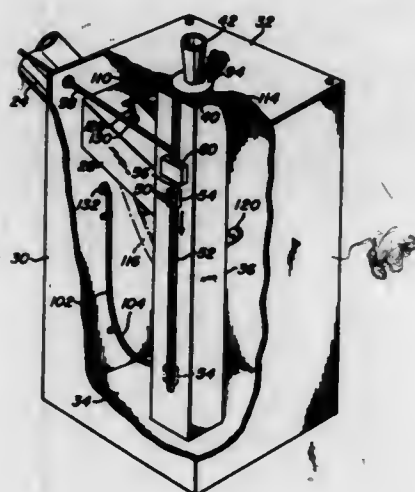
Ernest Melerjohan, 3342 Hanna Ave.,  
Cincinnati, Ohio 45211

Filed Aug. 10, 1967, Ser. No. 659,677

Int. Cl. A63b 57/00

U.S. Cl. 273—201

16 Claims



A golf tee machine in which driving of a golf ball off the tee actuates a switch to operate a motor through one cycle. A stiff cable connected to the ball tee is reciprocated by the motor. The first half of the cycle lowers the tee below the ground to a ball receiving position and the second half of the cycle raises the tee above the ground to a ball striking position.

### 3,519,276 PHONOGRAPH CONTROL APPARATUS

Donald E. Warner, North Hollywood, and René F. Jansen, Van Nuys, Calif., assignors to Audiotronics Corporation, North Hollywood, Calif., a corporation of California

Filed June 28, 1968, Ser. No. 741,043

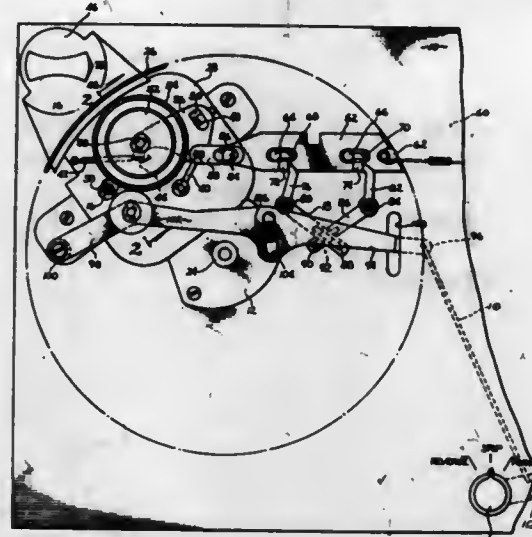
Int. Cl. G11b 19/26

U.S. Cl. 274—1

9 Claims

An apparatus for stopping and reversing direction of a phonograph turntable comprising a linkage assembly which is capable of locating a first idler wheel in a first position in contact with both the turntable and a drive wheel, and is also capable of locating the first idler wheel in a second position with a second idler wheel between

the drive wheel and first idler wheel thereby causing an opposite rotation of the turntable, and further is capable



of locating the first idler wheel in no contact with the turntable while applying a brake to the turntable.

### 3,519,277 FAN SEAL

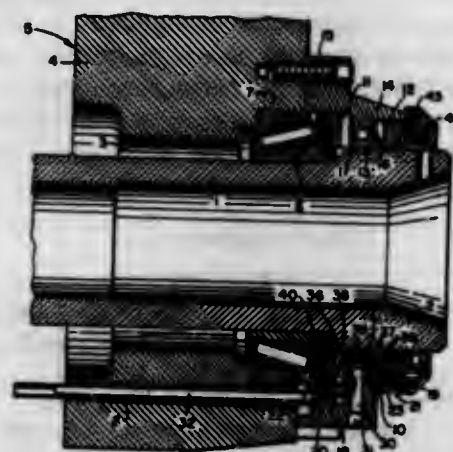
Weyman S. Crocker, Springfield, Vt., assignor to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Jan. 18, 1968, Ser. No. 698,839

Int. Cl. F16j 15/40

U.S. Cl. 277—25

19 Claims



A fan seal including a pair of axially spaced apart fans mounted for rotation with a spindle or shaft, the inner fan being adapted to direct air through an inner labyrinth packing between the shaft and a housing surrounding the same to the interior of the housing to prevent the escape of lubricant therefrom, and the outer fan being adapted to direct air in the opposite direction outwardly through an outer labyrinth packing for preventing the entrance of coolant and the like into the housing. A vent between the fans provides sufficient air for the fans to permit the creation of high static heads.

### 3,519,278 SEALING ARRANGEMENT

Ernst Fuhrmann, Siegfried Teucher, Fritz Bondroit, Friedhelm Stecher, and Paul Vossieck, Burscheld, Germany, assignors to Goetzwerke Friedrich Goetze A.G., Burscheld, Germany

Filed May 16, 1966, Ser. No. 550,341

Claims priority, application Germany, May 14, 1965, G 43,596; June 11, 1965, G 43,851

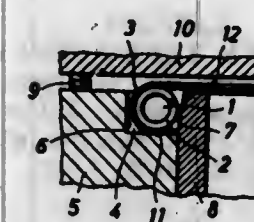
Int. Cl. F16j 15/32

U.S. Cl. 277—153

5 Claims

A sealing element composed of an annular, laterally deformable helical coil spring and an annular sheath surrounding at least one-half the coil circumference, the coil

spring being so dimensioned with respect to the dimensions of the space to be sealed that, when the two members between which the seal is to be formed are joined together, the spring will be laterally deformed to a degree which



corresponds to a point along the flattest portion of a curve representing the sealing force applied by the spring coils as a function of the amount of lateral deformation thereof in the direction in which the sealing force is exerted.

### 3,519,279 SEALING WASHER

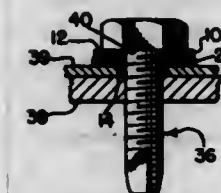
David P. Wagner, Elmhurst, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill.

Filed Nov. 1, 1968, Ser. No. 772,606

Int. Cl. F16k 41/00; F16j 9/06; B65d 53/00

U.S. Cl. 277—166

13 Claims



Sealing washer has its body formed so as to include upper and lower surfaces which are spaced apart by a distance greater than the thickness of the washer material. A rubber-like sealing member is molded against the washer so as to be in engagement with opposite sides thereof. A plurality of openings in the washer body connect the sealing material on one side of the washer with that on the other and permit the sealing member to be firmly anchored to the washer body without the use of adhesives.

### 3,519,280 PISTON BEARING AND SEALING MEANS

Orville F. Genz, Elmwood Park, Ill., assignor to Hydro Component Research and Development Co., Chicago, Ill., a corporation of Illinois

Filed June 2, 1967, Ser. No. 643,236

Int. Cl. F16j 9/20

U.S. Cl. 277—205

8 Claims



In a hydraulic system having a cylinder and a reciprocating piston therefor, a combination piston bearing and sealing member comprises a series of nested annular ring

members each composed of a relatively rigid molded thermoplastic material reinforced with randomly oriented fibers to withstand high pressures and temperatures. Each member is of a generally V-shaped cross-section with the included angle between the interior leg faces being materially greater than a similar angle between the exterior faces to allow space for the nested elements to flex. An annular groove near the extremity of the interior face of each leg provides a hinge point for increasing the flexibility of the leg extremities and improving the reliability of the seal at low operating temperatures and pressures. A method of making the ring by an injection molding technique and mold constructions therefor are also disclosed.

### 3,519,281 GASKET

Siegfried Teucher and Paul Vossieck, Burscheld, Germany, assignors to Goetzwerke Friedrich Goetze AG, Burscheld, Germany

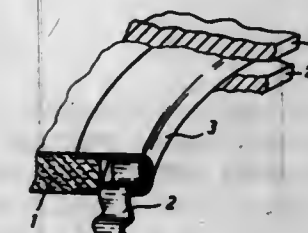
Filed Apr. 18, 1967, Ser. No. 631,679

Claims priority, application Germany, June 15, 1966, G 47,168

Int. Cl. F16j 15/02

U.S. Cl. 277—206

11 Claims



An improved cylinder head gasket including a sheath which at least partially surrounds a plastically deformed metal spring that is resilient in a direction at right angles to the gap to be sealed by the gasket. The spring element can be a twisted wire spring, a corrugated band spring, a plurality of twisted wire springs surrounding a resilient core, or a band spring having alternating protuberances formed therein.

### 3,519,282 ABRADABLE MATERIAL SEAL

David R. Davis, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed Mar. 11, 1966, Ser. No. 533,636

Int. Cl. F16j 15/16

U.S. Cl. 277—230

3 Claims



The disclosure shows a tip seal for a bladed turbo-machinery rotor. The seal comprises a circumferential member formed by a matrix of randomly oriented, structural metallic fibers bonded together and forming a porous



structure. Granular metallic material fills the voids in the porous structure. The granular material is bonded to itself and to the structure to form a lightweight friable sealing member.

### 3,519,283 PIPE JOINT AND PROCESS FOR PREPARING SAME

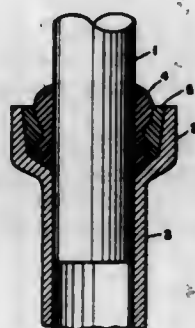
Irving Tashlick, Rockaway, and Ismar Berlinger, Paterson, N.J., assignors to Interpace Corporation, a corporation of Delaware

Filed Mar. 18, 1966, Ser. No. 535,560

Int. Cl. B65d 53/06; F16j 15/02

U.S. Cl. 277-237

7 Claims



A combination of pipe sections and connecting joint forming annular rubbery cured polyurethane rings and process for casting on the end of a pipe the polyurethane rings. The cured polyurethane rings formed in a cavity between a pipe section and a mold form are reaction products of an organic diisocyanate, a polyalkylene ether triol with an average molecular weight between about 750 and 4750, a catalyst and a solid inert filler, the reaction mixture having an isocyanate to hydroxyl ratio of about 0.9 to about 1.1 NCO for each OH group. The cured polyurethane has about one crosslink for each 1000 to 4000 of its molecular weight.

### 3,519,284 SLEIGH

Ryoji Toki, 3897 Kamitsuruma, Sagami-hara-shi, Kanagawa, Japan

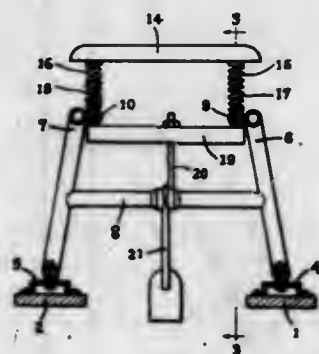
Filed Sept. 27, 1968, Ser. No. 763,113

Claims priority, application Japan, Sept. 27, 1967, 42/61,674

Int. Cl. B62b 17/08

U.S. Cl. 280-16

13 Claims



This invention relates to a sleigh having a piloting device for use in operation mainly on slopes of, and more particularly to a sleigh provided with a seat-interlocking brake linked mechanically with the driver's seat to halt the sleigh so as not to move of itself unless the weight of the driver is put on the said seat, and with independent

foot brakes, one each on the right and left, to permit during operation the driver to voluntarily stop the sleigh or effect with the steering device the turning thereof.

### 3,519,285 COASTER TYPE VEHICLE

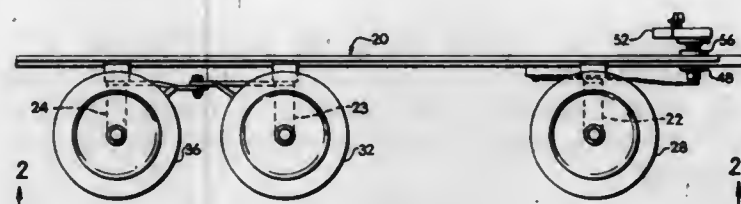
Paul L. Sullivan, 527 Harrison Ave., Lancaster, Ohio 43130

Filed Jan. 2, 1968, Ser. No. 695,146

Int. Cl. B62b 3/00

U.S. Cl. 280-87.01

4 Claims



A coaster type vehicle that includes a steering mechanism adapted to apply leverage steering control by an operator lying in a prone position, said vehicle being further characterized by a multiple axle suspension system providing stability in cornering and smoothness of ride qualities, and a simple brake mechanism adapted for the application of equalized braking by an operator lying on the vehicle in a prone position.

### 3,519,286 INDUSTRIAL TRUCK

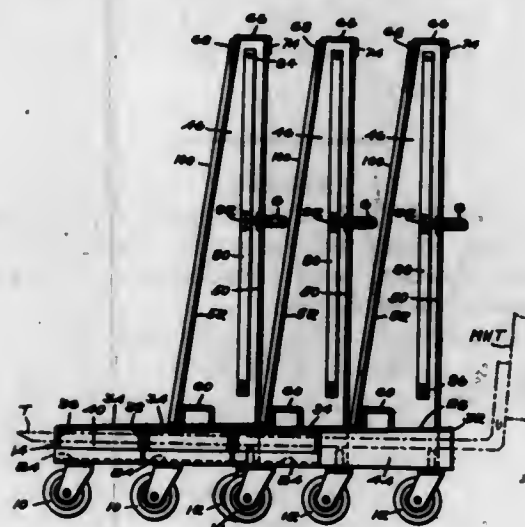
Johan M. Andersen, Hopkinton, Mass., assignor to Duplicon Company, Inc., Westboro, Mass., a corporation of Massachusetts

Filed Oct. 1, 1968, Ser. No. 764,270

Int. Cl. B62b 11/00

U.S. Cl. 280-33.99

7 Claims



An industrial truck normally pushed by hand for moving goods about a factory. Each truck is so designed that it may be nested with other similar trucks. Portions of the base of the truck are constructed to provide spaced, unobstructed, front to rear openings. By this construction, the tines of a fork of a conventional power driven industrial lift truck may be inserted in the aligned openings of several of the nested trucks whereby they may then be picked up simultaneously by the fork truck for transportation rapidly over greater distances.

### 3,519,287 TRAILER STABILIZER

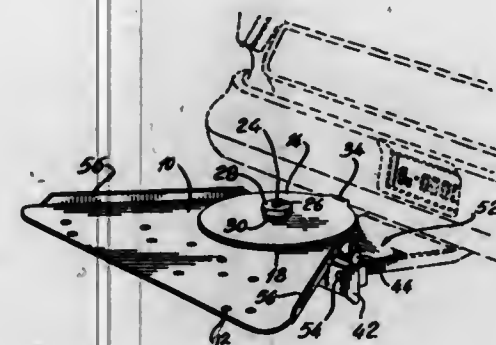
Jacques Pontbriand, 70 Avenue des Pins, Rawdon, Quebec, Canada

Filed Dec. 23, 1968, Ser. No. 785,893

Int. Cl. B60d 1/00

U.S. Cl. 280-446

5 Claims



A connection between a tow car and a trailer comprising a connecting plate fastened to the trailer and sandwiched under resilient pressure between two friction plates which are adapted to rotate in unison relative to the connecting plate. The friction plates are connected to the tow car by a hinge whose apertures are vertically elongated to permit a transverse vertical play.

### 3,519,288

#### DISPLAY ADVERTISEMENT BORDER BOXES

Shirley Clarence Sears, 4927 13th Ave. N., St. Petersburg, Fla. 33710

Filed Nov. 14, 1968, Ser. No. 776,315

Int. Cl. G09f 23/10

U.S. Cl. 283-56

2 Claims



A means for producing a box or border for use in the rapid production of newspaper and magazine display advertising.

### 3,519,289

#### SOUNDPROOF PIPE CONNECTION

Dieter Hafer, Vallendar, Germany, assignor to Gesellschaft für Technischen Fortschritt M.b.H., Hohn-Grenzhausen, Germany

Filed Feb. 5, 1969, Ser. No. 796,750

Claims priority, application Germany, Feb. 8, 1968, 1,675,302; Feb. 9, 1968, 1,675,303

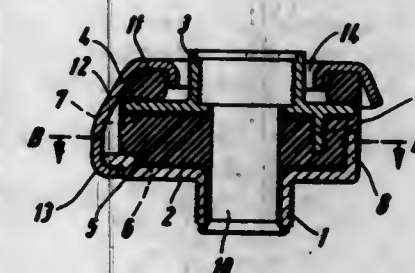
Int. Cl. F16l 59/16

U.S. Cl. 285-49

16 Claims

An end portion of a first pipe section is adjacent to but spaced from the end portion of a second pipe section. A

cap is connected to one of the pipe sections and surrounds with clearance the other pipe section. A flange provided on one of the pipe sections subdivides the clearance into two spaces. A body of elastic self-damping material is interposed between these end portions and connected thereto, being provided with a bore communicating with the bores of the pipe sections. An annulus of elastic material is located in the other space and is bonded to the flange.



material is interposed between these end portions and connected thereto, being provided with a bore communicating with the bores of the pipe sections. An annulus of elastic material is located in the other space and is bonded to the flange.

### 3,519,290

#### COUPLING AND SEAL APPARATUS FOR HOSES AND OTHER TUBULAR CONDUITS FOR FLUIDS

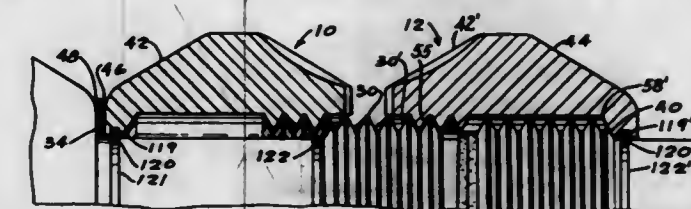
Jerald V. Dunlap, 2727 Washington Ave., Santa Monica, Calif. 90403, and James L. D. Morrison, 2045 Mandeville Canyon Road, Los Angeles, Calif. 90049

Original application Dec. 22, 1966, Ser. No. 603,862, now Patent No. 3,427,053, dated Feb. 11, 1969. Divided and this application July 29, 1968, Ser. No. 755,490

Int. Cl. F16l 15/00, 21/04

U.S. Cl. 285-81

1 Claim



A coupling and sealing apparatus includes a cylindrically shaped body and a reinforced seal secured to its forward end for sealing engagement with a substantially identical coupling body having a corresponding forward end. The body has recessed portions on its inner cylindrical surface. The seal comprises a reinforcing means having external teeth engaged within the recessed portions of the body and includes at its forward end a flaired portion. An annular rubber-like seal completely surrounds the flaired portion such that the flaired portion is imbedded in and bonded to the annular seal in such a manner that the seal covers substantially completely the forward end of the body. The coupling apparatus further includes first and second annular detent grooves and a cooperating retainer spring means for releasably engaging, alternatively, the first and second grooves.

### 3,519,291

#### PRESSURE OPENABLE TUBING TESTER

Lyle B. Scott, South Gate, Calif., assignor to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Original application Jan. 25, 1967, Ser. No. 611,745, now Patent No. 3,470,903, dated Oct. 7, 1969. Divided and this application Nov. 25, 1968, Ser. No. 792,879

Int. Cl. F16l 39/04

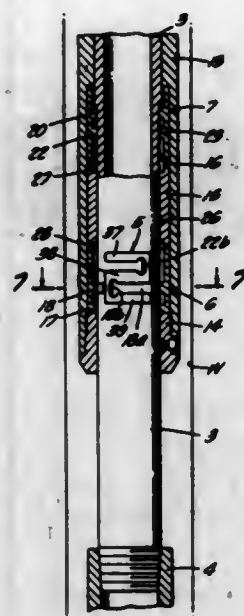
U.S. Cl. 285-302

3 Claims

A latch mechanism for a tubing tester having inner and outer body portions and latch members which pro-



vides for limited telescoping and rotational movement of its interior, in any of a multiplicity of defined positions the body portions and for latching them in either the along the length of the inner member, by a latch device



extended or retracted telescopic positions by their relative rotation.

3,519,292

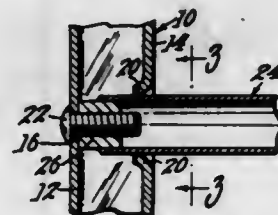
**DISCONNECTABLE JOINT STRUCTURE**

George Krikorian, 64 Main St., Spencer, Mass. 01562  
Filed Mar. 3, 1969, Ser. No. 803,726

Int. Cl. E04g 7/00

U.S. Cl. 287-56

1 Claim



Joint structure for attaching a round tubing at right angles to a square tubing, including a small hole in one side of the square tubing with an opposite larger hole, the larger hole having the edges bent inwardly forming a reduced guide for the end of the round tubing, the latter having a nut secured therein and having a diameter slightly greater than the diameter of the hole with the edges bent in, and a screw in the smaller hole in the square tubing engaged with the nut and tightly drawing the same, i.e., end of the round tubing, against the side of the square tubing adjacent the smaller hole.

3,519,293

**POLE LAMP FOR TRUCKS AND TRAILERS**

Donald S. Henning, Thiensville, and Llano L. Smith, Milwaukee, Wis., assignors to Phoenix Products Company, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Apr. 3, 1969, Ser. No. 812,977

Int. Cl. F16b 7/14

U.S. Cl. 287-58

3 Claims

A pole lamp having a tubular upper section that is adjustable lengthwise of its spring biased lower section throughout an exceptionally wide range. The upper section is held connected to an elongated tubular member in



mounted within the inner tubular member but releasable from the exterior of the upper pole section.

3,519,294

**INTERNAL FERRULE JOINT**

Richard Dwight Barnes, Costa Mesa, Calif., assignor to The Comolon Corporation, a corporation of California  
Filed Jan. 27, 1967, Ser. No. 612,139

Int. Cl. F16b 7/04

U.S. Cl. 287-126

2 Claims



This invention provides for the demountable end to end connection of tubular sections by means of an internal member. The internal member is fixed in one tubular section to have a projecting end. The projecting end of the internal member, which is finished to exact dimensions, is used as a male mold to form the inner surface of other tubular sections.

3,519,295

**FISHING ROD CONNECTOR**

Henry F. Danico, Stoneham, and Bruno A. Sarafinas, Lexington, Mass., assignors to United-Carr Incorporated, Boston, Mass., a corporation of Delaware  
Filed Sept. 4, 1968, Ser. No. 757,307

Int. Cl. E04b 1/48

U.S. Cl. 287-127

4 Claims



The butt and forward end sections of a dismantlable fishing rod are joined by a synthetic resinous connector. One end of the connector is fixedly retained in an open

ended bore in one of the rod sections and the opposite end of the connector is frictionally, releasably seated in an open ended bore in the other rod section. The said opposite end of the connector is longitudinally slotted and includes a plurality of resilient wings which are compressed radially inwardly to provide a controlled, leaf spring type take-up over the total area of engagement between said connector and said other rod section.

3,519,296

**QUICK-RELEASABLE COVER LOCK FOR A PRESSURE CONTAINER**

Helmut Strohmeier, Essen, and Dieter Schmidt, Welper (Ruhr), Germany, assignors to Rhein Stahl Huttenwerke AG, Essen, Germany

Filed July 15, 1968, Ser. No. 744,798

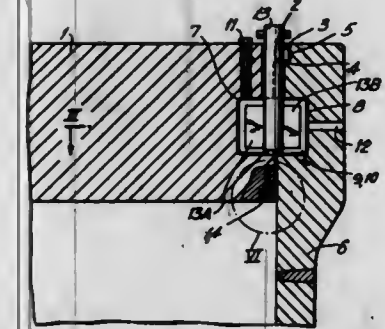
Claims priority, application Germany, July 26, 1967,

R 46,575

Int. Cl. E05c 3/04, 7/00

U.S. Cl. 292-54

7 Claims



A rapid release cover lock for securing the cover lid to the opening flange of a pressure container wherein the cover lid has a plurality of pockets located at spaced intervals along its periphery which correspond with a similar plurality of spaced pockets formed in the inner face of the container flange so that a lock consisting of a pair of semi-cylindrical sections may be inserted into the pockets. A pivot bolt is coupled to the locking sections to permit pivotable movement of the sections within the pockets to secure the cover lid to the container flange.

3,519,297

**WINDOW LOCKS**

Albert Cheng Shu Lok, Kowloon, Hong Kong, assignor to The Hong Kong Chiap Hua Mfy. Co., (1947) Ltd., Hong Kong

Filed May 1, 1968, Ser. No. 725,830

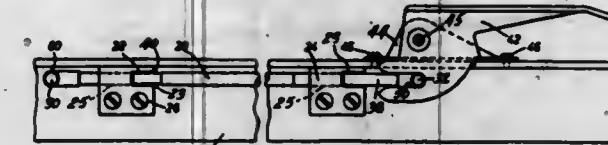
Claims priority, application Great Britain, May 1, 1967,

20,122/67

Int. Cl. E05c 5/00

U.S. Cl. 292-66

3 Claims



A window locking means comprises a rod pivotable about and slidable along an axis parallel to its length and extending along one edge of the window. The rod has a portion that is adapted to engage the window sash and prevent opening thereof. The rod is also pivotable about the said axis to withdraw the aforesaid portion from

the path of movement of the sash to permit opening movement of the window. A handle is provided for sliding and then pivoting the rod between its locking and unlocking positions.

3,519,298

**POSITIVE LOCK FOR TOGGLE LATCH**

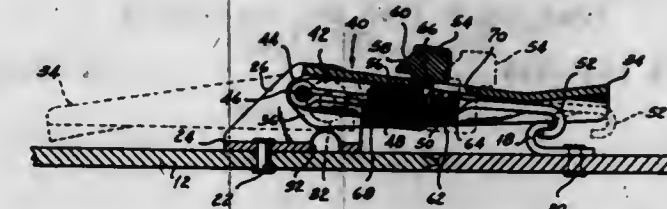
Paul R. Gley, Hilledale, and Norman S. Johnson, New Milford, N.J., assignors, by mesne assignments, to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Feb. 24, 1967, Ser. No. 618,456

Int. Cl. E05c 5/04

U.S. Cl. 292-113

6 Claims



A toggle latch in which the drawhook assembly carries a movable catch biased toward the handle pivot and which passes through an opening in the latch handle and snaps into engagement therewith as the handle moves to its closed position to engage the drawhook with the strike. The spacing between the catch and the free end of the handle and the direction of biasing of the catch are such as to permit concomitant release of the catch and movement of the handle to open position to release the latch.

3,519,299

**SAFETY LOCK FOR CONTAINER**

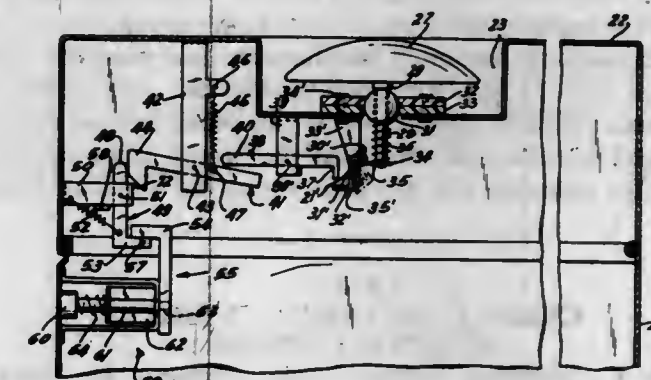
Richard H. Goodwin, 16 Osborne Road, Garden City, N.Y. 11530

Filed Mar. 6, 1968, Ser. No. 711,055

Int. Cl. E05c 1/10; A45c 13/10

U.S. Cl. 292-175

16 Claims



A safety lock to be mounted in a container having an open side and normally having a closure positioned over the opening to form a closed container. The container is for housing potentially dangerous articles such as medicines, and has a locking means relatively easily opened by an adult but which is virtually impossible for a small child to open. The safety lock includes a catch means mounted in the container and release means mounted on the container with one portion extending within the container and another portion extending without the container. The portion within the container is associated with the catch means and the other portion has an enlarged grasping surface larger than the normal hand span of a small child and yet smaller than the span of a person



other than a small child. An auxiliary catch release means is also mounted on the container which cooperates with the release means to release the catch. The catch means is released when the release means is activated in a predetermined manner and in cooperation with the auxiliary catch release means which also must be activated so the closure may then be removed allowing access to the interior of the container. However, if only the release means is operated and not the auxiliary catch release, the catch means will not be released.

3,519,300

## TAIL GATE LATCH MECHANISM

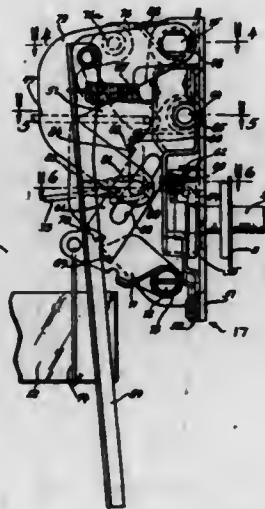
Thomas J. McKey, Grosse Pointe, Mich., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland

Filed Aug. 8, 1968, Ser. No. 751,175

Int. Cl. E05c 3/10

U.S. Cl. 292-216

10 Claims



A mechanism for selectively operating a vehicle tail gate about either a pair of horizontal hinges or generally vertical hinges. The mechanism including a forked rotor for engaging a vehicle mounted striker, a pawl engaging the rotor, a pair of handle actuated levers with a link therebetween constructed to selectively release the pawl. Actuation of one handle blocking movement of the other handle and vice versa due to slotted connection between the mechanism plate, pawl and link. Actuation of one handle opening the latch mechanism and also the upper left latchable hinge for opening the tail gate about the horizontal hinges. Actuation of the other handle opening the latch mechanism and also the lower right latchable hinge for opening the tail gate about the vertical hinges.

3,519,301

## ENERGY ABSORBING VEHICLE BUMPER ASSEMBLY

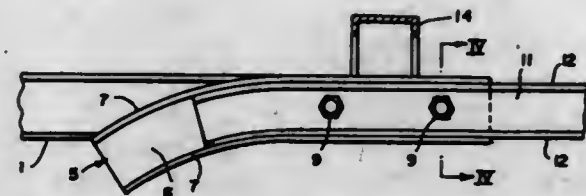
James L. Somnitz, Parma, Ohio, assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 10, 1968, Ser. No. 720,066

Int. Cl. B60r 19/02; B61f 19/04; B61g 11/06

U.S. Cl. 293-1

4 Claims



An energy absorbing mechanism comprising a substantially rectilinear impact member and a curvilinear reaction member, so positioned with relation to one another

that an impact force delivered to the impact member forces the latter to slide along the reaction member bending as it moves so as to assume the configuration of the reaction member. The energy of the impact force is thus exhausted in deforming the impact member.

3,519,302

## PALLET LIFTING DEVICE

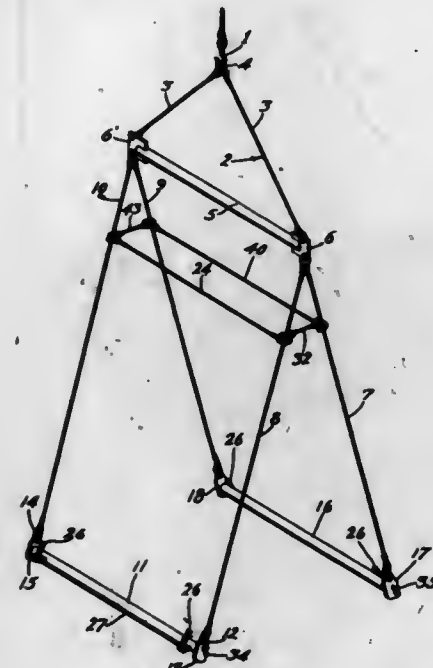
Ronald D. Orenstein, Philadelphia, Pa., assignor to Sun Shipbuilding & Dry Dock Company, Chester, Pa., a corporation of Pennsylvania

Filed June 7, 1968, Ser. No. 735,253

Int. Cl. B66c 1/12

U.S. Cl. 294-74

8 Claims



For crane handling of palletized cargo, a lifting device employs lifting bars which slip under the "wings" of the pallet. The lifting device includes an enclosure which surrounds the pallet and prevents the cargo from accidentally falling off the pallet while it is being handled.

3,519,303

## SELF-EQUALIZING MULTIPLE POINT LIFTING SYSTEM

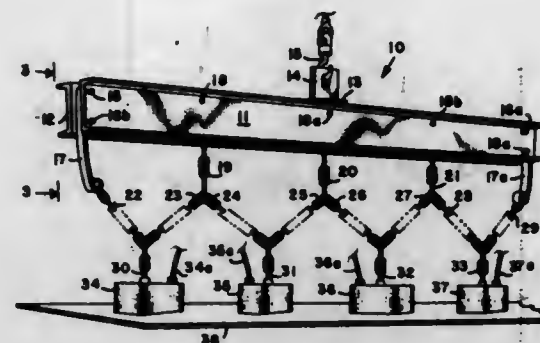
Kenneth L. Gille, Los Angeles, Calif., assignor to Buck Manufacturing Company, Los Angeles, Calif., a corporation of Delaware

Filed Apr. 5, 1968, Ser. No. 719,086

Int. Cl. B66c 1/00

U.S. Cl. 294-81

9 Claims



A load lifting and supporting apparatus employing a strong back provided with a plurality of load gripping devices which may be magnetic or vacuum and which are supported therefrom by a system of interconnected individual members, the angular relationships of which, with

respect to each other, depend upon the attitude or condition of the load gripped by the devices. Also, if one of the gripping devices fails, the total load is then distributed over all of the remaining gripping devices attached to the strong back and not just to the two adjacent devices. The system of supporting the load gripping devices from the strong back is effective in assuring uniform distribution of the load among the several load gripping devices as is necessary on fragile solids such as glass-lined cylinders in which unequal support by different gripping devices would cause damage. This system of supporting load gripping devices is also adapted to support sheets of flexible material as well as loads of irregular configuration.

3,519,304

## PIPE TWISTING TOOL

Theodore J. Shores, 110 W. Spruce, Liberal, Kans. 67901

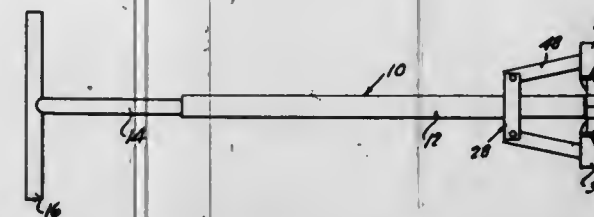
Filed Oct. 18, 1968, Ser. No. 768,683

Int. Cl. B25b 5/04

U.S. Cl. 294-97

3 Claims

U.S. Cl. 296-27



A tool for pulling apart pipe. The tool includes an elongated tubular sleeve housing a relatively reciprocable operating rod. Pivotably connected between a bracket fixed to the end of the rod and a bracket fixed to the sleeve intermediate its ends are a pair of approximately semi-circular gripping shoes. The gripping shoes are pivotable relative to the longitudinal axis of the operating rod by reciprocation of the operating rod relative to the sleeve, so that the shoes can be moved into and out of frictional engagement with the pipe interior. Once frictional engagement is accomplished, the pipe can be twisted by rotating the tool, and then moved linearly.

3,519,305

## HOISTING CLAMP

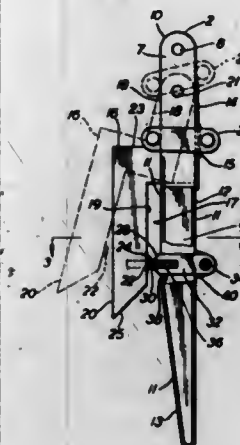
Eugene A. Horstetter and Elmer C. Gardner, Houston, Tex., assignors to S.O.G. Research and Development Corporation, Houston, Tex., a corporation of Texas

Filed Feb. 26, 1968, Ser. No. 708,234

Int. Cl. B66c 1/48

U.S. Cl. 294-101

6 Claims



This application discloses a hoisting clamp for gripping heavy sheet metal objects. In one exemplar embodiment, the clamp includes an elongated frame member, a jaw

having a gripping surface disposed adjacent one end with the other end adapted for pivotal movement within the frame member, a locking ring to slip over the frame member and a portion of the jaw to hold the gripping surface in a closed position adjacent the frame, and a gripping member disposed within the frame member opposite the gripping surface of the jaw and adapted to pivot upwardly to allow entry of a sheet metal object into the space between the jaw gripping surface and the frame and to pivot downwardly upon frictionally engaging the sheet metal object for gripping the object between the two sets of gripping surfaces when the hoisting clamp is lifted.

3,519,306

## EXTENDABLE AND RETRACTABLE SUPPORT MEMBER

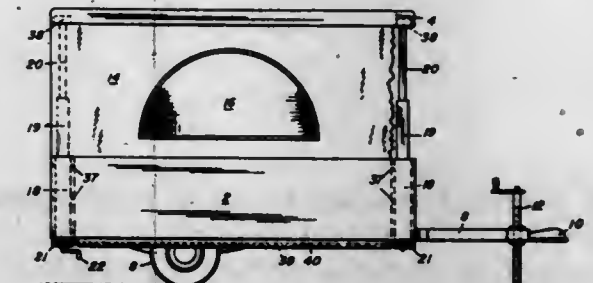
Charles H. Young, 3301 Phillips St., Elkhart, Ind. 46514

Filed June 19, 1968, Ser. No. 738,265

Int. Cl. B60p 3/32

U.S. Cl. 296-27

3 Claims



An extendable and retractable support system for raising and lowering the top of a vehicle in which a plurality of variable length support members connect the top to the body of the vehicle. The support members have telescopic outer members and telescopic driving sections. A belt, chain or other suitable driving means is provided to permit operation of each of the variable length telescopic members simultaneously.

3,519,307

## DISPOSABLE STADIUM SEAT

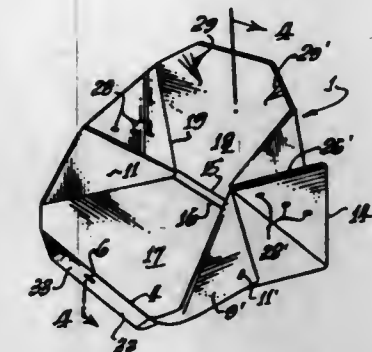
Robert S. Gittings, 4210 Toluca Lake Ave., Burbank, Calif. 91205

Filed Apr. 5, 1968, Ser. No. 719,084

Int. Cl. A47c 3/00

U.S. Cl. 297-380

5 Claims



A foldable stadium seat formed of a single sheet of paperboard comprising a seat portion and a back portion connected by side gussets which form tension ties between the seat and the back and characterized by (a) the provision of certain score lines in the back forming portion which enable the back portion to comfortably conform to the back contour of the user and (b) to a series of reinforcing folds at the edge of the seat portion







3,519,316

## ROLLING BEARING UNIT

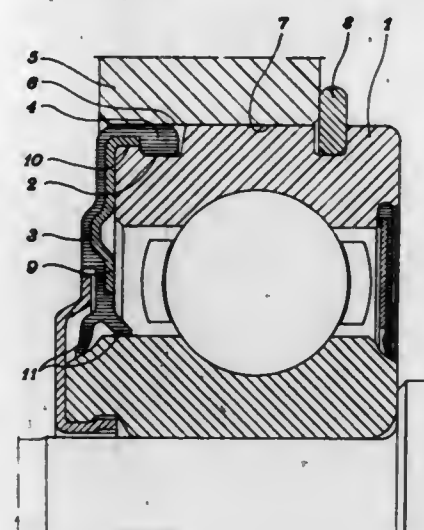
Karl Evald Andreas Göthberg, Lerum, Sweden, assignor to Aktiebolaget Svenska Kullagerfabriken, Göteborg, Sweden, a corporation of Sweden

Filed June 14, 1968, Ser. No. 737,208

Int. Cl. F16c 33/78; F16j 15/32

U.S. Cl. 308—187.1

4 Claims



A bearing unit consisting of a housing having a cylindrical seat and a rolling bearing assembly comprising inner and outer rings and a plurality of rolling elements in the annular space between the rings, said rolling bearing assembly being mounted in said seat and at least one of said rings having a circumferentially extending groove in its outer surface confronting the seat, a seal for covering the annular space at least at one end of the bearing assembly said seal comprising a circular sheet metal plate and a ring of resilient material fixed to the outer edge of said plate engageable in said groove and having an outer diametral dimension greater than the diametral dimension of said seat whereby the resilient member is under compression when the bearing is mounted in the housing, said plate member having an axial flange portion overlying a land on said one ring between its outer axial endface and said groove.

3,519,317

## CLUTCH RELEASE BEARING

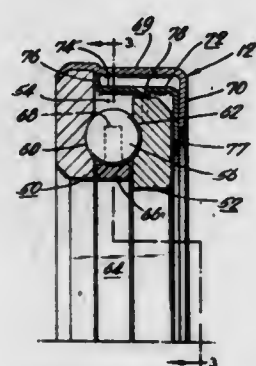
Thomas E. Spence, Radnor, and Raymond A. Guyer, Malvern, Pa., assignors to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware

Filed Oct. 15, 1968, Ser. No. 767,732

Int. Cl. F16c 19/10

U.S. Cl. 308—233

5 Claims



A clutch release bearing comprising inner and outer rings spaced apart to define an annular space, a plurality of rolling elements in the annular space between the rings,

a cage for spacing the rolling elements, an outer circumferentially extending cup member secured at one peripheral edge to one of said rings and having an inwardly directed flange at its opposite peripheral edge confronting the outer face of the other ring, and a lubricant retention shell made of a flexible non-metallic material having a portion spanning the annular space and having at least one radially inwardly directed lip engaging between the flange of the cup member and the outer face of the other ring.

3,519,318

## CAMPER'S CUPBOARD

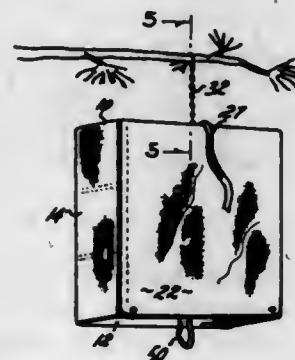
Donald E. Hagen, 34304 Judy Lane, Palm Springs, Calif. 92262

Filed May 27, 1968, Ser. No. 732,189

Int. Cl. A47b 75/00; A47f 5/08

U.S. Cl. 312—245

5 Claims



Apparatus for camping and the like comprising a heavy canvas collapsible exterior having canvas shelves, an open front and canvas cover, and a flat board or other material supporting the canvas top and forming a cupboard. Plural flat board or other material shelves are detachably placed on the canvas shelves and a detachable rod may be inserted through the plural shelves and against the top and bottom boards to form a table type cupboard if desired.

3,519,319

## REMOVABLE TILT-DOWN DRAWER

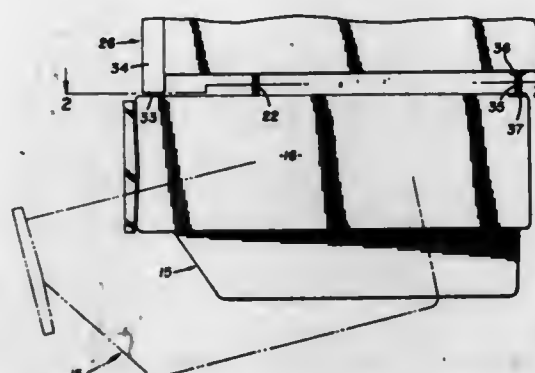
William D. Taylor, Wooster, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio

Filed Nov. 6, 1968, Ser. No. 773,772

Int. Cl. A47f 5/08; A47b 67/02

U.S. Cl. 312—246

14 Claims



A storage drawer unit having a slidable transparent cover mounted in a single carrier frame or in multiple units in a multiple carrier frame, the units having side cams slidable in inclined tracks in the carrier frames causing downward tilting of the drawer or drawers when pulled out and the transparent cover or covers being latched in retracted position during such downward tilting

and outward extension, said drawer units being removable with said covers thereon by tilting the units upwardly when pulling them out of said carrier frames.

and a second pick-up arm adjacent one end of the second door and extending between the abutment surfaces of the third door.

3,519,320

## MODULAR DISPLAY FIXTURE

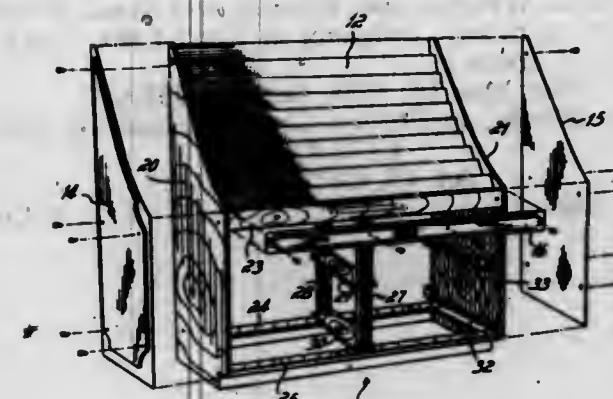
Gordon L. Freedman, Charlevoix, Mich., assignor to Freedman Aircraft Engineering Corporation, Charlevoix, Mich., a corporation of Michigan

Filed June 6, 1968, Ser. No. 735,001

Int. Cl. A47b 43/00

U.S. Cl. 312—258

10 Claims



A fixture for displaying greeting cards and similar articles. The fixture comprises a frame, side panels, decorative panels or plates for covering the side panels, and drawers having removable front walls. All exposed decorative panels are interchangeable so that the construction is amendable to modular inventory and construction techniques.

3,519,321

## CABINET DOOR ASSEMBLY

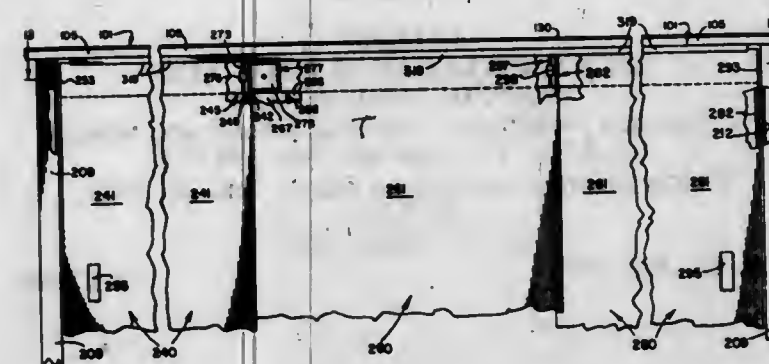
Kenneth D. Schreyer, Doylestown, Pa., assignor to Lyon Metal Products, Incorporated, Aurora, Ill., a corporation of Illinois

Original application Mar. 29, 1966, Ser. No. 538,423, now Patent No. 3,410,621, dated Nov. 12, 1968. Divided and this application Jan. 10, 1968, Ser. No. 713,556

Int. Cl. A47b 88/00

U.S. Cl. 312—295

15 Claims



The present invention is directed to a cabinet door assembly for closing the front opening in a cabinet, the assembly comprising inner, outer and center track structure extending the width of the opening, first, second and third doors slidably mounted on the associated tracks, each door comprising a front panel with side flanges and a reinforcement sheet between the side flanges and having a plurality of attachment portions secured to the rear side of the panel and reinforcement ribs between adjacent attachment portions, a pair of abutment surfaces adjacent both ends of the second door and a pair of abutment surfaces adjacent both ends of the third door, a first pick-up arm adjacent one end of the first door and extending between the abutment surfaces of the second door,

3,519,322

## METHOD FOR ENCODING AND DECODING INFORMATION

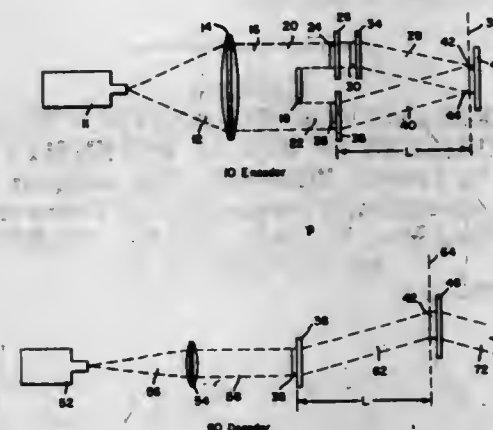
Robert E. Brooks, Lee O. Heflinger, and Ralph F. Wuerker, Los Angeles, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

Filed July 19, 1967, Ser. No. 661,492

Int. Cl. G02b 27/10

U.S. Cl. 350—3.5

1 Claim



Information encoder-decoder system and method wherein to encode a message, coherent radiant energy is formed into a hologram recording scene beam and a hologram recording reference beam. A ground glass beam diffuser is positioned in the scene beam to form a diffused scene beam which is passed through a message-bearing transparency. Another ground glass member is supported in the reference beam at a predetermined distance from a first film plane to form a diffused reference beam intersecting the diffused scene beam at the first film plane to form an interference pattern. An image recorder in the form of a photographic plate is supported and exposed to the intersecting beams at the first plane. The image recorder is then developed to form a hologram of the interference pattern. In order to decode the message, similar coherent radiant energy is formed into a hologram reconstruction beam. The other glass member is then supported in the reconstruction beam and located at a distance from a second film plane which is substantially equal to the predetermined distance utilized in recording the message to diffuse the reconstruction beam toward the second film plane. The hologram is supported at the second film plane for viewing of the message therethrough. In decoding the message, the identical piece of glass that was used in encoding the message, with its unique, random-phase characteristics, must be utilized in reconstructing or decoding the message. Any attempts to reconstruct the message with reconstruction beams not having the decoder glass medium therein result in an unintelligible reconstruction.

3,519,323

## HOLOGRAM METHOD AND APPARATUS FOR RECORDING AND RECONSTRUCTING MULTICOLOR IMAGES

Robert J. Collier, New Providence, and Keith S. Pennington, Basking Ridge, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Aug. 30, 1966, Ser. No. 576,105

Int. Cl. G02b 27/00

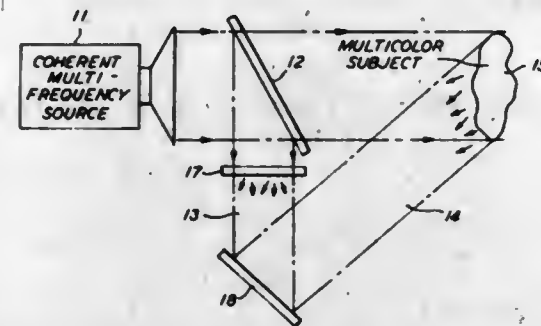
U.S. Cl. 350—3.5

9 Claims

Cross-talk in the reconstruction of multicolor images from holograms is reduced or eliminated by projecting

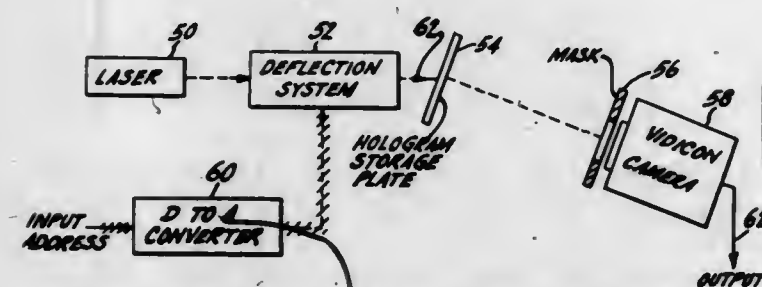


the multifrequency reference beam through a diffusing screen during image recording, and by projecting the



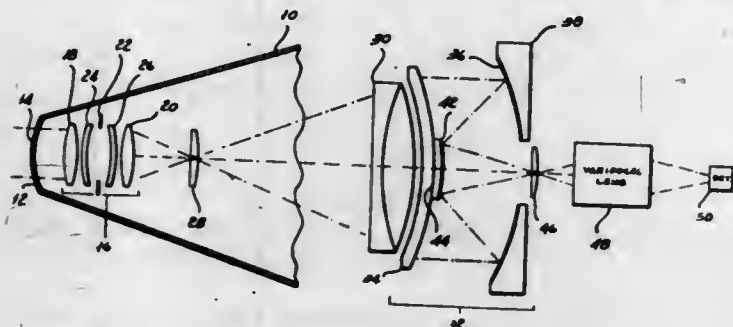
reconstructing beam through the identical diffusing screen during the reconstruction step.

**3,519,324**  
**HOLOGRAMS FOR RECONSTRUCTION OF OBJECTS OF EQUAL INTENSITY**  
Horatio N. Crooks, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware  
Filed Dec. 27, 1967, Ser. No. 693,859  
Int. Cl. G02b 27/22  
U.S. Cl. 350-3.5 4 Claims



Equal intensity output images are obtained from each of a plurality of different holograms, all made with the same coherent light intensity and exposure time, even though the different objects from which the holograms are made may be of different size. This is accomplished by causing a fixed area of the coherent light beam cross-section to be intercepted during the preparation of the hologram, even though only a part of this area is occupied by the object, and upon "playback," masking that portion of the reconstructed image not of interest.

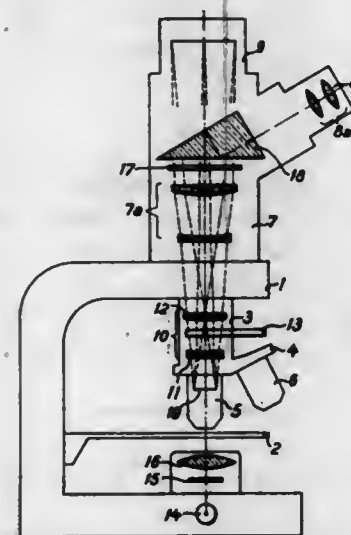
**3,519,325**  
**HIGH APERTURE WIDE FIELD VARIFOCAL SCANNING SYSTEM**  
Irving R. Abel, Lexington, Mass., and Jason M. Gordon, Katonah, N.Y., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Filed Oct. 8, 1965, Ser. No. 494,153  
Int. Cl. G02b 17/00, 17/04  
U.S. Cl. 350-6 12 Claims



A high aperture wide field angle varifocal scanning system in which a telescope optical system having a small aperture and wide field angle end and having a large aperture and narrow field angle end, an imaging system having a first end providing a large aperture and narrow field angle and a second end providing a small aperture

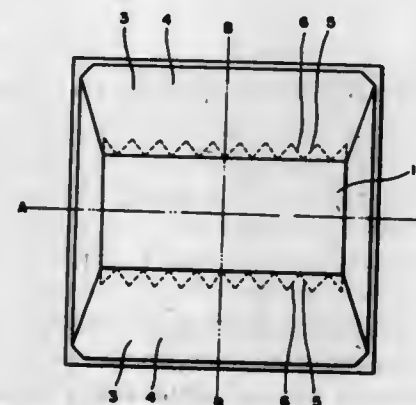
and wide field angle and a varifocal lens are mounted in series in a body having a conical nose with a window, with the small aperture and wide field angle end of the telescope system adjacent the window and with the first end of the imaging system adjacent the large aperture and the narrow field angle end of the telescope system and with the varifocal lens adjacent the second end of the imaging system. Means is provided for scanning the image provided by the telescope system.

**3,519,326**  
**POLARIZING MICROSCOPE HAVING COMPENSATION MEANS**  
Walter Klein, Wiesmar über Gleisen, and Franz Korndor, Wetzlar, Germany, assignors to Ernst Leitz G.m.b.H., Wetzlar, Germany  
Filed June 10, 1968, Ser. No. 735,667  
Claims priority, application Germany, June 21, 1967, 1,572,718  
Int. Cl. G02b 27/28  
U.S. Cl. 350-14 1 Claim



A tube lens system is disposed in the tube of a polarizing microscope. Two lenses of this system are designed and arranged so as to generate a parallel path of light rays between them, and compensation means are provided for insertion into the path of light rays.

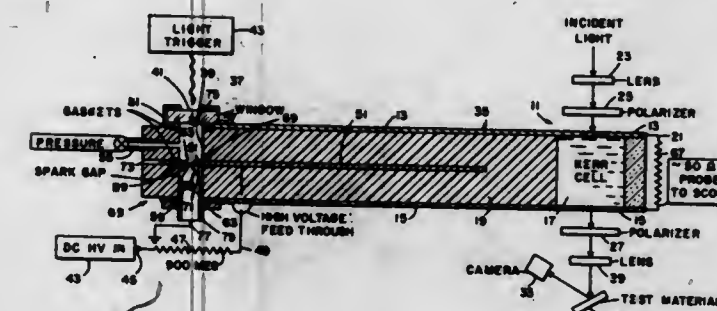
**3,519,327**  
**LIGHT-REFLECTING BODY FOR TRAFFIC INDICATION**  
Toyotsuchi Nakajima, 1419 Dai, Kamakura, Japan  
Filed Jan. 17, 1968, Ser. No. 698,573  
Claims priority, application Japan, Jan. 20, 1967, 42/5,384  
Int. Cl. G02b 5/12  
U.S. Cl. 350-97 1 Claim



A light-reflecting body for traffic indication wherein, when light is projected onto said light-reflecting body from

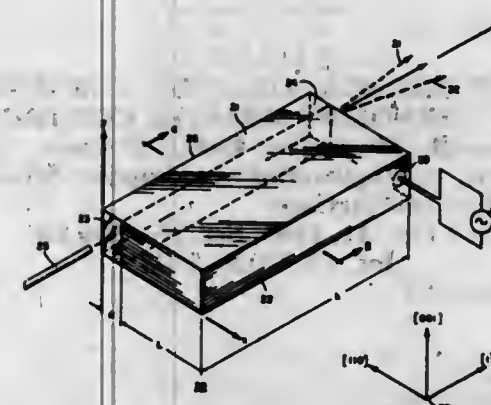
the headlight of an automobile in a wide range of lateral and sidelong angles, it can be reflected back to the driver in an accurate and effective manner.

**3,519,328**  
**SHORT DURATION OPTICAL SHUTTER**  
David D. Grossman, Cambridge, Mass., assignor to the United States of America as represented by the United States Atomic Energy Commission  
Filed Nov. 20, 1967, Ser. No. 684,135  
Int. Cl. G02f 1/26  
U.S. Cl. 350-150 5 Claims



A short duration speed optical shutter having a light-triggered spark-gap switch that activates a high voltage impulse generator to cause a Kerr cell to transmit up to 100% of incident polarized light for a duration that may be adjusted from 1 to 10 nanoseconds.

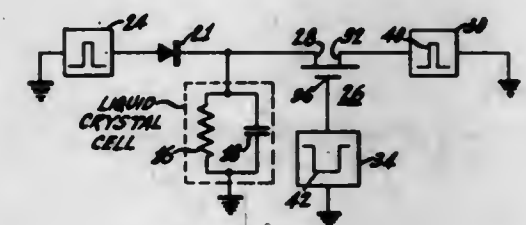
**3,519,329**  
**HIGH FREQUENCY LIGHT BEAM DEFLECTOR**  
Carl F. Buhner, Oyster Bay, and John D. Schlafer, Flushing, N.Y., assignors to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware  
Filed Sept. 23, 1968, Ser. No. 761,695  
Int. Cl. G02f 3/00, 1/26  
U.S. Cl. 350-150 10 Claims



Apparatus for electro-optically deflecting a light beam at a microwave frequency comprising an electro-optic member positioned within a microwave resonator cavity containing a dielectric filler material. A linearly varying electric field is established in the electro-optic member by choosing the parameters of the deflector such that the propagation constant of the electric field in the electro-optic member is essentially zero in all directions orthogonal in the direction of propagation of the light beam. The light wavefront passes through the electro-optic member free of any distortion which could result from the presence of a non-linearly varying electric field in the electro-optic member. In one embodiment of the inven-

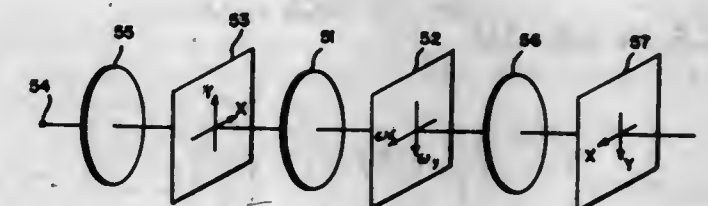
tion, the electro-optic member is comprised of adjacently positioned electro-optic elements oriented in a manner which compensates for asynchronism between the light velocity and the microwave phase velocity.

**3,519,330**  
**TURNOFF METHOD AND CIRCUIT FOR LIQUID CRYSTAL DISPLAY ELEMENT**  
George H. Hellmeyer, Philadelphia, Pa., assignor to RCA Corporation, a corporation of Delaware  
Filed Sept. 14, 1967, Ser. No. 667,858  
Int. Cl. G02f 1/28  
U.S. Cl. 350-160 5 Claims



Liquid crystal element is turned off by applying a relatively short-duration, relatively high-amplitude voltage pulse thereto during a period in which the cell is not permitted to store charge.

**3,519,331**  
**TWO-DIMENSIONAL OPTICAL DATA PROCESSOR**  
Louis J. Cutrona, Ann Arbor, Wendell A. Bltken, Ypsilanti, Emmett N. Leith, Plymouth, Arthur L. Ingalls, Ann Arbor, Carmen J. Palermo, Ypsilanti, and Leonard J. Porcello, Ann Arbor, Mich., assignors to the United States of America as represented by the Secretary of the Air Force  
Filed Mar. 15, 1961, Ser. No. 96,052  
Int. Cl. G02b 5/18  
U.S. Cl. 350-162 14 Claims



1. A device for processing frequency modulated radar information recorded as signal histories on a signal film having azimuth Doppler information extending in one direction and coded range information extending in the other direction, comprising: a point light source, a collimating lens between said point source and said signal film, a monochromatic filter between said light source and said collimating lens, means for moving said signal film through said light in the azimuth direction at a predetermined rate, an output film in light receiving relation to light passing through said signal film, means for moving said output film through said light in the azimuth direction at a predetermined rate relative to the movement of said signal film, signal processing means located in the path of the light passing through said signal film for multiplying the signal in the azimuth direction with the complex conjugate of the azimuth signal for each range, a second signal processing means located in the path of the light passing through said signal film for multiplying the signal in the range direction with the complex con-



jugate of the coded range signal on said film and means in the light path for removing all but one of the first order diffracted images of the signal on said signal film.

3,519,332

# THERMOELECTRIC ALTERNATING-GRADIENT OPTICAL GUIDING APPARATUS

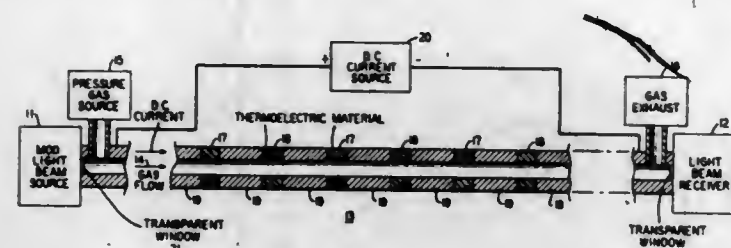
Peter Kaiser, Matawan Township, Monmouth, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Feb. 7, 1968, Ser. No. 703,742

Int. Cl. G02b 1/06

U.S. Cl. 350-179

4 Claims



Alternating-gradient gas lens focusing of light beams is obtained with improved efficiency in a suitable conduit containing a flowing gas by employing Peltier heating. Short tubular sections of p-type and n-type thermoelectric material, for example, bismuth telluride, are arranged alternately and spaced by sections of copper tubing to form the conduit; and a common current flow is established through the thermoelectric elements and the copper sections.

3,519,333

# HIGH RESOLUTION PHOTOGRAPHIC OBJECTIVE COMPRISING SEVEN LENSES

Yasuo Takahashi, Tokyo-to, Japan, assignor to Asahi Kogyo Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan

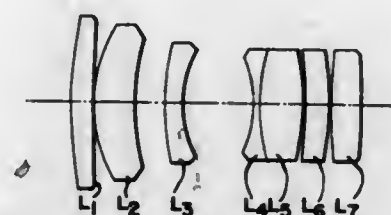
Filed Mar. 27, 1968, Ser. No. 716,475

Claims priority, application Japan, Apr. 28, 1967, 42/27,293

Int. Cl. G02b 9/62

U.S. Cl. 350-215

1 Claim



A photographic objective of focal length  $F$  includes seven lenses designated as the first to seventh lens respectively and possesses the following dimensions and relationships:

$$\begin{aligned} F/1.5 < F_{1,2} < F/1.3 \\ F/0.4 < F_{1,2,3} < F/0.25 \\ 0.06F < d_4 < 0.1F \\ 0.15 < n_5 - n_4 < 0.25 \\ 0.25F < |r_7| < 0.45F, r_7 < 0 \\ 1.72 < n_1 < 1.85, V_1 > 45 \\ 1.72 < n_2 < 1.85, V_2 > 45 \\ 1.72 < n_3 < 1.85, V_3 > 37 \\ 1.72 < n_4 < 1.85, V_4 > 37 \\ 1.72 < n_7 < 1.85, V_7 > 37 \end{aligned}$$

wherein  $F_{1,2}$  and  $F_{1,2,3}$  are the resultant focal lengths of the first two and the first three lenses respectively,  $r_7$  is

the radius of curvature of the front face of the fourth lens,  $d_4$  is the axial separation between the second and third lenses,  $n_n$  is the index of refraction of the subscript designated lens and  $V_n$  is the Abbe value of the subscript designated lens.

3,519,334

# DEVICE FOR GUIDING THE OBJECTIVE IN AN OPTICAL APPARATUS

Knut Heltmann and Fromund Hock, Wetzlar, Germany, assignors to Ernst Leitz, GmbH, Wetzlar, Germany

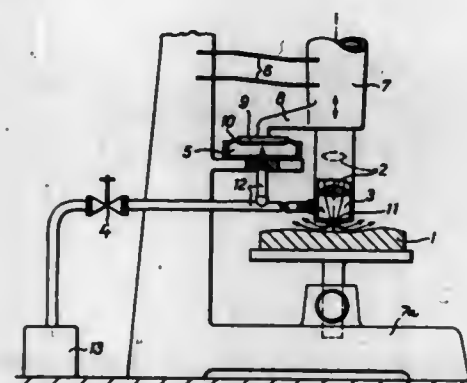
Filed Sept. 26, 1967, Ser. No. 670,588

Claims priority, application Germany, Sept. 29, 1966, L 54,666

Int. Cl. G02b 7/02

U.S. Cl. 350-255

2 Claims



In an optical apparatus comprising an objective by means of which an image of the object or object surface is produced a pneumatic control system is provided for maintaining a constant distance between said objective and the object surface, i.e. for keeping the object surface in focus, even if objective and object are displaced relative to each other in a lateral direction. The control system consists of a first pressure chamber rigidly connected to the objective and having a nozzle directed to the object surface; a second pressure chamber having a membrane on which rests the objective. A hose is employed for interconnecting said two chambers and also for connecting them to a throttle and to the air supply.

3,519,335

# REARVIEW MIRROR ADAPTOR FOR ANGLING THE MIRROR BY REMOTE CONTROL

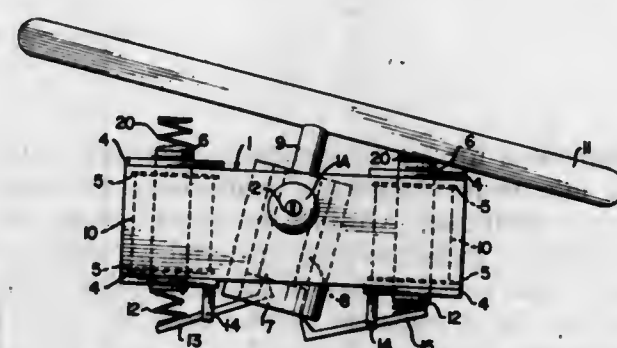
Carl D. Russell, Muskogee, Okla., assignor, by mesne assignments, to Engineering Automotive Sciences Inc., a corporation of Maryland

Filed Oct. 31, 1966, Ser. No. 590,801

Int. Cl. G02b 5/08

U.S. Cl. 350-289

3 Claims



The invention discloses a device for angling a conventional vehicular rearview mirror comprising a box-like structure provided for housing a pair of electromagnets and including a pivoted receiving structure.

The receiving structure receives the mirror extension and the housing further includes a ball which may be gripped by the vehicle integral structure for supporting the mirror and housing for adjustable movement.

3,519,336

# REARVIEW MIRROR ADAPTOR FOR ANGLING THE MIRROR BY REMOTE CONTROL

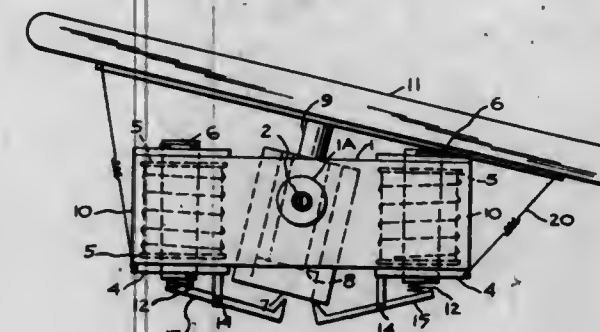
Carl D. Russell, Muskogee, Okla., assignor, by mesne assignments, to Engineering Automotive Sciences Inc., a corporation of Maryland

Filed Nov. 10, 1966, Ser. No. 593,516

Int. Cl. G02b 5/08

U.S. Cl. 350-289

3 Claims



The invention relates to vehicular mirror angling apparatus for insertion between a mirror and its vehicular support to maintain universal adjustability of the mirror while also providing for side-to-side angling of the mirror to alter the angle of rear view in response to operation of the vehicle turn indicator lever. Electromagnetic coils are supported by either the mirror case or a frame, which establishes pivotal movement for the mirror relative to the vehicle. The electromagnetic coils attract the other one of the mirror case or frame to angle the mirror in response to energize under control of the vehicle turn indicator lever. The angling movement can be produced by both magnetic attraction and repulsion.

3,519,337

# INTERNAL READING MEANS, CHIEFLY FOR OPHTHALMOMETERS

Paul Frédéric Marie Gamba, 16 Rue Barre, 69, Lyon 6<sup>e</sup>, France

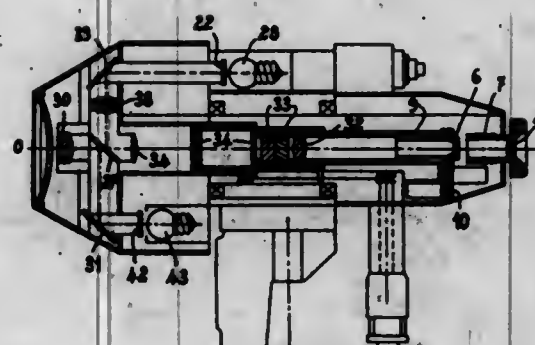
Filed Oct. 19, 1965, Ser. No. 497,782

Claims priority, application France, Apr. 30, 1965, 45,938; July 8, 1965, 46,203

Int. Cl. A61b 3/10, 3/00

U.S. Cl. 351-6

1 Claim



An ophthalmometer provided with fixed sighting marks reflected from the cornea of the patient's eye and variable duplication of the observed images is provided with a fixed reading device comprising a reference mark and a scale, both stationary. Means are provided for making this reading device visible in the field of vision, with the

same duplication as the images of the sighting marks reflected from the cornea of the patient's eye.

3,519,338

# OPHTHALMOLOGICAL APPARATUS WITH A SLIT ILLUMINATION FOR TAKING PHOTOGRAPHIC VIEWS OF THE EYE

Franz Papritz, Niederscherli, Switzerland, assignor to Haag-Streit A.G., Liebefeld-Berne, Switzerland

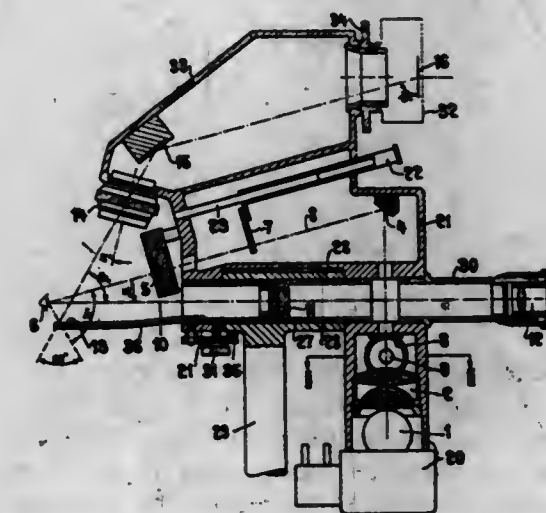
Filed Dec. 7, 1966, Ser. No. 599,851

Claims priority, application Switzerland, Dec. 15, 1965, 17,305/65

Int. Cl. A61b 3/14, 3/10; G03b 9/70

U.S. Cl. 351-7

7 Claims



An ophthalmological apparatus, particularly for photographic recording of cornea profiles, comprising a flash-light source located between a slit diaphragm and the condenser of another light source for continuous illumination.

3,519,339

# LASER GOGGLES

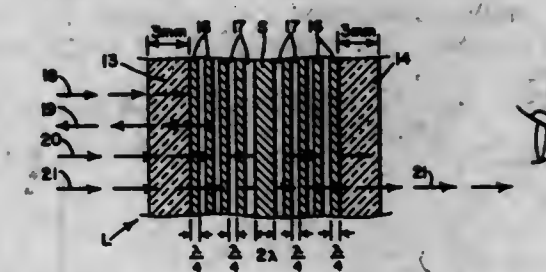
Thomas J. Hutchinson, Van Nuys, and James J. Dolan, Woodland Hills, Calif., assignors to Spectrolab, a division of Textron Electronics, Inc., Providence, R.I., a corporation of Delaware

Filed July 21, 1966, Ser. No. 566,961

Int. Cl. G02c 7/10; G02b 5/28, 5/22

U.S. Cl. 351-44

3 Claims



Laser goggles for protecting workers' eyes from laser radiation are made up of front and rear glass plates for respectively absorbing ultraviolet and infrared radiation and including sandwiched therebetween two sets of multi-layer dielectric coatings made up of high and low index of refraction materials. The two sets are separated by a spacer and function to define a narrow pass band for visible light of wave lengths different from the wave length of laser light so that protection is afforded without substantially impairing visibility through the goggles.

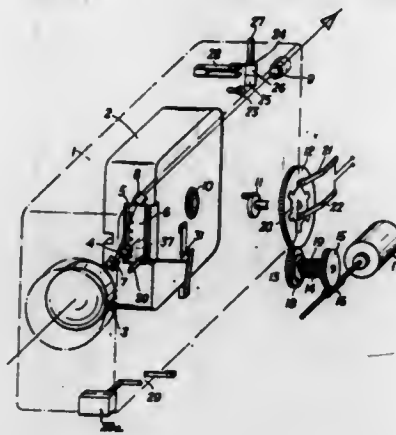


**3,519,340**  
**CINEMATOGRAPHIC EQUIPMENT, ESPECIALLY**  
**A SUBSTANDARD FORMAT FILM CAMERA**  
 Karl Vockenhuber and Josef Drasch, Vienna, Austria;  
 said Drasch assignor to Raimund Hauser, Vienna,  
 Austria

Filed Dec. 6, 1967, Ser. No. 688,614  
 Claims priority, application Austria, Jan. 19, 1967,  
 A 583/67  
 Int. Cl. G03b 23/02

U.S. Cl. 352-72

10 Claims

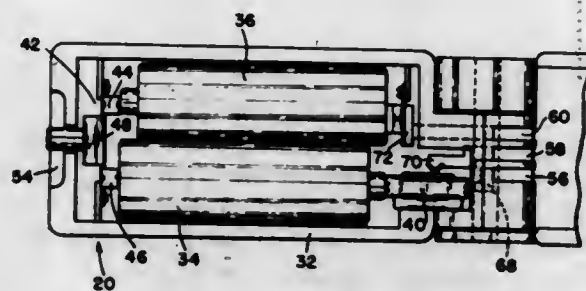


A cartridge type motion picture camera has a film driving mechanism for driving the film in the cartridge and a release mechanism for controlling the film driving mechanism. An impulse transmitting device is periodically operated in response to motion of the film in the cartridge. An electric circuit includes a switch which operates in response to energization of the circuit by the release mechanism when the driving mechanism is released. The circuit has a condenser and signal device and alternating current transmitting components connecting the impulse transmitting device with the circuit. The alternating current impulses given by the impulse transmitting device change the value of the charge on the condenser in the rhythm of the pulses, thereby varying the voltage on the condenser in dependence on the impulse frequency. The signal device is controlled by the voltage on the condenser and releases a signal when the voltage differs from the preset voltage range due to the impulse frequency falling below a minimum frequency.

**3,519,341**  
**BATTERY POWERED MOTION PICTURE CAMERA**  
**HAVING A PISTOL GRIP HANDLE PIVOTABLY**  
**SUPPORTED ON THE CAMERA HOUSING**  
 Harvey H. Dudley, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 29, 1968, Ser. No. 725,024  
 Int. Cl. G03b 19/18  
 U.S. Cl. 352-95

5 Claims



A battery powered motion picture camera has a pistol grip handle pivotally supported on the camera housing.

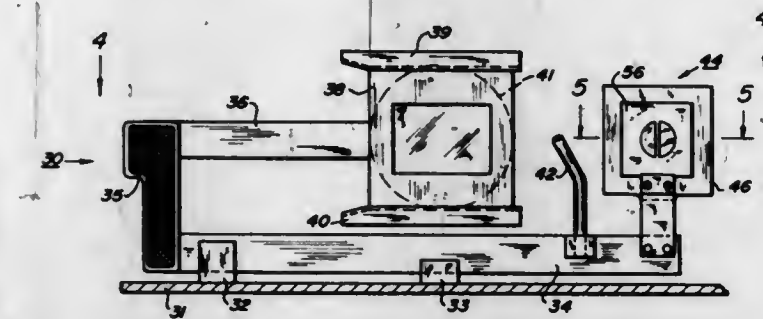
Energy storage cells are mounted within the handle. A plurality of conductors are wrapped around portions of the handle, and they fit within the recess of the camera handle to connect with the cells. A plurality of complementary conductors on the camera engage the conductors on the handle. In this manner, the power from the handle can be used to power the camera when the handle is in different positions.

**3,519,342**  
**RANGE FINDER FOCUSING DEVICE**  
 Gary Kaess, Fair Lawn, N.J., assignor to Atlas-Rand Corporation, Paramus, N.J., a corporation of New Jersey

Filed May 8, 1968, Ser. No. 727,466  
 Int. Cl. G03b 21/14

U.S. Cl. 353-97

15 Claims



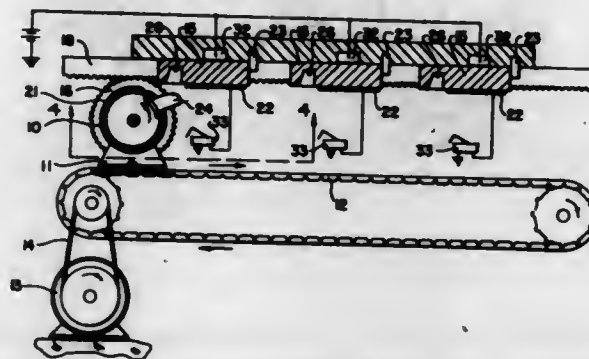
A range finder focusing device for automatic slide projectors in which a pair of prisms is formed as part of one surface of an optical light-conducting member. The sloped surfaces of the prisms are oppositely inclined at like angles with the midsurfaces of the prisms passing through an imaginary line. The opposite side of the conducting member is formed as a plane which is generally parallel to this imaginary line. A metal mask having oppositely disposed D-shaped openings is attached to or lies in the plane surface and includes a bar portion between the D-shaped openings. This bar portion upon the viewing surface becomes a focusing indicator in the manner of a split image when the range finder focusing device is placed in an illuminated optical path.

**3,519,343**  
**IMAGE TRANSFER MECHANISM**  
 David D. McNair and Royce D. Pickering, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 1, 1968, Ser. No. 741,388  
 Int. Cl. G03g 15/00

U.S. Cl. 355-4

5 Claims



To transfer an electrostatic toner image to the receiver in registry, separate photoconductive chips are brought

into registration with a receiver carried by a transfer roller. The transfer roller includes an involute tooth engageable with a recess in the photoconductive chips or in chipholders to which the chips are attached to assure the same relative alignment between the receiver and each photoconductive chip prior to image transfer to assure proper image registration. An electromagnet can be provided to hold the chips in position after alignment and during transfer.

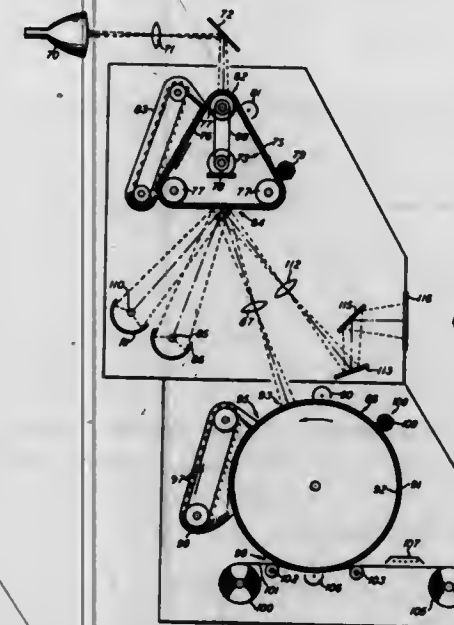
**3,519,344**  
**IMAGE PROJECTION**  
 Harold E. Clark, Penfield, and George R. Mott, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation of application Ser. No. 343,183, Feb. 3, 1964, which is a continuation of application Ser. No. 738,520, May 28, 1958. This application Feb. 27, 1967, Ser. No. 619,072

U.S. Cl. 355-5

Int. Cl. G03g 15/00

11 Claims



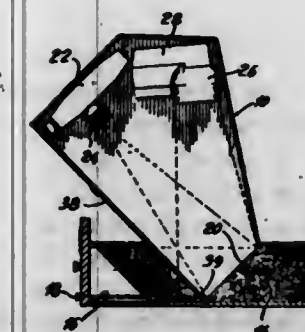
A projection or display system wherein electromagnetic radiation is directed at a light scattering, particulate image on a specularly reflective member, the radiation impinging on the image being largely scattered and absorbed and the radiation impinging on the reflective member being reflected from the member and imaged at a radiation image receiving surface to produce an image in the pattern of said particulate image.

**3,519,345**  
**COPYING INSTRUMENT FOR FILED DOCUMENTS**  
 Gérard Mercure, Avenue St.-Alexandre, Limbourg, Quebec, Canada, and Jean Thibault, R.R. 1, Rte. 11, Hull, Quebec, Canada

Filed Nov. 27, 1967, Ser. No. 685,785  
 Int. Cl. G03b 27/70

U.S. Cl. 355-65

8 Claims



A self-contained photographic instrument which includes a camera and a light source in a casing, the periph-

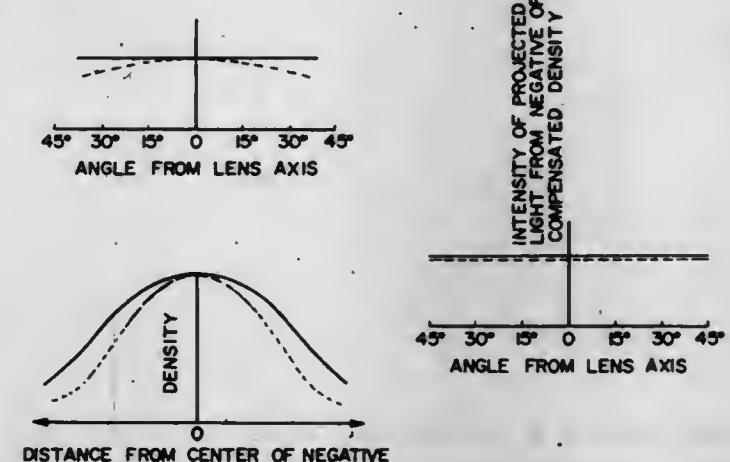
ery of the latter including a wedge-shaped member designed for introduction between two tilted catalogue cards in a filing drawer. Once face of the wedge shaped member is provided with an opening facing the card to be copied. The camera and the light are optically aligned with the opening of the wedge-shaped member to photograph the card.

**3,519,346**  
**METHOD OF PRODUCING PHOTOGRAPHIC**  
**NEGATIVES AND PRINTS**  
 Daniel H. Robbins, Rochester, N.Y., assignor to Itak Corporation, Lexington, Mass., a corporation of Delaware

Filed May 28, 1968, Ser. No. 732,739  
 Int. Cl. G03b 27/32

U.S. Cl. 355-77

10 Claims



A method for preparing photographic negatives having a greater compensating density at the center than at the periphery is accomplished by illuminating a subject at least as intensely at the center than along the periphery. When the image is projected through a lens exhibiting off-axis light intensity losses resulting from the  $\cos^4$  law, the resulting print is of uniform density.

## ERRATUM

For Class 355-79 sec:  
 Patent No. 3,519,132

**3,519,347**  
**AUTOMATIC PRINTER SYSTEMS**  
 John Kent Bowker, Marblehead, Jerry G. Hughes, Waltham, and Charles M. Stasey, Westwood, Mass., assignors to Itak Corporation, Lexington, Mass., a corporation of Delaware

Continuation-in-part of application Ser. No. 636,734, May 8, 1967. This application Jan. 26, 1968, Ser. No. 700,913

U.S. Cl. 355-88

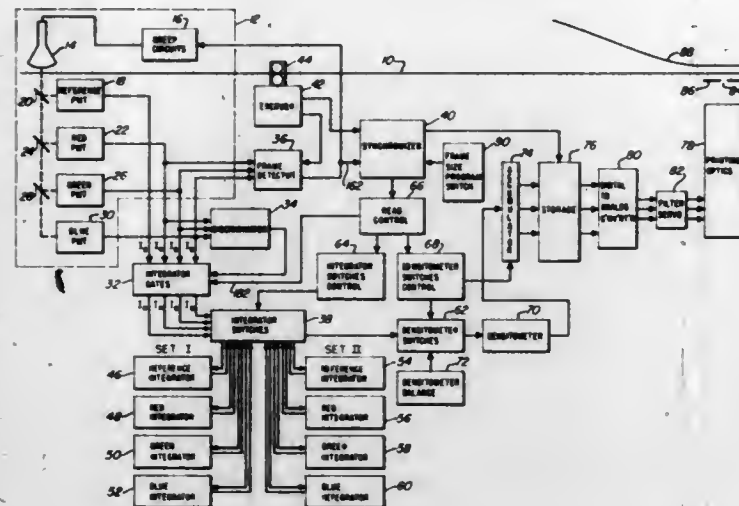
Int. Cl. G03b 27/04

24 Claims

An automatic printer for controlling the color balance of a duplicate print from an original film strip. The original film strip is introduced into the printer and each frame is scanned to sense its color content for each of the three primary colors, red, green, and blue. Each sensed primary color is individually summed, but only from areas of each film frame which contain rapid color change. The sum of each primary color from all of the areas of rapid color change in a given film frame is compared against a desired sum for a color-balanced print. If the sum of each



of the three primary colors is not balanced relative to each other, the printing of the duplicate print for that frame is corrected by altering the spectral content of light which is utilized to print the duplicate. As the original film strip enters the printer, it is first scanned to determine the color content of each film frame. The movement of the film strip through the printer is monitored, and the number of film frames passing through the printer is detected. Information from this monitoring and detection is utilized by a synchronizer circuit which controls the flow of color component information from the initial scanning stage of the processor to an integration stage where each color component is summed for a particular



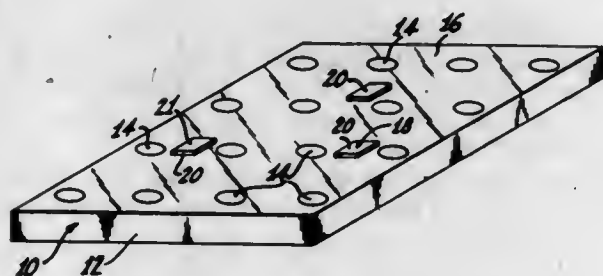
frame, then to a densitometer where each color component is changed into a digital indication of the density of that color component, and finally to a memory storage stage where that information is held until that particular film frame enters the printing stage of the printer wherein a duplicate print is made. The spectral content of the radiation from the printing light is altered by selectively positioning filters in front of the light if a color imbalance was detected for that film frame.

### 3,519,348 PHOTOMASKS FOR FABRICATION OF SEMICONDUCTOR DEVICES

Joseph L. McLaughlin, Flemington, N.J., assignor to RCA Corporation, a corporation of Delaware  
Filed May 28, 1968, Ser. No. 732,669  
Int. Cl. G03b 27/28

U.S. Cl. 355-133

4 Claims



To prevent contact of the image elements on a surface of a photomask with the photosensitive surface of a semiconductor wafer, for the purpose of preventing scratching of the image elements, the photomask surface is provided with spacer elements which extend further from the surface than the image elements. In the use of the photomask, only the spacer elements contact the wafer surface.

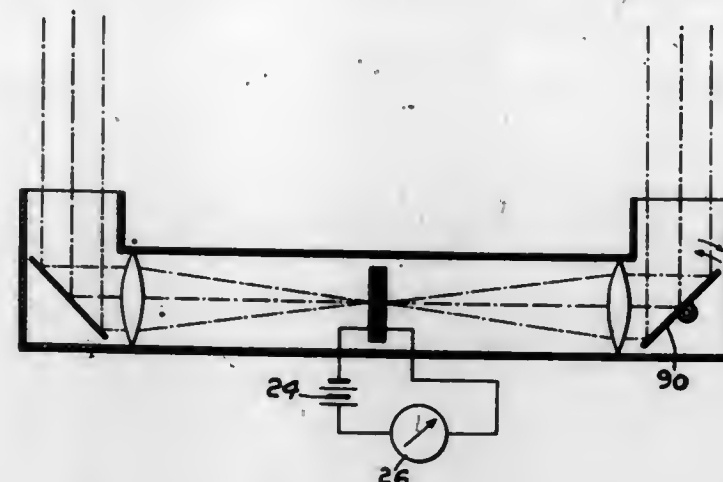
### 3,519,349 IMAGE CORRELATION DEVICE

Wolfgang Karl Berthold, Fort Wayne, Ind., assignor to International Telephone & Telegraph Corporation, Nutley, N.J., a corporation of Delaware  
Filed Apr. 12, 1966, Ser. No. 542,143  
Int. Cl. G01c 3/08; G01b 11/24

U.S. Cl. 356-4

6 Claims

An image correlation device includes a semiconductive layered panel having a non-linear resistance varying inversely with light or electron beam impingement. The panel includes two such layers positioned between two energy sources to simultaneously receive energy therefrom onto opposite sides thereof. Substantial current flow is permitted only through discrete areas of the two layers



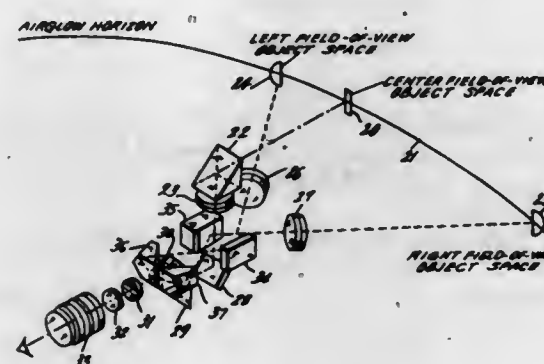
at which the two images from opposite sides coincide, with means provided for measuring current flow varying in accordance with such coincidence and the intensity distribution of the images.

### 3,519,350 STADIMETRIC RANGE FINDER HAVING THREE LINES OF SIGHT

William P. Devereux, Syosset, N.Y., assignor to Kollsman Instrument Corporation, Syosset, N.Y., a corporation of New York  
Filed Jan. 24, 1968, Ser. No. 700,138  
Int. Cl. G01c 3/00

U.S. Cl. 356-21

8 Claims



An instrument for measuring height above a spherical body such as a planet by measuring the height of the arc above the center of a chord of the horizon. Three telescopes having separate objectives and a common eyepiece respectively observe a central point of the horizon and two equally displaced side regions. The telescope axes have a constant angular separation, and the central telescope line of sight is adjustable perpendicular to the plane of the telescope axes to juxtapose the image portions of the three telescopes in a common display. The adjustment of the line of sight of the central telescope indicates the

height of the arc above the chord of the planet observed, thereby indicating distance from the planet. The focal length of the objective of the central telescope is reduced from the focal length of the side telescopes proportional to the cosine of the angle between the optical axis of the side and central telescopes.

### 3,519,351 NON-CONTACT SPEED MEASUREMENT

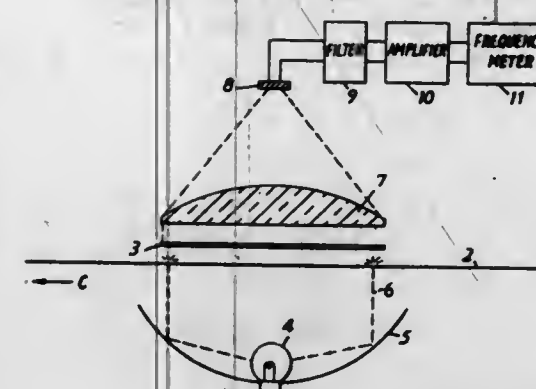
William Edward Lerwill, Keston, Kent, England, assignor to Seismograph Service Corporation, Tulsa, Okla.  
Filed Oct. 24, 1968, Ser. No. 770,372

Claims priority, application Great Britain, Oct. 27, 1967, 49,006/67

Int. Cl. G01p 3/36; G01n 21/30

U.S. Cl. 356-28

20 Claims



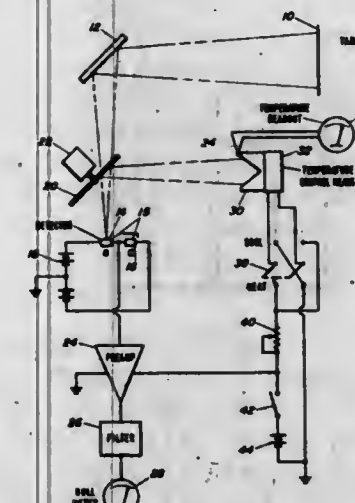
A method and apparatus for measuring the velocity of a moving, irregular object. A beam of light is modulated by transmission through or reflection from the moving object, and the resultant modulated beam is cross-correlated by passage through a grid or other periodic filter to a photodetector. A frequency component whose frequency is proportional to the velocity of the object is then extracted from the signal generated by the photodetector, and is fed into a frequency meter. The frequency meter reading is then proportional to the speed of the object.

### 3,519,352 NULL-SYSTEM RADIOMETER

Nelson E. Engborg, Greenwich, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware  
Filed June 23, 1967, Ser. No. 649,426  
Int. Cl. G01j 5/48

U.S. Cl. 356-43

2 Claims



A temperature measuring system is provided in which radiation from a field of view and a temperature-regulated reference source are applied alternately to a radiation detector. The signal derived from the detector is

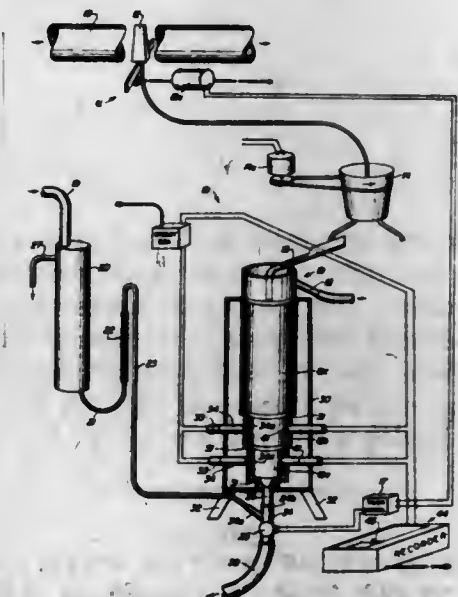
applied through a preamplifier and filter to a null meter. An adjustable voltage is applied to control the temperature of the reference source, and adjusted to produce a null on the null meter. A second detector is mounted on the reference source, and its output applied to a temperature readout. Thus, the temperature of the target is read on the temperature readout device when a null is obtained on the null meter.

### 3,519,353 METHOD AND APPARATUS FOR DETERMINING PARTICLE SIZE DISTRIBUTION IN DISCRETE SOLIDS INCLUDING AN ELUTRIATION TUBE

Henry W. Franz and Michael L. Gonshor, Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York  
Filed Jan. 19, 1967, Ser. No. 610,362  
Int. Cl. G01n 15/02

U.S. Cl. 356-102

12 Claims



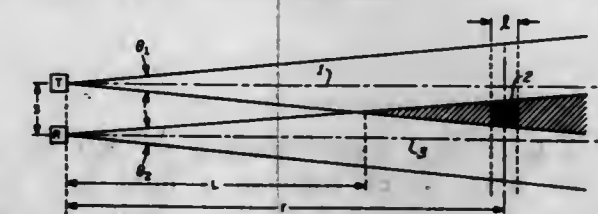
Discrete solid particles, having different shapes, sizes, and specific gravities and constituting a sample of material such as crushed and ground ore, are allowed to seek different levels in a staged vessel through which a fluid is passed upwardly from bottom to top. Radiation, such as a light beam, is directed into the material in at least one of the stages and is sensed to obtain a measurement of the amount of radiation that actually passes through the material. This measurement is used to control a material processing or handling operation.

### 3,519,354 SYSTEM FOR MEASURING EXTINCTION COEFFICIENTS IN THE ATMOSPHERE UTILIZING BACKSCATTERED SIGNALS

Richard T. Brown, Jr., Bolton, and Richard F. Hazel, Marlboro, Mass., and Herbert Landon, Forest Hills, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware  
Filed June 17, 1965, Ser. No. 464,603  
Int. Cl. G01n 21/22

U.S. Cl. 356-103

10 Claims



A pulsed laser irradiates the atmosphere with a divergent beam of light. An optical receiver having a divergent



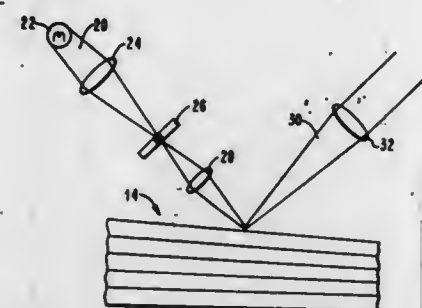
field of view is spaced transversely of said beam so that said field of view overlaps the full length of said beam beginning at a predetermined distance from the laser. The backscattered pulsed energy detected by the receiver is analyzed as to time-to-peak, width of peak and slope to compute atmospheric extinction coefficient data.

### 3,519,355 LIGHT FILTER

Rodman S. Schools, Poughkeepsie, and Glenn T. Sincerbox, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York  
Filed Dec. 18, 1964, Ser. No. 419,404  
Int. Cl. G01b 9/02

U.S. Cl. 356—106

5 Claims



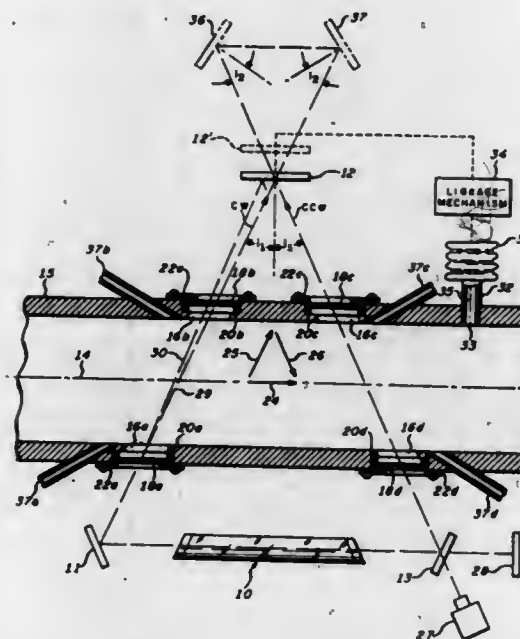
Light filtering apparatus is described in which a transparent film has light reflecting layers periodically spaced from each other. The spacing distances vary in a straight line ratio between two spaced locations of the filter. Such filter apparatus may be employed to determine the unknown frequency of a beam of light or for generating a light beam having a desired frequency.

### 3,519,356 RING LASER FLOW METER WITH MEANS TO COMPENSATE FOR CHANGES OF REFRACTIVE INDEX OF THE FLOWING MEDIUM

Robert D. Kroeger, Locust Valley, and Philippe M. Magdelain, Larchmont, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware  
Filed Apr. 7, 1967, Ser. No. 629,235  
Int. Cl. G01b 9/02; G01p 5/00

U.S. Cl. 356—106

5 Claims



A ring laser flow meter oriented so that its contra-directional light waves traverse a fluid flow pipe in a direction non-orthogonal to the velocity vector of a fluid flowing therein and operating in conjunction with a pressure sensing servo for adjusting one or more of the laser cavity forming components in accordance with

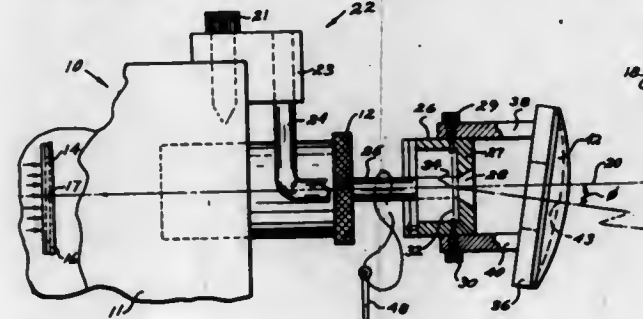
pressure variations of the flowing medium to compensate for optical misalignment caused by pressure induced refractive index variations of the fluid and further including auxiliary pipes connected to the flow pipe for introducing a high pressure, clean gas flow to preclude the accumulation of contaminants on the windows through which the contradirectional light beams enter and exit from the flow pipe.

### 3,519,357 OPHTHALMIC LENS DEMONSTRATING APPARATUS AND THE LIKE

John K. Davis, East Woodstock, Conn., assignor, by mesne assignments, to American Optical Corporation, Southbridge, Mass., a corporation of Delaware  
Filed Aug. 23, 1965, Ser. No. 481,553  
Int. Cl. G01b 9/00; G03b 21/00

U.S. Cl. 356—124

6 Claims



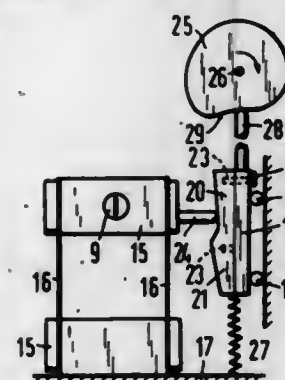
Apparatus for visually displaying by enlarged projected test chart images the refractive characteristics of different ophthalmic lenses and also differences in different parts of a single ophthalmic lens including pivotal lens support means detachably secured forward of a projector.

### 3,519,358 APPARATUS FOR MEASURING OPTICAL TRANSFER FUNCTION

Paul Kuttner, Munich, and Lutz-Volker Zetzmann, Wessling, Germany, assignors to Optische Werke G. Rodenstock, Munich, Germany  
Filed July 3, 1968, Ser. No. 742,353  
Claims priority, application Germany, July 6, 1967, 1,572,778

Int. Cl. F16h 21/44, 25/08; G01b 9/00  
U.S. Cl. 356—124

7 Claims



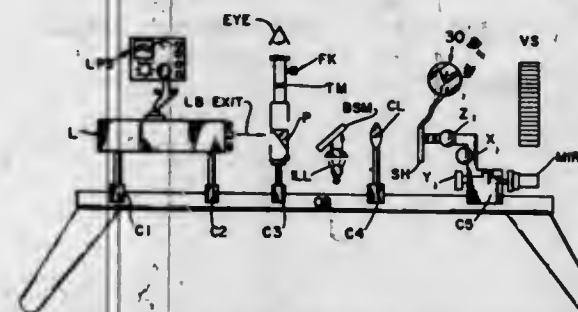
In an apparatus for measuring the transfer function of an objective lens system which produces an image of an illuminated slot, a scanning slot is moved in the image plane of the tested system on a resilient parallelogram linkage and is reciprocated by a cam or a lever connecting the linkage to a slide which is moved back and forth by a radial cam in such a manner that the forward movement is uniform and slower than the return movement. The amplitude of the slide is reduced by the motion transmitting cam or lever for the scanning slot. The light passing the scanning slot is analyzed for the transfer function of the tested objective system.

### 3,519,359 LASER MOVABLE TARGET POSITIONING APPARATUS

Alvin L. Berg, Thousand Oaks, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio  
Filed Nov. 6, 1967, Ser. No. 680,700  
Int. Cl. G01b 11/26

U.S. Cl. 356—172

4 Claims



This invention relates to apparatus for movably positioning a target onto various selectable portions of which it is desired to impinge a focused laser beam. The apparatus finds use, for example, in trimming thin film cermet resistors formed in microelectronic circuits and devices where it is desired to move the laser beam along a thin film strip resistor in order to adjust the resistance value thereof. Similarly, the apparatus is useful in any application where it is desired to controllably micromanipulate a target with respect to a fixed position focused laser beam. The optical path from the fixed position laser source to the movably supported target has positioned therein a prism mounted on a solid opaque hinged plate in such a fashion that when the plate mounted prism is in the viewing position in the optical path, a light image from the target is diverted out of the optical path and into the viewing axis of a telemicroscope, the opaque plate serving to preclude any accidental transmission of laser light into the telemicroscope. Next, along the optical path from the laser to the movable target is a retractably mounted beam splitting mirror and means to illuminate it. Finally, a condensing lens is positioned between the mirror and the target. The target is supported by a compound manipulator. In the first or viewing position of the prism, light from the illuminator is transmitted by the beam splitting mirror to the target and is reflected back through the prism into the viewing axis of the telemicroscope so that the operator may align any desired portion of the target with a reticule determined point. In the second or operative position of the hinged prism, the opaque plate mounting the prism is moved out of the optical path so that light from the laser source is transmitted along the optical path to impinge the target at the point previously selected by viewing through the reticule. Of course, the apparatus is first calibrated by burning a point on a sample target with the laser and then adjusting the telemicroscope. Thereafter, the telemicroscope and the laser are left in fixed position with respect to each other and only the target is moved. The supporting means for the target is provided with an optical galvanometer comprising mirrors mounted to the control knobs of the compound manipulator, a light source aimed at the mirrors, and a graduated indexed scale positioned to receive the light reflected from the source by the mirror. The arrangement is such that motion of the knob moves the mirror and hence the image of the light source along the scale in such a fashion as to provide a magnified measure of the extent of motion of the control knob so as that a precise measure of this motion is achieved. In operation, after the apparatus is calibrated, one first views the object such as a strip resistor to be irradiated and positions it with respect to the reticule noting the point on the scale at which it begins. The target support is then moved to the end of the resistor and another notation is made of the point on the scale at which the resistor ends. Next, the prism is moved out of the viewing position and into

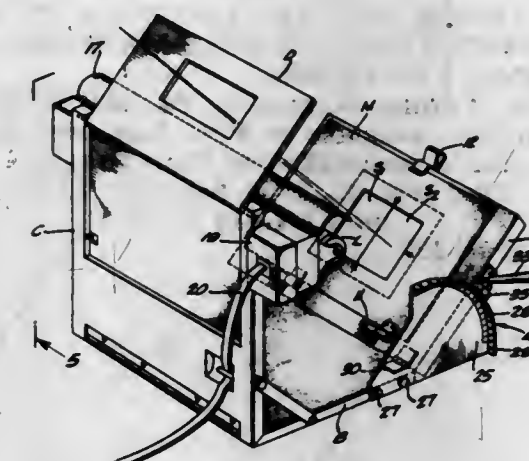
the operative position, the laser is turned on, and the motion previously determined to be necessary is again executed in either the reverse or forward direction along the scale.

### 3,519,360 APPARATUS FOR VISUAL COLOR COMPARISON

Richard F. Kudlek, now by change of name Richard F. Nording, % Vi-City Industries, 18414 S. Santa Fe Ave., Compton, Calif.  
Filed Oct. 22, 1965, Ser. No. 500,951  
Int. Cl. G01j 3/46

U.S. Cl. 356—195

7 Claims



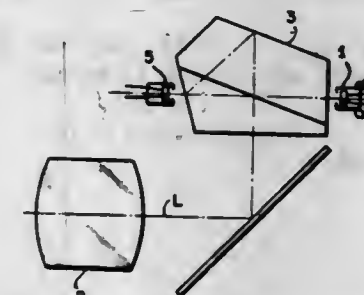
A device for visual color comparison including a frame, a standard light source supported on the interior of one side of the frame, a shield member forming a peephole supported on the same side as the light source and above the light source, a shield on the light source preventing illumination passing from the light source to the peephole, a member having a flat surface for supporting in side-by-side relationship two color samples that are to be compared, this member being hinged to the frame so that its angular position can be changed relative to the light source and peephole, and a latch device for latching the member in any one of a number of different angular positions.

### 3,519,361 LIGHT MEASURING SYSTEM

Tsuneo Hidaka and Koichiro Watanabe, Tokyo-40, Japan, assignors to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-40, Japan, a corporation of Japan  
Filed June 12, 1968, Ser. No. 736,510  
Claims priority, application Japan, June 15, 1967, 42/37,826

Int. Cl. G01j 1/10, 1/42, 1/44  
U.S. Cl. 356—219

9 Claims



A through-the-lens light measuring system includes an objective lens, a pentaprism having a front reflector face with a transparent area and a rear viewing face confronting an eyepiece. A first photoconductor faces the rear face offset from the eyepiece and a second photoconductor faces the front face transparent surface. The first photoconductor is connected through a first coil of a differential current meter to a battery and the second photoconductor is connected through the meter opposing



coil to the battery. The meter and viewer optical system are so related that the meter reading is a function of

$$\frac{S-bM}{a-b}$$

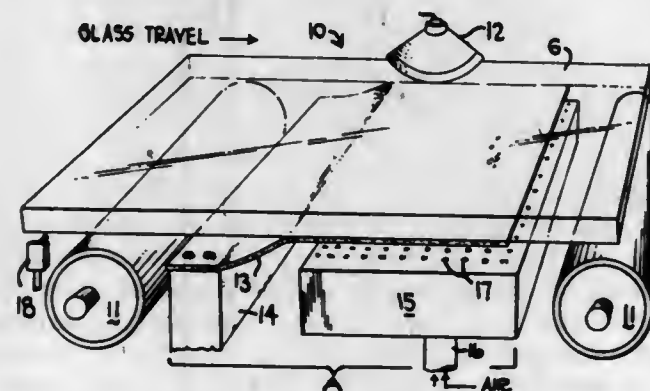
wherein  $M$  is the light incident on the first photoconductor,  $S$  is the light incident in the second photoconductor,  $a$  is the ratio of the objective light incident on the second photoconductor to that on the first, and  $b$  is the ratio of the eyepiece entering light incident on the second conductor to that on the first and  $a \neq b$ , whereby the meter reading is independent of the eyepiece entering light.

### 3,519,362 GLASS COLOR STREAK DETECTOR INCLUDING A FLEXIBLE BACKGROUND MATERIAL BIASED AGAINST THE GLASS

Richard A. Cardno, Kittanning, Pa., and Milton J. Hill, Festus, Mo., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Mar. 12, 1968, Ser. No. 712,535  
Int. Cl. G01n 21/16

U.S. Cl. 356—237

4 Claims



A glass defect detection apparatus having a flexible backdrop positioned between the glass and an air table, with the backdrop being contacted to the moving glass by air pressure supplied from the table. The invention also includes a method of detecting defects in a glass sheet by contacting a contrasting background material to the glass, the material being intermittently contacted to the moving glass by air pressure.

### 3,519,363 APPARATUS FOR INSERTION INTO A BORE TO SUPPORT AN OPTICAL MEASURING OR INSPECTING INSTRUMENT

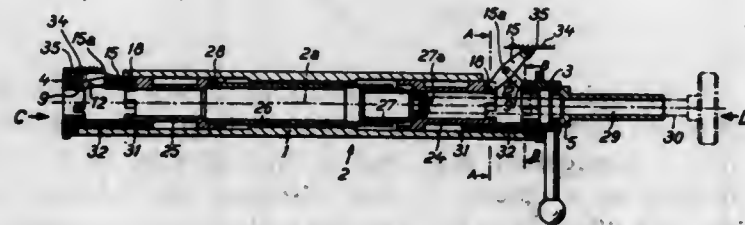
Hans Richter, Meppen, and Otto Sanger, Wetzlar, Germany, assignors to Ernst Leitz G.m.b.H., Wetzlar, Germany

Filed Apr. 11, 1968, Ser. No. 720,620  
Claims priority, application Germany, Apr. 18, 1967, L 56,281

Int. Cl. G01n 21/04

U.S. Cl. 356—241

4 Claims



The disclosed apparatus comprises a tube which is adapted to accept optical inspecting means and which is

to be inserted into the barrels to be inspected. Inside the barrels the tube axis is brought into alignment with the barrel axis and is clamped in this position.

### 3,519,364 APPLICATOR Andrew Trahan, R.D. 3, Box 392T, Somerset, N.J. 08873 Filed Feb. 2, 1968, Ser. No. 702,664 Int. Cl. A61m 35/00

U.S. Cl. 401—177

2 Claims

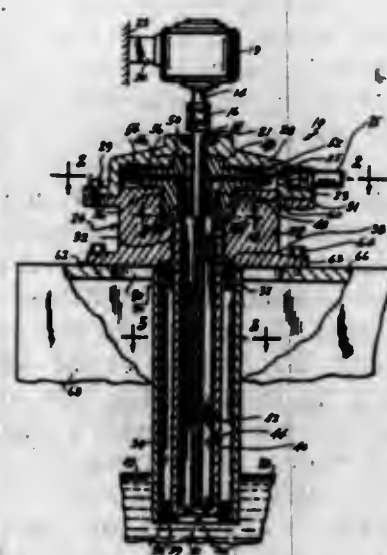


An applicator/swab defined by an elongated tube whose bore is partially filled with a solution. An absorbent wadding is placed around the lower end of the tube, and a plunger within the bore is pushed by the user so as to cause exit of the solution to pass from the bore into the wadding. The wadding is now ready for use as an applicator or swab. In a modification, no plunger is used and the lower end of the tube is fractured to release the solution into the wadding.

### 3,519,365 CENTRIFUGAL PUMP Alfred Conhagen, 123 Wobockne Road, New Canaan, Conn. 06840 Filed Sept. 30, 1968, Ser. No. 763,532 Int. Cl. F04d 13/12, 1/14

U.S. Cl. 415—88

7 Claims



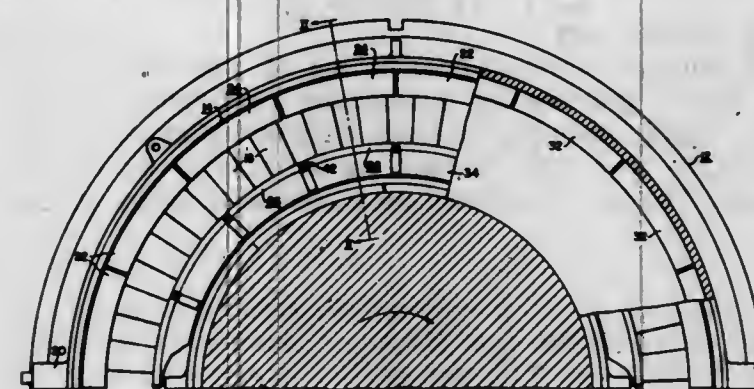
A centrifugal pump has a motor driven tube rotated within a stationary cylindrical casing. In the rotary tube are partitions defining a plurality of passages. A cylindrical liquid expeller with radial nozzles rotates at the

top of the casing. The passages in the rotary tube communicate directly with the nozzles via an axial passage in the liquid expeller. The liquid expeller can be used as a suction pump without the stationary cylindrical casing.

### 3,519,366 TURBINE DIAPHRAGM SEAL STRUCTURE Ronald F. Campbell, Ridley Park, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania Filed May 22, 1968, Ser. No. 731,151 Int. Cl. F01d 11/00

U.S. Cl. 415—138

2 Claims



A blade ring which supports a diaphragm containing an annular array of stationary vanes or blades of a turbine is divided into two semicircular halves with each half supporting a plurality of diaphragm segments each having outer and inner arcuate shroud segments to which the vanes or blades are secured. Axial and radial seal members at the joints between the inner shroud segments are so interlocked that the radial members retain the axial members in position, and pins in a rib on the shroud retain the radial members in position.

### 3,519,367 AUXILIARY FAIRED SECTION FOR A FLUID INLET

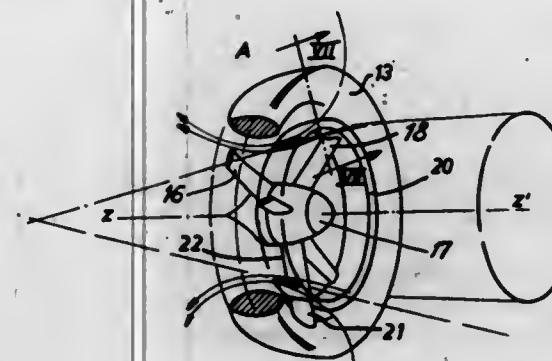
Jean Soulez-Lariviere, La Celle-St-Cloud, France, assignor to Nord-Aviation Societe National de Constructions Aeronautiques, Paris, France, a joint-stock company of France

Filed May 23, 1968, Ser. No. 731,449  
Claims priority, application France, May 22, 1967, 107,475

Int. Cl. B64c 11/00

U.S. Cl. 415—185

4 Claims



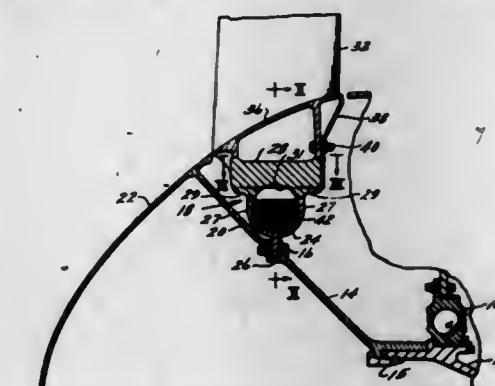
A propeller fairing assembly circumsposed about a propeller and including a primary fairing element having an airfoil transverse cross section having a leading edge disposed in a plane generally upstream of the path of travel of said propeller, and an annular, auxiliary fairing element supported in circumsposed relation within the primary fairing element and having a leading edge disposed upstream of a plane passing through the leading

edge of the primary fairing element, said auxiliary fairing element having an airfoil transverse cross section, the cross section of said auxiliary fairing element diverging outwardly from the longitudinal axis of rotation of the propeller and having outer surfaces disposed in tangential relation to theoretical zones of maximum turbulence formed on the outer and inner surfaces of said primary fairing airfoil section, and the included angle defined by the tangents being less than 10° from their point of intersection downstream of said auxiliary fairing element.

### 3,519,368 COMPOSITE TURBOMACHINERY ROTORS Werner E. Howard, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York Filed Sept. 3, 1968, Ser. No. 757,022 Int. Cl. F01d 5/30

U.S. Cl. 416—216

10 Claims

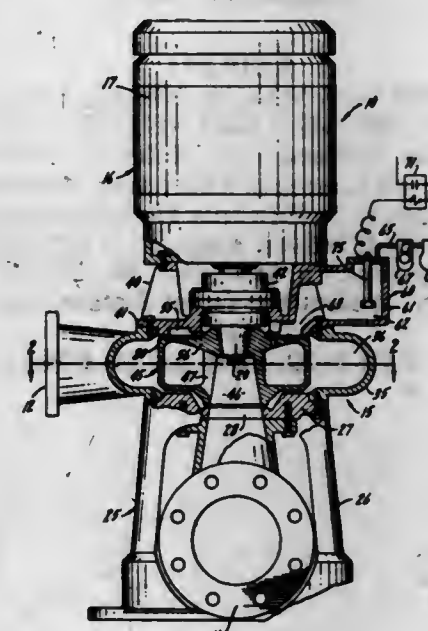


The disclosure shows three forms of compressor rotors in which a wound filament hoop carries substantially all of the tangential loadings on the rotor. The radial loadings of the blades, resulting from centrifugal force, are transmitted through a circumferential yoke member, loaded in tension, to the hoop.

### 3,519,369 PUMP PRIMING SYSTEM Frank G. Weis, Kansas City, Mo., assignor to Union Tank Car Company, Chicago, Ill., a corporation of Delaware Filed Sept. 20, 1968, Ser. No. 761,023 Int. Cl. F04d 1/00, 9/00

U.S. Cl. 417—36

6 Claims

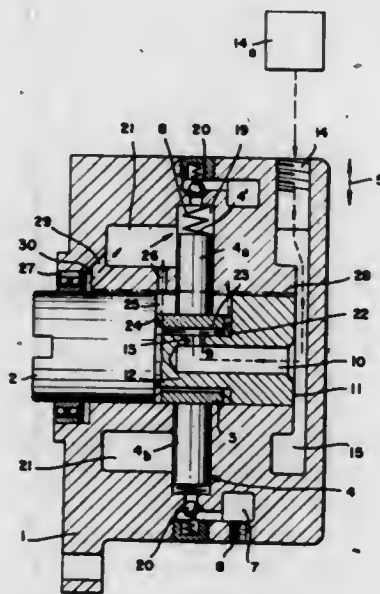


A priming system for a vertical shaft centrifugal pump. The system includes vacuum means connected to a priming



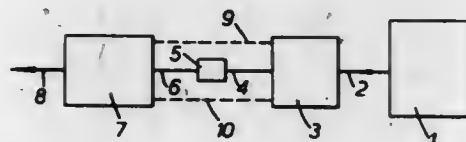
ing chamber. The priming chamber is connected to a pumping chamber through the top wall of the pumping chamber in a low pressure area thereof. An electrical priming circuit actuates priming and terminates it when liquid has completely filled the pumping chamber and reaches the electrode extending into the priming chamber.

**3,519,370**  
**RADIAL-PISTON PUMP WITH IMPROVED COOLING AND LUBRICATION**  
Aloys Bleuel, Frankfurt am Main, Germany, assignor to Alfred Teves GmbH, Frankfurt am Main, Germany, a corporation of Germany  
Filed Mar. 13, 1968, Ser. No. 712,641  
Claims priority, application Germany, Mar. 25, 1967, T 33,522  
Int. Cl. F04b 23/04, 1/04, 39/02  
U.S. Cl. 103—5



In a radial piston pump the hydraulic fluid is shunted on its path between the reservoir and the piston cylinders to flow past moving parts at the eccentric of the pump so as to cool and lubricate the latter, the shunt path including an axial bore formed in the eccentric shaft and opening beneath the bearing ring surrounding the eccentric.

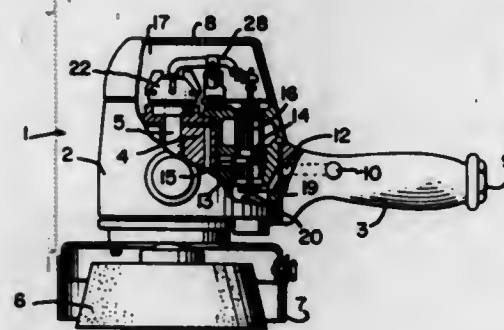
**3,519,371**  
**MULTISTAGE MECHANICAL VACUUM PUMPING ARRANGEMENTS**  
Leslie Arthur Holland and Malcolm Arthur Baker, Crawley, and Laurence Laurensen, Horsham, England, assignors to Edwards High Vacuum International Limited, Sussex, England, a British company  
Filed Sept. 18, 1968, Ser. No. 760,521  
Claims priority, application Great Britain, Apr. 16, 1968, 17,811/68  
Int. Cl. F25j 3/00; F04b 41/06; F04d 25/16  
U.S. Cl. 418—5



A multistage mechanical vacuum pumping arrangement including an oil lubricated low vacuum stage, a trap for

backstreaming organic vapours and a higher vacuum stage which is dry (non-lubricated). The trap suitably contains a sorbent material such as activated alumina. The higher vacuum stage preferably has a compression ratio in excess of 100 to 1 and, because its co-operating pumping components are in rubbing contact, some form of self-lubrication is desirable.

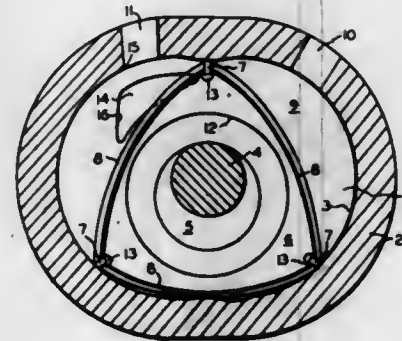
**3,519,372**  
**SPEED CONTROL**  
Alfred N. Peale, Waverly, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey  
Filed Sept. 19, 1968, Ser. No. 760,882  
Int. Cl. F01c 13/02, 21/16  
U.S. Cl. 418—43



A portable power grinder having an air-operated motor with a governor for maintaining a substantially constant speed, including a lever interconnecting governor flyweights to a valve controlling the flow of air to the motor. The lever is pivoted on a releasable means which

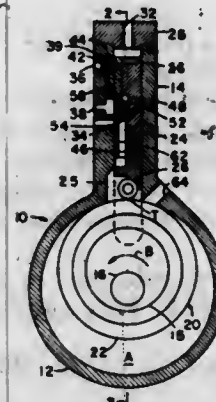
is operative to release the lever pivot in the event of unsafe overspeed, allowing the valve to close and stop the motor.

**3,519,373**  
**ROTARY PISTON INTERNAL COMBUSTION ENGINE**  
Kenichi Yamamoto, Hiroshima-shi, Japan, assignor to Toyo Kogyo Company Limited, Hiroshima-shi, Japan  
Continuation of application Ser. No. 676,171, Oct. 18, 1967. This application Feb. 27, 1969, Ser. No. 809,455  
Claims priority, application Japan, Oct. 18, 1966, 41/97,102; Nov. 9, 1966, 41/73,641  
Int. Cl. F02b 53/00  
U.S. Cl. 418—61



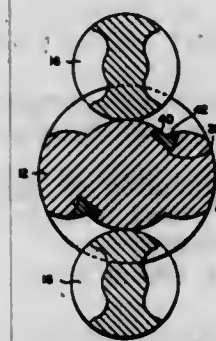
A combustion product exhaust means for a rotary piston internal combustion engine having an exhaust port in the end wall or in the end wall and the annual center wall where the exhausting pressure is lowered by gradually developing the exhausting opening or simultaneously and/or periodically controlling at least two-way exhausting by the action of the planetary motion of the rotary piston.

**3,519,374**  
**PARTIAL ADMISSION VALVE MECHANISM FOR ROTARY ENGINE**  
Peter O. Tauson, Bradford Woods, Pa., assignor, by mesne assignments, to the United States of America as represented by the U.S. Atomic Energy Commission  
Filed June 26, 1968, Ser. No. 740,235  
Int. Cl. F01c 1/00  
U.S. Cl. 418—65



A rotary piston expansion engine having an internal admission valve mechanism utilizing a curtain valve with a reciprocating cut-off valve actuated by the curtain valve to provide gas admission during a portion of the expansion period.

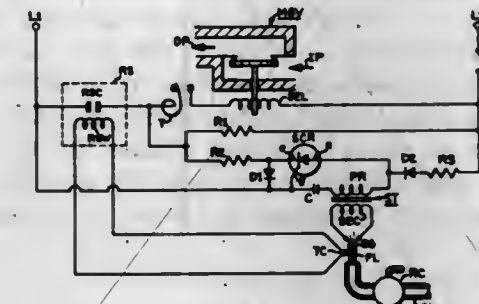
**3,519,375**  
**SCREW PUMPS**  
Morgan B. Sennet, Erwinna, and John E. Griffiths, Morrisville, Pa., assignors to DeLaval Turbine Inc., Trenton, N.J., a corporation of Delaware  
Filed June 18, 1968, Ser. No. 737,891  
Int. Cl. F04c 1/10, 5/00  
U.S. Cl. 418—179



A screw pump having intermeshing power and idler screws running in intersecting cylindrical bores of a housing has a resilient shape-retaining plastic material

forming part of a thread of a power screw engaging an idler screw, to suppress noise. Metallic materials may be used instead of plastic material.

**3,519,376**  
**FUEL BURNER CONTROL USING SILICON CONTROLLED RECTIFIER SPARK GENERATION AND THERMOCOUPLE ACTUATED REED SWITCH**  
Gerald E. Dietz, Milwaukee, Wis., assignor to Penn Controls, Inc., Oak Brook, Ill., a corporation of Delaware  
Filed May 24, 1968, Ser. No. 731,822  
Int. Cl. F23q 3/00  
U.S. Cl. 431—43



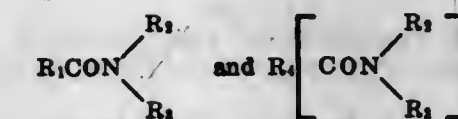
Gaseous fuel is fed through an electromagnetically actuated main valve to a main burner for ignition thereof from a standing pilot flame, under conditions where the pilot flame is sensed by a thermocouple. The thermocouple generates sufficient current to actuate magnetically a reed switch to closed condition to energize the main valve. Under conditions where the pilot flame is extinguished inadvertently, the reed switch, after the thermocouple has cooled sufficiently reopens the energizing circuit of the main valve, stopping the flow of fuel to the main burner. Simultaneously, the thermocouple actuated reed switch, in reopening, activates a spark generator. The generator provides a continuous high voltage spark by means of a silicon controlled rectifier oscillating circuit for relighting the pilot flame. When the pilot flame is successfully relit and the thermocouple reheated, the reed switch contacts again close, simultaneously deenergizing the spark generator circuit and preparing the main valve for reenergization through thermostat contacts, upon the next successive call for heating. Two embodiments are disclosed, one for operation from a 120 volt alternating power source and the other for operation from a 25 volt alternating power source; both utilizing the same silicon controlled rectifier oscillator circuit for spark generation.

## CHEMICAL

**3,519,377**  
**PRINTING POLYESTER TEXTILES WITH A DISPERSE DYE PASTE CONTAINING AN ALKYL AMIDE OR ALKYLENE DIAMIDE**  
Kazuo Kitamura, Iwakuni-shi, Koji Muro, Amagasaki-shi, Osaka-fu, and Saburo Yoshida, Iwakuni-shi, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan  
No Drawing. Continuation-in-part of application Ser. No. 255,100, Jan. 30, 1963. This application July 28, 1965, Ser. No. 475,583  
Claims priority, application Japan, Feb. 8, 1962, 37/3,924, 37/3,925; Apr. 30, 1962, 37/17,781; Dec. 27, 1962, 38/57,930  
Int. Cl. D06p 3/54

**U.S. Cl. 8—62**  
An improved process for printing organic hydrophobic textiles with an aqueous printing paste comprising a non-polymerizable aqueous paste base and a dyestuff selected

from dispersed dyes and vat dyes, improvement relating to the effecting of a deep color with a relatively low fixing temperature and relatively short fixing time by including within the aqueous printing paste from 0.1–20% by weight of a carboxylic acid amide selected from the formulae



wherein  $R_1$  is an aliphatic radical of a monocarboxylic acid,  $R_2$  and  $R_3$  are each selected from the group consisting of hydrogen and lower alkyl radicals and  $R_4$  is an aliphatic radical derived from a dicarboxylic acid, the total number of carbon atoms in the carboxylic acid amide being from 8–22.



3,519,378

**PROCESS FOR THE RAPID TANNING OF MEDIUM-WEIGHT AND HEAVY LEATHER**  
 Wolfhard Luck, Leverkusen, Bruno Zinz, Cologne-Fliktard, and Ernst Komarek, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
 No Drawing. Filed Dec. 20, 1965, Ser. No. 515,236  
 Claims priority, application Germany, Jan. 2, 1965, F 44,869

Int. Cl. C14c 3/06, 3/24, 3/28

U.S. Cl. 8-94.26 4 Claims

Process for rapid tanning of leather by pretanning the leather with chromium-containing tanning agents, chromium complex tanning agents, or mixtures of chromium-containing tanning agents with syntans, naphthalene-sulfonic acids, condensates of naphthalene-sulfonic acids, and formaldehyde, or sulfite waste liquor followed by a final tanning in the absence of a liquor, the final tanning being initiated by a condensation product of naphthalene-sulfonic acids and formaldehyde, a sulfite waste liquor, or a mixture thereof, these initiating agents having been adjusted to an acid number of at least 30, and finishing the final tanning with powdered synthetic or vegetable tanning agents.

3,519,379

**SOAKING AND LAUNDERING PROCESS**  
 Karl F. Blomeyer, Heidelberg, Germany, and Francis J. Cracco, Brussels, Belgium, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio  
 No Drawing. Filed Apr. 28, 1967, Ser. No. 634,489

Int. Cl. D06l 3/02

U.S. Cl. 8-111 5 Claims

A soaking and laundering process in which a proteolytic enzyme and a peroxy compound are employed along with an organic detergent and an alkaline builder to achieve superior stain removal.

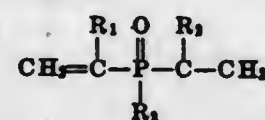
3,519,380

**METHOD OF TREATING TEXTILE MATERIALS**  
 William J. Vullo, Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York  
 No Drawing. Filed May 28, 1965, Ser. No. 459,932

Int. Cl. D06m 1/00

U.S. Cl. 8-116 14 Claims

Textile material treatment to improve the wrinkle resistance thereof by reacting the textile material, in the presence of a basic catalyst, with a polyvinyl phosphine oxide having the formula



wherein  $R_1$  and  $R_2$  are independently selected from the group consisting of hydrogen and lower alkyl radicals and  $R_3$  is selected from the group consisting of hydrogen, lower alkyl and lower alkenyl radicals.

3,519,381

**METHOD OF IMPARTING PERMANENT CREASE TO FABRICS CONTAINING FREE HYDROXYL GROUPS**

Shigeto Suzuki, San Francisco, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware  
 No Drawing. Filed Aug. 22, 1966, Ser. No. 573,819

Int. Cl. D06m 13/48, 13/52

U.S. Cl. 8-116.2 20 Claims

A persistent set is imparted to a material produced from yarns or fabrics prepared from fibers containing

acidic hydrogen in the repeating structural unit of the fibers by impregnation of the material with an organic bis-sulfonamido aziridine compound and then while mechanically maintaining a desired deformation of the material heating the impregnate at a temperature above 300° F.

3,519,382

**HIGH ENERGY RADIATION STABILIZATION OF CELLULOSE OBTAINED BY ESTERIFYING WITH BENZOYL CHLORIDE**

Jett C. Arthur, Jr., Metairie, Florine A. Blouin, New Orleans, Trinidad Mares, Metairie, and David J. Stanonski, New Orleans, La., Glyn O. Phillips, Cardiff, Wales, and Ila M. Sarkar, Lake City, Fla., assignors to the United States of America as represented by the Secretary of Agriculture  
 No Drawing. Continuation-in-part of application Ser. No. 385,808, July 28, 1964. This application Feb. 6, 1968, Ser. No. 703,278

Int. Cl. C08b 3/10, 3/22; D06m 13/20

U.S. Cl. 8-120 1 Claim

This invention relates to a method for stabilizing organic materials that contain the glycosidic bond to the effects of high energy radiation. Stabilization is achieved by the introduction of aromatic groups as substituents into the said organic material. The method of this invention has as its objective the modification of the chemical structure of organic materials which contain the glycosidic bond to allow preferential transfer of high energy from one part of the organic material to the aromatic substituent group within which group radiation energy is dissipated without damage to the glycosidic bond of the organic material.

3,519,383

**MINIMIZING ODOR BY ADDING METHYLOL AMIDES AND METHYLOL AMINES TO REDUCING AGENT SOLUTIONS USED TO TREAT WOOL**

Earl Peters, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware  
 No Drawing. Continuation of application Ser. No. 283,565, May 27, 1963. This application Aug. 27, 1968, Ser. No. 764,008

Int. Cl. D06m 3/06, 3/08

U.S. Cl. 8-127.6 5 Claims

Formaldehyde and formaldehyde-generating compounds are used in the modification of keratinic fibers with reducing agents to inhibit fiber odor.

3,519,384

**METHOD OF REMOVING CO<sub>2</sub> AND H<sub>2</sub>O FROM A GAS STREAM**

Rudolf Engel, Aachen, and Claus-Benedikt von der Decken, Verlautenheide, Aachen, Germany, assignors to Brown Boveri/Krupp Reaktorbau G.m.b.H., Düsseldorf, Germany  
 Filed Aug. 15, 1966, Ser. No. 572,477

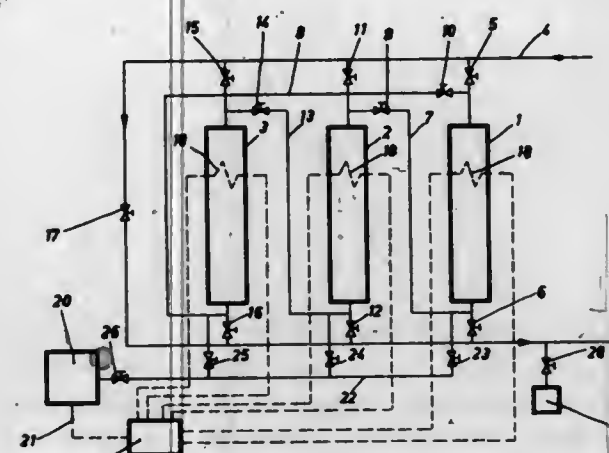
Claims priority, application Germany, Aug. 19, 1965, B 83,293

Int. Cl. B01d 53/04

U.S. Cl. 23-2 6 Claims

A method of removing CO<sub>2</sub> and H<sub>2</sub>O from a gas stream in which three absorption filter elements are used. The first filter element initially contains Ca(OH)<sub>2</sub> and the second and third filter elements initially CaO. The method comprises initially passing the gas stream sequentially through the first and second filter elements which operate respectively as a CO<sub>2</sub> absorption filter and as an H<sub>2</sub>O absorption filter, converting the Ca(OH)<sub>2</sub> and the CaO respectively to CaCO<sub>3</sub> and Ca(OH)<sub>2</sub>. The third absorption filter element is kept in reserve until the

first filter element is exhausted; at this time the gas is cycled sequentially through the second filter element, which now contains Ca(OH)<sub>2</sub>, and the third filter element



ment. The first filter element may now be charged with CaO and held in reserve to act as an H<sub>2</sub>O absorption filter when the second filter element is exhausted.

3,519,385

**METHOD FOR SEPARATING MOLYBDENUM FROM TECHNETIUM**

Elmer C. Hurst, Powell, and Homer B. Hupf, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission  
 No Drawing. Filed Mar. 12, 1968, Ser. No. 712,377

Int. Cl. C22b 59/00

U.S. Cl. 23-22 2 Claims

A method for separating molybdenum from technetium from a solid mixture thereof which comprises contacting said mixture with an aqueous solution of hydrogen peroxide at a sufficient peroxide concentration and for a sufficient time to dissolve the molybdenum and technetium; reducing the volume of the resultant solution until at least a portion of the molybdenum precipitates and then separating the aqueous phase from the precipitated phase.

3,519,386

**PROCESS FOR PRODUCING A DICALCIUM FERRITE SINTERED PRODUCT**

Michael P. Fedock and Theodore G. Kohl, Cleveland, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey  
 Filed Nov. 23, 1965, Ser. No. 509,303

Int. Cl. C01f 11/00; C01g 49/00

U.S. Cl. 23-51 10 Claims

Process for providing a dicalcium ferrite sintered product which consists in admixing iron ore with a solid carbonaceous fuel having a particle size of not more than 1/4" and not less than 100-mesh, admixing the ore plus fuel mixture with limestone in stated proportion, and igniting and sintering the mixture.

3,519,387

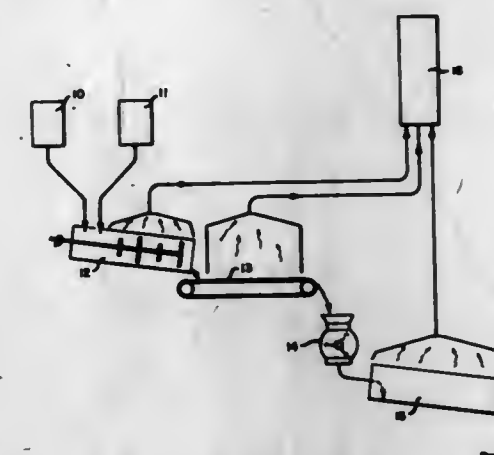
**QUICK CURE PROCESS FOR MAKING SUPERPHOSPHATES OF LOW FLUORINE CONTENT**

Albert E. Henderson, Jr., Ponte Vedra Beach, Fla. (% Care Technical Services, Inc., P.O. Box 3408, Jacksonville, Fla. 32266)  
 Filed Dec. 7, 1967, Ser. No. 688,928

Int. Cl. C01b 25/32, 25/18; C05b 1/00

U.S. Cl. 23-109 7 Claims

A method of making a quick cure, low fluorine super-



rock and acid together with rapid agitation to react the two to release fluorine and form a superphosphate product.

3,519,388

**PRODUCTION OF SULFURIC ACID**  
 John B. Rinckhoff, Westfield, N.J., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware  
 Filed Oct. 16, 1967, Ser. No. 675,369

Int. Cl. C01b 17/74, 17/48

U.S. Cl. 23-167 14 Claims

A hot sulfur dioxide-containing gas stream, typically derived from a pyrites ore smelter or copper converter at a temperature above 100° C. and containing less than about 8% by volume of sulfur dioxide together with excess free oxygen and water vapor in an amount not more than that required for product acid, is employed as a sulfur source for the production of concentrated sulfuric acid. In order to prevent the introduction of excess water into the acid system, the hot gas stream is initially cooled by contact with a liquid stream of sulfuric acid solution containing about 60% to 80% sulfuric acid content by weight, which is at an initial temperature in the range of about 50° C. to 85° C. The sulfuric acid solution strength and initial temperature are selected so that the solution has a partial pressure of water vapor which is substantially equal to the partial pressure of water vapor in the gas stream, and the gas stream is cooled to a temperature in the range of about 50° C. to 100° C; by contact with the liquid sulfuric acid stream, without changing the water vapor content of the gas stream. The heated acid solution is externally cooled and recycled. The cooled gas stream is subsequently processed to remove entrained liquid acid droplets and mist, scrubbed with concentrated sulfuric acid typically of 93% concentration to remove water vapor, heated to a temperature in the range of 400° C. to 600° C., catalytically reacted to convert sulfur dioxide to sulfur trioxide, cooled, and scrubbed with concentrated sulfuric acid typically of 98% concentration to absorb sulfur trioxide and form further sulfuric acid in solution.

3,519,389

**PROCESS FOR REMOVING TITANIUM DIOXIDE SCALE FROM REACTOR WALLS**

Donald E. Darr, Wadsworth, Ohio, Roger S. Leiser, Decatur, Ill., and Clifford E. Leach, Akron, and Kenneth W. Richardson, Barberton, Ohio, assignors to PPG Industries, Inc., a corporation of Pennsylvania  
 Original application July 2, 1964, Ser. No. 379,825, now Patent No. 3,423,186, dated Jan. 21, 1969. Divided and this application Aug. 15, 1968, Ser. No. 752,827

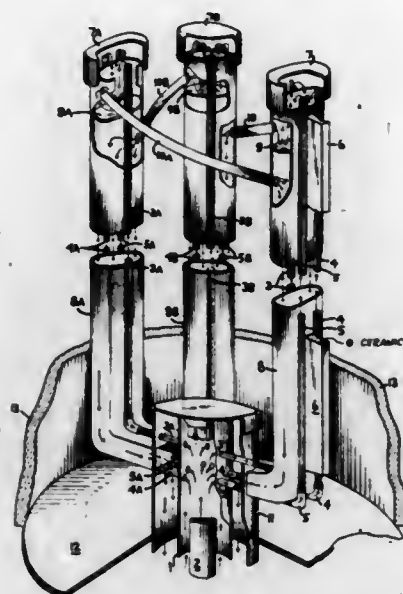
Int. Cl. C01g 23/04

U.S. Cl. 23-202 9 Claims

The preparation of metal oxide, e.g., titanium dioxide, by vapor phase oxidation of metal halide, e.g., titanium



tetrahalide, is described. Difficulties in maintaining reactor operation because of metal oxide scale buildup within

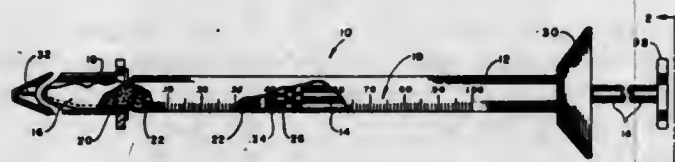


the reactor is discussed. Method and apparatus are proposed for eliminating such difficulties.

3,519,390

# METHOD AND DEVICE FOR TEST OF BIOLOGICAL FUNCTION

Richard Kerr Dickey, San Clemente, and Howard Lawrence Schwartz, Van Nuys, Calif., assignors to Bio-Nuclear Laboratories, Inc., a corporation of California  
Filed June 13, 1967, Ser. No. 645,689  
Int. Cl. B01d 59/30; G01n 1/14, 31/04  
U.S. Cl. 23—230 10 Claims



Method and syringe for performing a test of the thyroid function, the syringe having a pair of filters with a mass of ion exchange resin granules between the filters, the granules being tagged with triiodothyronine, labelled with a radioactive iodine,  $I^{131}$ . The filter at the inlet of the syringe is treated with sodium citrate which acts as a catalyst in the ion exchange between the granules and serum or other biological fluid which is caused to ascend by suction through the filter and into contact with the granules following ascension by a buffer fluid.

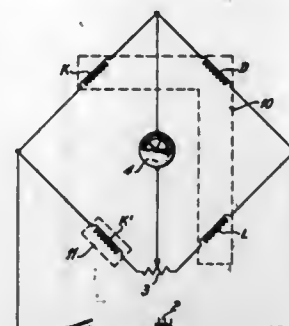
3,519,391

# METHOD OF AND APPARATUS FOR MEASURING COMBUSTIBLE CONSTITUENTS OF GAS SAMPLES

Karl Winter, Bochum-Weitmar, Germany (1 Am Holzwege, Bochum-Linden, Germany), and Elmar Arensmeyer, 3 Am Rechteck, Bochum-Weitmar, Germany  
Continuation-in-part of application Ser. No. 321,739, Nov. 6, 1963. This application Sept. 22, 1967, Ser. No. 669,927  
Int. Cl. G01n 25/32; G08b 21/00  
U.S. Cl. 23—232 5 Claims

Method and apparatus for measuring combustible gas content, employing an electrical bridge circuit having a catalytic filament (resistor) for measuring heat or com-

bustion and a thermal conductivity compensating filament (resistor) in two legs of one branch of the circuit, and having a thermal conductivity measuring filament

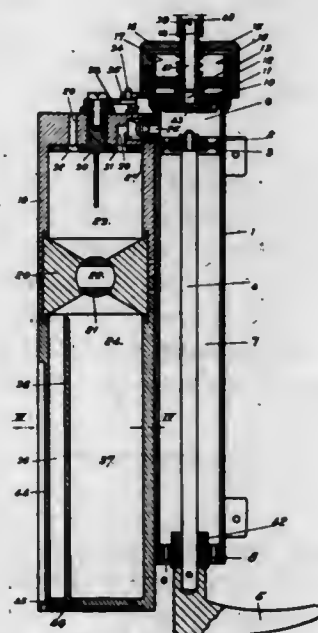


(resistor) in the second branch of the circuit, preferably with a resistor used to compensate for resistance changes due to heating up of the apparatus during use.

3,519,392

# GAS-ANALYSING APPLIANCE

Henri E. Caupell, Courbevoie, France, assignor to Societe d'Instrumentation Schlumberger, Paris, France, a corporation of France  
Filed Feb. 9, 1967, Ser. No. 614,927  
Claims priority, application France, Feb. 14, 1966, 49,526  
Int. Cl. G01n 1/24, 31/06  
U.S. Cl. 23—254 7 Claims



A gas-analysing appliance in which a component of the gas is absorbed by a reagent, and the consequent pressure-reduction of the gas is measured to determine the quantity of the component absorbed, the appliance having a volumetric type pump enabling a measured quantity of gas to be passed through the appliance, a filter provided in the pump inlet to remove solid particles from the gas entering the appliance and provide a measure of the opacity of the gas, and a temperature sensor provided in the pump inlet to measure the temperature of the gas.

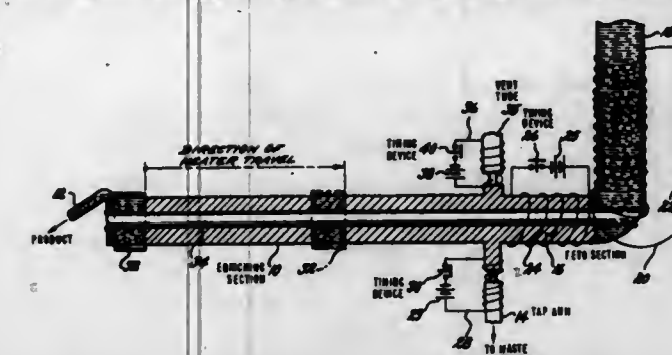
3,519,393

# CONTINUOUS SINGLE COLUMN MATTER TRANSPORT ZONE REFINING APPARATUS

Guy H. Moates, Lexington, and John K. Kennedy, Boston, Mass., assignors to the United States of America as represented by the Secretary of the Air Force  
Filed Dec. 6, 1966, Ser. No. 600,001  
Int. Cl. B01j 17/14  
U.S. Cl. 23—273 8 Claims

A continuous zone refining system having an enriching section which utilizes matter transport for the movement

of material and eliminates the conventional stripping section by providing a tap arm at the end of the enriching

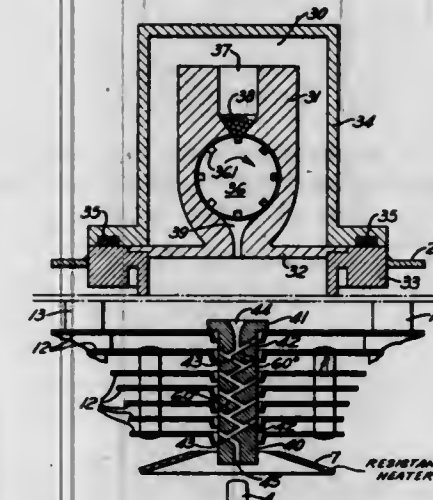


section which joins a feed section. A timing means selectively controls heating of the feed section and top arm.

3,519,394

# APPARATUS FOR THE FABRICATION OF A SYNTHETIC RUBY

Georges Petit-le Du, Palaiseau, and Jack Aubree, Sartrouville, France, assignors to Ugine Kuhlmann, Paris, France, a corporation of France  
Continuation-in-part of application Ser. No. 525,974, Feb. 8, 1966. This application Jan. 9, 1967, Ser. No. 615,287  
Claims priority, application France, Feb. 10, 1965, 5,078; Jan. 11, 1966, 45,551  
Int. Cl. B01j 17/24  
U.S. Cl. 23—273 6 Claims



The fabrication of a synthetic monocrystal in an inert atmosphere containing less than 5 parts per million oxygen and water in a furnace having a fusion chamber and a cooling chamber connected by an opening through which a seed crystal rotatably mounted in the cooling chamber extends by feeding preheated addition material vertically to a fused superficial layer of a seed crystal, the seed crystal being rotated and translated vertically at such a speed that the preheated addition material does not cool the fusion layer below its melting point.

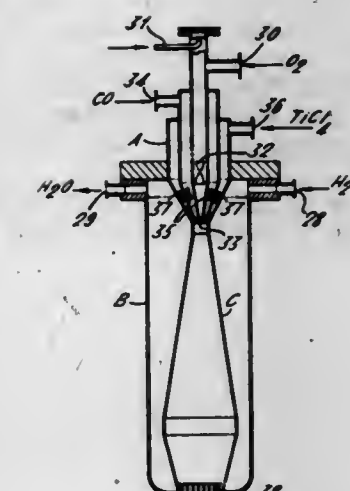
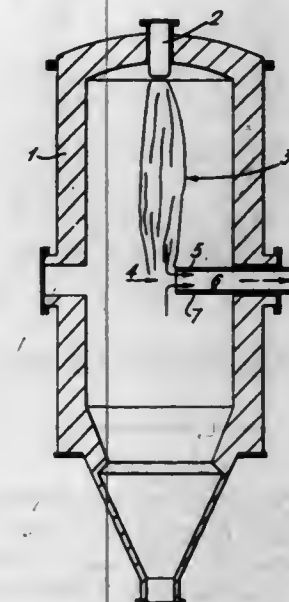
3,519,395

# APPARATUS FOR THE PRODUCTION OF METAL OXIDES

Robert Jean Mas, Thann, Haut-Rhin, and André Louis Michaud, Vieux-Thann, Haut-Rhin, France, assignors to Fabriques de Produits Chimiques de Thann et de Muthouse, Thann, Haut-Rhin, France, a French body corporate  
Filed June 20, 1966, Ser. No. 558,722  
Claims priority, application Great Britain, June 22, 1965, 26,421/65  
The portion of the term of the patent subsequent to Dec. 12, 1984, has been disclaimed  
Int. Cl. C01g 23/04  
U.S. Cl. 23—277 8 Claims

A vertical cylindrical furnace for the production of finely divided metal oxide such as  $TiO_2$  from a volatile

metal halide, such as vaporized  $TiCl_4$ , has at the top a burner device comprising concentric conduits fed separately with oxygen, an inflammable gas and metal halide vapor, which conduits open downwardly through a common orifice into a tapered mixing chamber that delivers an axial, downwardly extending flame from a nozzle at its lower end; and oxide-containing gases formed in the



flame are discharged by a radial exit tube that passes through the furnace wall at a distance below the burner nozzle and has an offtake opening at or near the longitudinal axis of the furnace. Another radial tube can lead through a venturi into the exit tube for feeding therein a cool gas stream that will draw reaction products into and cool them quickly in the exit tube.

3,519,396

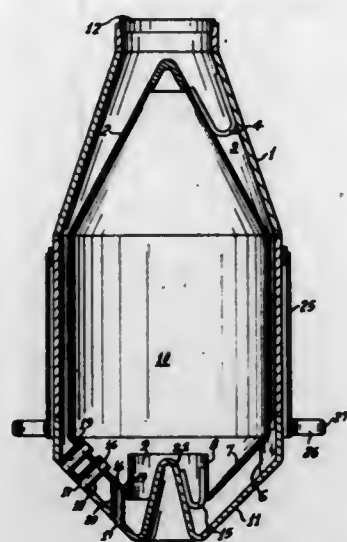
# MEANS FOR INJECTING A GASEOUS REACTANT

Raymond S. Eagle, New Shrewsbury, Lowell D. Fraley, Somerville, and Stanley E. Handman, Metuchen, N.J., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware  
Filed Jan. 4, 1968, Ser. No. 695,602  
Int. Cl. B01j 1/14; B05b 1/14  
U.S. Cl. 23—277 10 Claims

A mixer-burner for introducing an oxygen-containing gas into an oxidizable stream which comprises an outer housing and an inner chamber, the gas flowing into the inner chamber through the annulus therebetween, the



gas being discharged from the inner chamber into the oxidizable stream through apertures positioned on the face of a "dry" box. More specifically, the invention concerns an electrical-mechanical system for automatically main-



of the burner in perpendicular and angular relationship thereto.

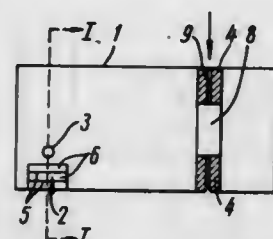
3,519,397

**FURNACE FOR OBTAINING SULPHUR DIOXIDE**  
Leonid Alexandrovich Bogdanov, Ulitsa Nekrasova 58, kv. 69; Efim Isaakovich Dorman, Nevsky prospekt 96, kv. 18; Bentsion Davydovich Katnelson, Ulitsa Dostoevskogo 4, kv. 30; Mikhail Porfirievich Kavokin, Ulitsa Podrezova 26-b, kv. 19; Jury Vasilievich Lastochkin, Ulitsa Narodnaya 6, kv. 87; Fedor Konstantinovich Mikhailov, Ulitsa Stakhanovtsev 10, korpus 3, kv. 11; Leonid Matveevich Person, Ulitsa Borovaya 18, kv. 18; Gennady Markovich Saksonov, Fr. Metallistov 18, kv. 40; Viktor Arsenievich Slepnev, Ulitsa Rastanaya 16, kv. 6; Boris Romanovich Bogdanov, Troitskaya ulitsa 114, kv. 8; and Vladimir Nikolaevich Khvastunov, Ulitsa Skorokhodova 23, kv. 28, all of Leningrad, U.S.S.R.

Filed June 27, 1967, Ser. No. 649,300  
Int. Cl. B01j 7/00; F23c 7/00; F23i 9/04

U.S. Cl. 23-278

5 Claims



A cyclone-type sulphur furnace employed in the production of sulphuric acid comprises a cylindrical combustion chamber with nozzles for feeding primary air installed tangentially to the combustion chamber, the nozzles being partitioned lengthwise, thus allowing partial regulation of air supply to the chamber. The chamber also has tangential sprayers for sulfur-containing material and a diaphragm provided with radial channels through which secondary air is fed.

3,519,398

**AUTOMATIC SYSTEM FOR CONTROLLING ENVIRONMENT OF INERT ATMOSPHERE BOX**

Charles B. Roberts, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Apr. 1, 1968, Ser. No. 717,887  
Int. Cl. B01j 7/00

U.S. Cl. 23-281

7 Claims

This invention relates generally to an inert atmosphere box, which is commonly referred to in the art as

taining atmospheric oxygen or moisture in an inert atmosphere box at a significantly low level to provide a substantially "dry" environment in the box.

3,519,399

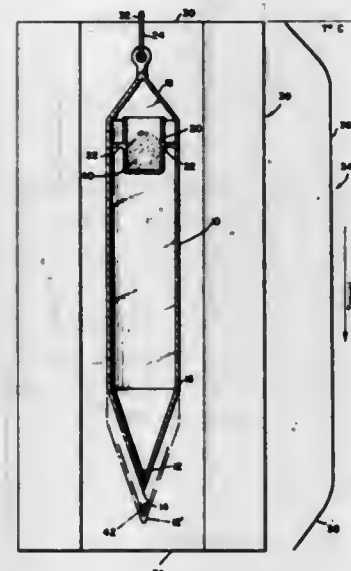
**METHOD FOR GROWING SINGLE CRYSTALS OF SEMICONDUCTORS**

Nanase R. Kyle, Long Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Continuation of application Ser. No. 400,723, Oct. 1, 1964. This application May 22, 1967, Ser. No. 640,303  
Int. Cl. B01d 9/00

U.S. Cl. 23-294

2 Claims



A method of simultaneous purification and growth of semiconductor material into a single stoichiometrically pure crystal by sublimation and condensation of the material by means of either a modified Bridgman process or by means of a vapor growth process. The semiconductor material comprises the compounds selected from the Group II and VI elements of the periodic table, such as cadmium telluride. The charge material is vaporized in the upper part of a growth tube and is condensed in the lower part of the tube into first a liquid and then the crystal (Bridgman process) or directly into the crystal (vapor growth). A small container is secured in the upper part to contain the charge.

3,519,400

**METHOD OF CENTRIFUGAL SEPARATION AND RECOVERY OF CHEMICAL SPECIES UTILIZING A LIQUID MEDIUM**

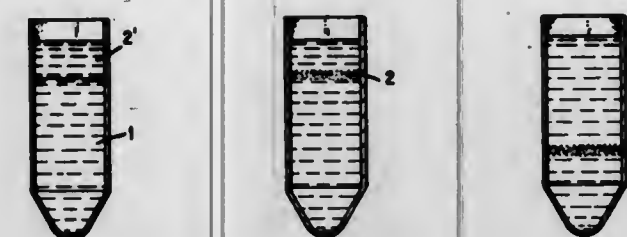
Norman G. Anderson, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 25, 1967, Ser. No. 612,297

Int. Cl. B01d 9/02, 11/04

U.S. Cl. 23-309

5 Claims



A method for separating chemical species from a mixture by centrifugation of the mixture through a liquid density gradient containing chemical reagents arranged in zones within the density gradient to provide a predetermined sequence of chemical treatments is described. The method is based upon the principle that macro-particulate material is caused to sediment in a centrifugal field, while molecular size material in solution is relatively unaffected. Thus, chemically active reagents immobilized in a density gradient can be arranged to provide a preselected sequence of steps in a separation process involving particulate matter. A particularly useful application of the invention is in the separation of mixed colloids. For example, protein mixtures can be precipitated in an upper zone, and separated by sedimentation rate differences, by isopycnic banding, or by resolubilization in a lower zone.

3,519,401

**PROCESS FOR FILTERING AND COUNTERCURRENT EXTRACTING A SUSPENSION OF SOLIDS IN A LIQUID SUSPENDING MEDIUM**

Lars Gunnar Hellman, Norrtullsgatan 10, Stockholm Va, Sweden

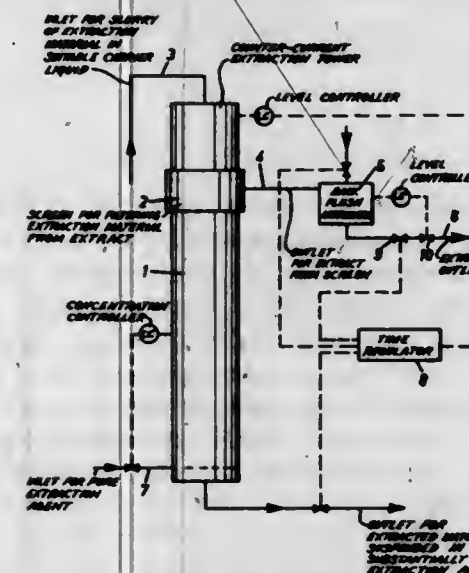
Filed Apr. 22, 1966, Ser. No. 544,526

Claims priority, application Sweden, May 5, 1965, 5,909/65

Int. Cl. B01d 11/04

U.S. Cl. 23-310

8 Claims



A slurry comprising, for example, cellulose fibers suspended in waste liquor, is contacted with water in a

countercurrent extraction tower. The slurry is filtered through a screen in the tower to produce an extract comprising waste liquor and a cake of fibers on the screen. Periodically, the screen is back flushed with extract to loosen the cake and simultaneously with the back flushing, a pulsating movement of the material in the tower is caused to carry the cake away from the screen and toward its outlet.

3,519,402

**SEMICONDUCTORS AND DEVICES EMPLOYING THE SAME**

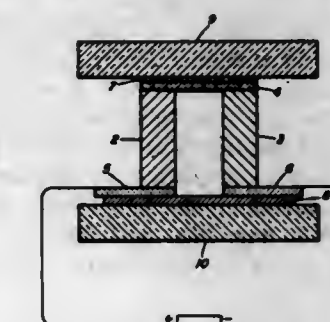
Fritz Hulliger, Uerikon, Switzerland, assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Continuation-in-part of application Ser. No. 253,230, Jan. 22, 1963. This application Sept. 12, 1967, Ser. No. 667,115

Int. Cl. C01f; C01g

U.S. Cl. 23-315

4 Claims



This invention relates to ternary compounds of the formula:

XYZ

where X is an element selected from the group consisting of Rh and Ir, Y is an element selected from the group consisting of P, As, Sb, and Bi, and Z is an element selected from the group consisting of S, Se and Te. The invention further relates to the use of such ternary compounds in semiconductor devices.

3,519,403

**METHOD FOR THE PREPARATION OF URANIUM DIOXIDE POWDER (UO<sub>2</sub>) WITH GOOD PRESSING AND SINTERING PROPERTIES FROM URANIUM HEXAFLUORIDE (UF<sub>6</sub>) OR AQUEOUS SOLUTIONS OF URANYL NITRATE [UO<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub>]**

Horst Vletzke, Grossauheim (Main), Fritz Ploger, Kleinostheim (Main), Klaus Wegner, Hanau am Main, and Hans Pirkl, Dornigheim (Main), Germany, assignors to Nukem Nuklear-Chemie und -Metallurgie G.m.b.H., Wolfgang, near Hanau am Main, Germany

Filed Dec. 18, 1967, Ser. No. 691,581

Claims priority, application Germany, Dec. 17, 1966, N 29,688; Mar. 1, 1967, N 30,086

Int. Cl. C01g 43/02

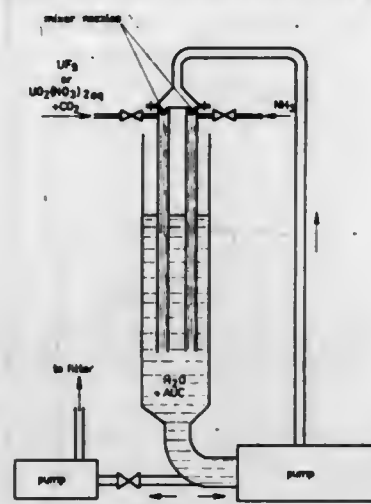
U.S. Cl. 23-355

14 Claims

Uranium dioxide of good pressing and sintering behavior is prepared by precipitating ammonium uranyl carbonate by continuously introducing as gases UF<sub>6</sub>, NH<sub>3</sub>, and CO<sub>2</sub> into an ammonium carbonate solution having a constant pH of 7.8 to 8.6 followed by spontaneously decomposing and gas reducing the ammonium uranyl car-



bonate in a furnace to obtain a pure uranium dioxide powder. The reduction is preferably carried out in a



Schematic drawing of a batch process for the preparation of AUC

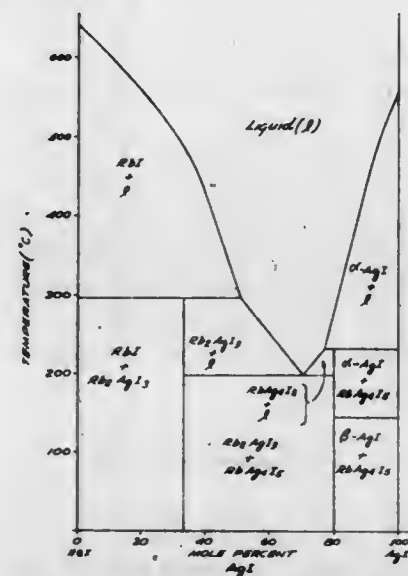
fluidized bed at 500° to 600° C. using a mixture of hydrogen and water vapor.

3,519,404

### SOLID IONIC CONDUCTORS

Gary R. Argue, Woodland Hills, and Boone B. Owens, Calabasas, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware  
Continuation of application Ser. No. 569,193, Aug. 1, 1966, which is a continuation-in-part of application Ser. No. 526,700, Feb. 11, 1966. This application Apr. 17, 1969, Ser. No. 817,299  
Int. Cl. C01d 3/12, 11/04; H01b 1/00; H01m 39/04  
U.S. Cl. 23—367

18 Claims



A solid ionic conductor containing as conductivity-imparting component a single-phase solid compound having the formula  $MAgI_x$ , wherein M is a univalent ion consisting of K, Rb,  $NH_4$ , or combinations thereof. Cs may be present as a minor constituent of M together with at least one of K, Rb, and  $NH_4$ .

3,519,405

COMPOSITE REFRACTORY STRUCTURE  
Emanuel Gordon, New Haven, Conn., assignor to United Nuclear Corporation, a corporation of Delaware  
Filed Feb. 1, 1966, Ser. No. 525,281  
Int. Cl. B22f 7/04

U.S. Cl. 29—182.3

2 Claims

A composite light refractory structure is formed by diffusion bonding particles with a core of alumina or beryllia and a thin surface coating of tungsten. The volume fraction of the tungsten coating is less than about 0.20, and the density of the refractory structure is above 58% of the theoretical density.

3,519,406

### DISCHARGE TUBE SEAL

Rodney E. Hanneman, Burat Hills, and Paul J. Jorgensen, Scotia, N.Y., assignors to General Electric Company, a corporation of New York  
Filed Aug. 23, 1967, Ser. No. 662,731  
Int. Cl. B23k 31/02; B23p 3/00

U.S. Cl. 29—195

4 Claims

In high-pressure sodium vapor lamps utilizing an alumina ceramic arc tube, the interior of the arc tube is



isolated from the interior of the outer glass envelope by means of end caps made of niobium which are sealed to the ends of the alumina tube. This seal is accomplished by means of a shim or washer of titanium which is first bonded to the end cap by solid state diffusion or by a molten bond and then pressed against the end of the alumina tube at a temperature above 1200° C. to produce a titanium-alumina bond.

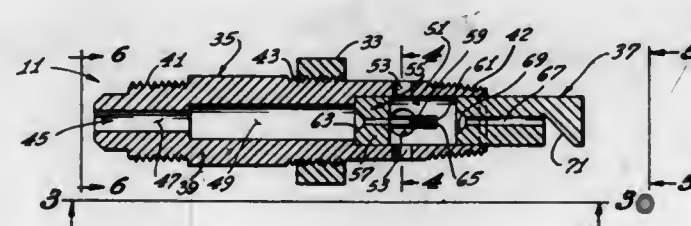
3,519,407

### FUEL INJECTION NOZZLE

Stuart G. Hilborn, South Laguna, Calif., assignor to Fuel Injection Engineering Company, South Laguna, Calif., a corporation of California  
Filed June 27, 1966, Ser. No. 560,538  
Int. Cl. B01f 3/02; C10j 1/12

U.S. Cl. 48—180

5 Claims



Fuel injection nozzle which includes tubular body means defining a passageway extending through said body means. The passageway has an inlet section connectible to a fuel supply system and a discharge section for injecting fuel into the intake manifold of an engine. The discharge and inlet sections are separated by a chamber section and means are provided in the chamber section for directing a stream of fuel thereacross into the discharge section. The body means has an air passage therein for conducting air into the chamber section and such air may be supplied from the upstream side of the butterfly valve in the manifold. An impingement surface is provided adjacent the outlet of the discharge section against which the air and fuel traveling through the discharge section can impinge.

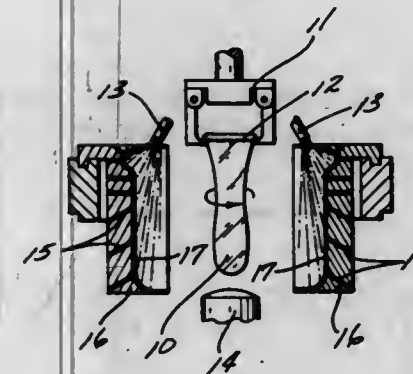
3,519,408

### METHOD OF TREATING GLASS SURFACES DURING SURFACE EXPANSION

Richard H. Russell, Adrian, Mich., assignor to Owens-Illinois, Inc., a corporation of Ohio  
Filed June 19, 1967, Ser. No. 647,076  
Int. Cl. C03b 39/00

U.S. Cl. 65—24

11 Claims



A method of forming a glass article in a paste mold and simultaneously depositing on the surface thereof a metallic oxide coating, comprising using water containing a pyrolyzable metal compound or mixtures of such metal compounds in cooling and moistening the paste mold.

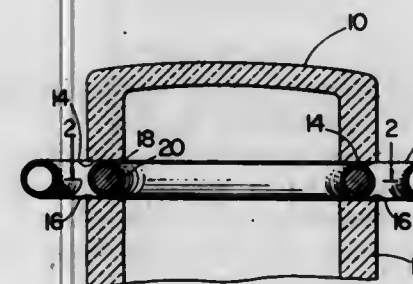
3,519,409

### METHOD OF FORMING GLASS-TO-GLASS SEALS USING INDUCTION HEAT

Guy R. Stutzman, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware  
Filed Mar. 15, 1967, Ser. No. 623,457  
Int. Cl. C03b 23/20

U.S. Cl. 65—40

5 Claims



Method of forming a sealed joint between two glass members whereby a metal member is precoated with glass so as to be completely surrounded by the glass. The coated metal member is sandwiched between the two glass members and then is inductively heated until its glass coating melts to form a glass-to-glass seal between the two glass members with the metal member completely enclosed in the seal.

3,519,410

### PROCESS FOR ELECTRICALLY INCREASING THE ISOTROPY OF VITREOUS SILICA

Gordon Hetherington, Tynemouth, North Shields, and John Alexander Winterburn, Cullercoats, North Shields, England, assignors to Thermal Syndicate Limited, Wallsend, Northumberland, England, a British company  
No Drawing. Filed Nov. 10, 1966, Ser. No. 593,332  
Claims priority, application Great Britain, Nov. 10, 1965, 47,631/65  
Int. Cl. C03b 29/00; C03c 1/00

U.S. Cl. 65—62

7 Claims

A method for improving the isotropy of vitreous silica. The sample of vitreous silica to be treated is heated to a temperature between 950° and 1250° C. An alternating

electric field is then applied to the sample of silica. The frequency of the alternating electric field is within the range of 1 cycle per second and 1000 cycles per second, whereas the field strength exceeds 900 volts (R.M.S.) per centimeter.

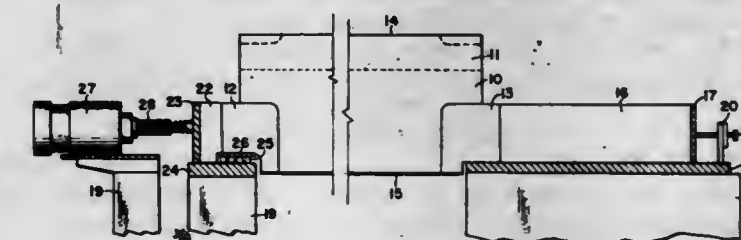
3,519,411

### METHOD AND APPARATUS FOR SUPPORTING SHEET GLASS FORMING DEVICE

Stanley A. Cortright and Stuart M. Dockerty, Corning, Kenneth T. Overman, Palmdale, and William F. Pardue, Jr., and George C. Shay, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York  
Filed Dec. 28, 1966, Ser. No. 605,352  
Int. Cl. C03b 5/26

U.S. Cl. 65—90

3 Claims



Refractory overflow devices for forming sheet glass are subject to tensile stresses, particularly in the lower central section thereof, due to the combined weight of the forming device and the glass retained thereby. The present invention comprises the axial or longitudinal compressive loading of a refractory sheet glass forming device by means of an air cylinder or the like applying a desired force thereon through pressure and backup plates so as to take advantage of the high compression strength of refractory while avoiding its natural weakness in tension.

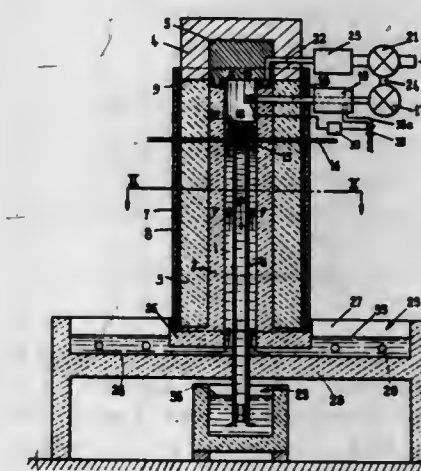
3,519,412

### APPARATUS FOR MELTING AND REFINING GLASS

Jan-Theodor Olink, Amieres, France, assignor to Boussois-Souchon-Neuvesel, Paris, France, a company of France  
Filed Apr. 10, 1967, Ser. No. 629,724  
Claims priority, application France, Apr. 19, 1966, 58,139  
Int. Cl. C03b 9/00

U.S. Cl. 65—337

1 Claim



A process and apparatus for melting glass which permits of its continuous industrial manufacture wherein following operations are performed: transferring into



a vertical melting column and upwardly displacing a mass of glass in the viscous state, heating said mass during its upward motion within the column, then transferring the molten mass from the delivery end of said column to a second vertical conditioning column in order to permit of heat transfer with the melting column and causing said mass to move down to a space for the withdrawal of the glass, the transfer of the molten glass from the first column to the second column being carried out within a leak-tight communication chamber in which a partial vacuum is created and in which the upper extremities of the two columns have their openings.

**3,519,413**  
**STABLE HIGH-ANALYSIS SUSPENSION-TYPE FERTILIZERS**

Honore Trimbach, Grand-Couronne, and Alexandre Villard, Saint Etienne-du-Rouvray, France, assignors to Potasse et Engrais Chimiques, Paris, France  
No Drawing. Filed July 16, 1965, Ser. No. 472,652  
Claims priority, application France, July 24, 1964, 982,903

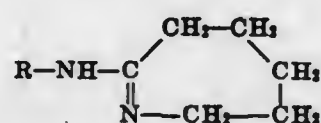
Int. Cl. C05b 11/16

**U.S. Cl. 71—42** 5 Claims  
For the production of aqueous fluid suspensions of crystalline fertilizers, which suspensions are stabilized for at least one month without any substantial increase in crystal growth or viscosity of the suspension, a gum such as guar or locust bean flour is admixed to the suspension in a concentration of preferably 0.3–0.4% by weight of the total suspension, and wherein the suspended solids have a particle size distribution of 90% being of 0.1–1 millimeter and 50% being 0.5–1 mm.

**3,519,414**  
**ALGAETOXIC, SYNERGISTIC COMPOSITIONS OF AZA-1-CYCLOHEPTENES AND QUATERNARY AMMONIUM COMPOUNDS AND METHOD OF USE**

Edward J. Nikawitz, Glen Rock, George R. Walter, Ho-Ho-Kus, and Stephen A. Foris, Jr., Belleville, N.J., assignors to Glvaudan Corporation, Clifton, N.J., a corporation of New Jersey  
No Drawing. Filed Dec. 19, 1966, Ser. No. 602,485  
Int. Cl. A01n 9/02, 9/22

**U.S. Cl. 71—67** 20 Claims  
A new class of algaecides is described. They have the formula



wherein R is an alkyl group having from 10 to 18 carbon atoms; and addition salts thereof.

Also described is the synergistic effect that 2-laurylamino-1-aza-1-cycloheptene and 2-tetradecylamino-1-aza-1-cycloheptene, and their respective addition salts with inorganic and organic acids and phenols, exhibit with numerous quaternary ammonium compounds.

**3,519,415**  
**PHYTOCIDAL N-(4-NITROPHENYLSULFONYL)-N'-(CHLOROSUBSTITUTED ACETYL) UREAS**

Lowell R. Smith, Chesterfield, and Angelo John Speziale, Creve Coeur, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed June 17, 1968, Ser. No. 737,325  
Int. Cl. A01n 9/16

**U.S. Cl. 71—103** 6 Claims  
Compounds of the class N-(4-nitrophenylsulfonyl)-N'-(chloro substituted acetyl) ureas which compounds are phytocidally active.

**3,519,416**  
**QUATERNARY BRAZING ALLOY COMPOSITION**  
Howard Mizuhara, San Mateo, Calif., assignor to Western Gold & Platinum Company, Belmont, Calif., a corporation of California

No Drawing. Filed Jan. 5, 1968, Ser. No. 695,847  
Int. Cl. C22c 9/06, 5/00

**U.S. Cl. 75—134** 5 Claims  
Brazing alloy compositions containing in percent by weight 25–65% copper, 10–40% gold, 5–15% indium and 10–40% of an alloy element selected from nickel and cobalt. The alloy is especially useful in joining operations where high oxidation resistance is required at elevated temperatures.

**3,519,417**  
**ALUMINIUM-MAGNESIUM ALLOYS RESISTANT TO BLACKENING AND ELEMENTS FORMED THEREOF**

Régine Bourbon, Grenoble, and André Guilhaudis and Daniel Adenis, Coublevie, France, assignors to Pechiney Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France

No Drawing. Filed July 3, 1967, Ser. No. 654,311  
Claims priority, application France, July 6, 1966, 68,312

Int. Cl. C22c 21/02

**U.S. Cl. 75—147** 2 Claims  
An aluminum-magnesium alloy which can be prepared of unrefined aluminum and which does not blacken in the presence of non-deionized water, said alloy having magnesium present as an alloying element in an amount within the range of 3% to 5% by weight and iron and silicon present as impurities with the weight ratio of iron to magnesium being not more than 0.04 and the weight ratio of iron plus silicon to magnesium being not more than 0.07, and other products formed thereof.

**3,519,418**  
**AGE-HARDENABLE NICKEL-BASE BRAZING ALLOY**

Paul R. Mobley and Reed E. Young, Cincinnati, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force  
No Drawing. Filed Apr. 22, 1968, Ser. No. 723,232  
Int. Cl. C22c 19/00

**U.S. Cl. 75—170** 5 Claims  
Age-hardenable nickel-base brazing alloys are provided which possess strength and oxidation resistance in the 1700° F. to 1900° F. temperature range. The alloys contain as essential ingredients 3 to 10 percent silicon, 2 to 4 percent titanium, 1 to 3 percent aluminum, 1 to 20 percent of at least one of the alloying elements selected from the group consisting of chromium, cobalt, boron and iron, and the balance being nickel accompanied by unavoidable impurities.

**3,519,419**  
**SUPERPLASTIC NICKEL ALLOYS**

Robert Cameron Gibson, Ringwood, N.J., Howard Wayne Hayden, Jr., Suffern, N.Y., John R. Mihalski, North Caldwell, N.J., and Jere Hall Brophy, Suffern, N.Y., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware  
Filed June 30, 1966, Ser. No. 563,630  
Int. Cl. C22c 19/00

**U.S. Cl. 75—171** 28 Claims  
Nickel-chromium alloys having fine-grain gamma-alpha phase microstructure and specially controlled composition are characterized by superplastic elongations up to

1000% and greater; thermomechanical processing treatment of certain nickel-chromium alloy compositions pro-



duces fine grained gamma-alpha microstructure characterized by superplasticity.

**3,519,420**  
**METHOD OF CHARGING A ZINC OXIDE PHOTOCONDUCTIVE LAYER WITH A POSITIVE CHARGE**

William L. Goffe, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

No Drawing. Filed June 28, 1966, Ser. No. 651,032  
Int. Cl. G03g 5/00

**U.S. Cl. 96—1** 6 Claims

A method of forming an image on a photosensitive zinc oxide binder layer which includes uniformly exposing the layer to a source of negative potential, followed by exposing the surface to a neutralizing source of positive potential resulting in the surface charge being reduced to substantially zero, then exposing the layer to an activating source of radiation whereby a latent conductivity pattern is formed in the radiation struck areas, followed by uniformly positive charging the layer whereby the radiation struck areas exhibiting the conductivity pattern dissipate the charge, while the areas unexposed to radiation retain a positive charge. A positive or negative image may be formed by developing either the positively charged areas or the latent conductivity pattern.

**3,519,421**  
**ELECTROPHOTOGRAPHIC RECORDING MATERIAL**

James K. J. Cheng, Vestal, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Sept. 26, 1967, Ser. No. 670,750  
Int. Cl. G03g 5/08

**U.S. Cl. 96—1.8** 4 Claims

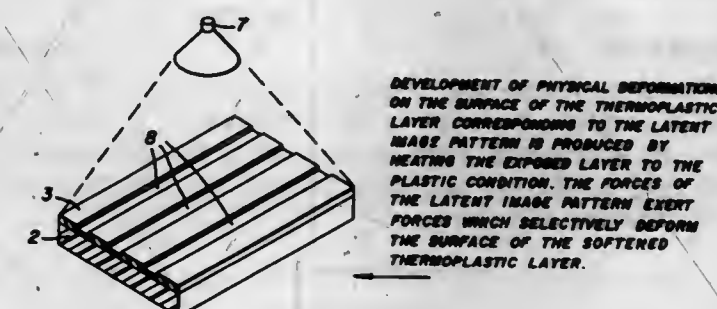
Electrophotographic recording material having a relatively electroconductive base and a coating thereon of photoconductive zinc oxide pigment in an insulating binder containing 40 to 70% of a vinyl acetate-N-vinyl-pyrrolidone copolymer, 10 to 50% of a p-tertiarybutyl benzoylated glycerine-phthalic acid alkyl resin, and optionally, up to 50% of a higher unsaturated fatty acylate glycidyl-bisphenol-A polyether epoxy resin, a silicone modified styrenated drying oil resin or a styrene acrylic ester copolymer resin.

**3,519,422**  
**DEFORMATION RECORDING WITHOUT ELECTRICAL CHARGING**

Joseph Gaynor, Schenectady, and Gordon J. Sewell, Albany, N.Y., assignors to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 231,138, Oct. 17, 1962. This application Dec. 29, 1965, Ser. No. 517,315

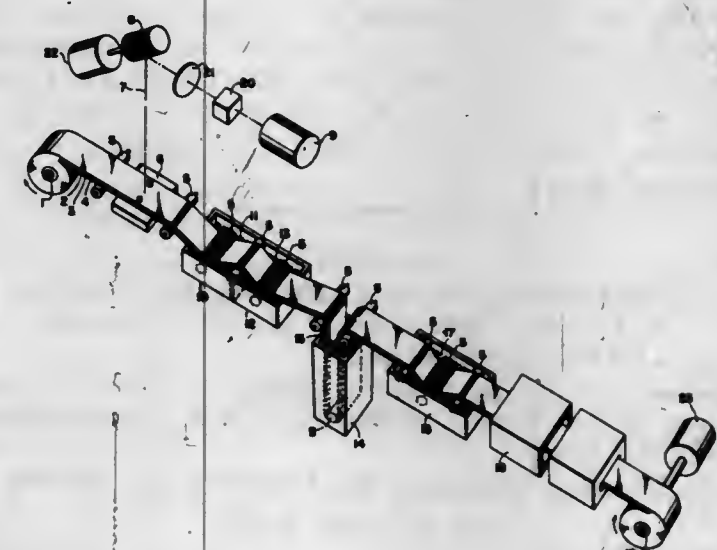
Int. Cl. G03g 13/12; B41m 5/18; G11b 3 Claims  
**U.S. Cl. 96—27**



A recording method is described in which a recording member comprising a temperature stable support coated with a thin layer of thermoplastic resin containing a photosensitive substance which produces electrical forces in response to the impingement of activating radiation thereon is exposed to a pattern of activating radiation to produce an electric force pattern in the thermoplastic layer corresponding to the radiation and developing a pattern of physical deformation corresponding to the force pattern without subjecting the recording member to an electric charging operation.

**3,519,423**  
**METHOD OF MAKING MULTICOLORED SCREENS**  
John R. Sharp, North Quincy, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Oct. 24, 1966, Ser. No. 588,784  
Int. Cl. G03c 1/48; G03f 5/00  
**U.S. Cl. 96—76** 21 Claims



Multicolor screens comprising a plurality of chromatic filter elements may be prepared by selectively exposing an element comprising a plurality of photosensitive layers to a beam of radiation actinic to at least one of said layers



by periodically traversing said layer with said beam to provide a plurality of exposed areas separated from and substantially parallel to one another.

3,519,424

**PHOTOSENSITIVE COMPOUNDS AND ELEMENTS**  
George A. Reynolds, Frederick J. Rauner, and David J. McClune, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 25, 1966, Ser. No. 529,923

Int. Cl. G03c 1/52, 1/70; G03f 7/08

U.S. Cl. 96—91 3 Claims

9-azidoacridines are photosensitive and can be coated onto a support material in the presence of a water-permeable, hydrophilic colloid to prepare the photographic elements useful in photomechanical reproduction such as by printing means.

3,519,425

**VESICULAR COMPOSITIONS AND PHOTOGRAPHIC ELEMENTS CONTAINING 2-AZIDO-1,4-QUINONES**

Akemi S. Marshall, William J. Priest, and James A. Van Allan, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 2, 1967, Ser. No. 657,773

Int. Cl. G03c 1/52

U.S. Cl. 96—91 12 Claims

Light-sensitive 2-azido-1,4-quinones are useful as the gas-forming agent in vesicular compositions and vesicular photographic elements which are sensitive to both visible and ultraviolet light.

3,519,426

**PREPARATION OF SILVER HALIDE EMULSIONS HAVING HIGH COVERING POWER**

Raymond L. Halwig, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,557

Int. Cl. G03c 1/02

U.S. Cl. 96—94 12 Claims

A method of improving the covering power in a fine-grain silver halide emulsion wherein the halide is predominantly chloride, wherein said method comprises precipitating silver halide crystals and adding an azaindene compound at a concentration of at least 0.5 gram of azaindene per mole of silver to the silver halide emulsion within about 4 minutes after the initial precipitation of said silver halide.

3,519,427

**LIGHT-SENSITIVE SILVER-HALIDE EMULSIONS SUITABLE FOR MAXIMUM-RESOLUTION MATERIALS**

Edward A. Sutherns, Harrow, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 10, 1967, Ser. No. 622,034

Int. Cl. G03c 1/02

U.S. Cl. 96—94 8 Claims

An improved process of preparing photosensitive silver-halide grains is disclosed wherein the silver-halide grains are precipitated in the presence of an acid-substituted aryl mercaptan such as thiosalicylic acid, 3-mercapto benzoic acid and the like. Improved photographic elements can be prepared from silver-halide emulsions prepared by this improved process.

3,519,428

**DIRECT-POSITIVE LIGHT-SENSITIVE PHOTOGRAPHIC MATERIAL**

Hidehiko Ishikawa and Mikio Sato, Odawara-shi, and Masaaki Yoshioka, Tokyo, Japan, assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey

No Drawing. Filed May 19, 1966, Ser. No. 551,245

Claims priority, application Japan, May 21, 1965, 40/29,553

Int. Cl. G03c 1/06

U.S. Cl. 96—95 3 Claims

Direct-positive photographic material developable by application of alkaline solutions is provided by incorporating a dihydroxybenzene developer compound in the light-sensitive composition as a finely dispersed solution in a substantially water-insoluble, alkali-soluble high boiling solvent.

3,519,429

**SILVER HALIDE EMULSIONS CONTAINING A STABILIZER PYRAZOLONE COUPLER**

Gregory J. Lestina, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 16, 1966, Ser. No. 550,156

Int. Cl. G03c 1/40

U.S. Cl. 96—100 12 Claims

Magenta-forming stabilizer couplers containing from one to two 5-pyrazolone coupler moieties in which each of said 5-pyrazolone coupler moieties has from one to two stabilizer radicals substituted in the 1, 3 or 4 positions of the 5-pyrazolone ring are advantageously incorporated in light-sensitive hydrophilic colloid silver halide emulsion layers. The immediate couplers produce image dyes that exhibit substantially improved stability to prolonged exposure to light.

3,519,430

**PHOTOGRAPHIC SILVER HALIDE EMULSIONS AND ELEMENTS CONTAINING MERCYANINE SENSITIZING DYES**

Donald W. Heseltine and Lewis L. Lincoln, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 29, 1967, Ser. No. 642,156

Int. Cl. G03c 1/22

U.S. Cl. 96—102 13 Claims

Merocyanine dyes derived from  $\beta,\beta$ -naphthothiazole have been found to be excellent spectral sensitizers for silver halide emulsions. These dyes have substantially the same sensitization properties as known corresponding  $\alpha$ -naphthothiazole dyes. However, the  $\beta,\beta$ -naphthothiazole nucleus does not require the use of a carcinogenic intermediate ( $\beta$ -naphthylamine) in its synthesis.

3,519,431

**MILLING OF CEREAL GRAINS AND PROCESSING OF PRODUCTS DERIVED THEREFROM**

Truman B. Wayne, P.O. Box 13086, Houston, Tex. 77019

Filed June 13, 1966, Ser. No. 557,030

Int. Cl. A23i 1/10

U.S. Cl. 99—80 24 Claims

The bran coat of cereal grain is removed in a substantially nonaqueous solvent medium to simultaneously mill the germ fraction and pericarp from the grain while additionally extracting a substantial amount of fatty content. The process also embraces desolventizing and the recovery of unbroken and larger broken milled kernels; the separation and recovery of fibrous, proteinaceous and starch components of cereal grain and, the recovery of solvent and cereal oil which is contained in the extraction steps.

3,519,432

**POTATO CHIP PRODUCT AND PROCESS**

John A. Succo and Rudolph William Youngquist, Cole-rain Township, Hamilton County, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 20, 1966, Ser. No. 603,137

Int. Cl. A23i 1/12

U.S. Cl. 99—100 4 Claims

A formulated potato chip is prepared by admixing comminuted raw potatoes, amylopectin, egg albumen, stearyl monoglyceridyl citrate, shortening, and, optionally, sugar and potato starch to form a homogeneous dough. The dough is formed into thin, substantially elliptical or oval wafers which are frozen to facilitate handling. The wafers are baked to provide a crisp, tasty, edible potato chip which has blistered surfaces resembling those of conventional potato chips prepared by deep fat frying slices of raw potatoes.

3,519,433

**METHOD OF HANDLING ANIMALS**

William O. Reece, Oak Lawn, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed July 19, 1960, Ser. No. 43,743

Int. Cl. A22b 3/00; A23i 1/31

U.S. Cl. 99—107 11 Claims

A method of slaughtering animals is disclosed whereby the animals are injected with a skeletal muscle relaxant in an amount sufficient to substantially inhibit the voluntary and reflex movement of the muscles prior to dispatch. The animals may be injected with a proteolytic enzyme solution and rendered unconscious prior to bleeding.

3,519,434

**HOMOGENEOUS GELLED MEAT PRODUCT AND METHOD OF MAKING SAME**

Harry R. Schuppner, Jr., El Cajon, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 502,446, Oct. 22, 1965. This application June 22, 1966, Ser. No. 559,418

Int. Cl. A22c 21/00, 25/00

U.S. Cl. 99—107 14 Claims

A substantially homogeneous, gelled meat product, said product comprising meat, water, a Xanthomonas hydrophilic colloid and locust bean gum at a total concentration ranging from about 0.02 to about 4% by weight of said water, with the weight ratio of said Xanthomonas hydrophilic colloid to said locust bean gum being such as to form a firm, cohesive, aqueous gel.

A method for preparing a substantially homogeneous gelled meat product, said method comprising forming a hot aqueous mixture containing meat, locust bean gum, and a Xanthomonas hydrophilic colloid, the total concentration of said Xanthomonas hydrophilic colloid and said locust bean gum ranging from about 0.02% to about 4% by weight of said water, and the weight ratio of said Xanthomonas hydrophilic colloid to said locust bean gum being sufficient to form a firm cohesive gel, maintaining said hot aqueous mixture for a time period adequate to permit a sufficient quantity of locust bean gum to go into solution to form a gel through interaction with the Xanthomonas colloid on cooling, and cooling said hot aqueous mixture to form a firm, cohesive gelled meat product.

3,519,435

**FRACTIONATING 99 TO 100% MILK FAT AND MAKING BUTTER FROM THE SEPARATED FATS**

Marjorie S. MacCollom, 168 Winston Way, De Witt, N.Y. 13214

No Drawing. Filed Jan. 17, 1967, Ser. No. 609,741

Int. Cl. A23c 15/12; 15/14

U.S. Cl. 99—118 5 Claims

The fractionation of fats of different melting points from 99 to 100% milk fat by crystallization and subsequent separation by filtering, centrifuge, or decanting, and the manufacture of butter, and other products containing the fractionated fats.

3,519,436

**METHOD FOR MAKING PLASTIC LOW FAT EMULSION SPREAD**

Clifford D. Bauer, Gerald L. Neuser, and Hamilton A. Pinkalla, Milwaukee, Wis., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Continuation of application Ser. No. 532,560, Mar. 8, 1966. This application May 9, 1969, Ser. No. 824,392

Int. Cl. A23d 3/02

U.S. Cl. 99—123 4 Claims

The invention disclosed is directed to a plastic low-fat containing food spread for use as a butter substitute. The food spread is formed of a dispersion of a water-in-oil emulsion that contains considerable amounts of water and various proportions of emulsifiers, edible fats, and flavoring ingredients.

3,519,437

**MEAT FLAVOR COMPOSITIONS**

Christopher Giacino, Upper Nyack, N.Y., assignor to International Flavors & Fragrances Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,036

Int. Cl. A23i 1/22

U.S. Cl. 99—140 14 Claims

Flavor compositions are obtained from a reaction product between 2-aminoethane sulfonic acid and thiamine, and optional additional ingredients such as a source of amino acids. Sources of amino acids are illustrated by proteins, hydrolyzed proteins, free amino acids and the like.

3,519,438

**PROCESS FOR PRODUCING A PACKAGED SMOKE-FLAVORED MEAT PRODUCT**

Francis Glenn Connick, Downers Grove, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Feb. 13, 1967, Ser. No. 615,312

Int. Cl. A23b 1/10

U.S. Cl. 99—169 8 Claims

Canned smoke-flavored meat products such as ham are prepared with liquid smoke, a distillate of wood smoke, by first spraying the liquid smoke onto the interior surfaces of a container and thereafter inserting the meat item into contact with the coated surfaces. Gelatin, which would otherwise react with the liquid smoke, is added in nonflowable form such as dry, flake or encapsulated, on top of the meat item; and the container is then closed and held briefly while the liquid smoke is absorbed on the meat from the container walls. Thereafter the item is heat



processed with the result that the gelatin is solubilized in released juices, and redistributed about the meat items after the liquid smoke has been made unavailable for reaction.

3,519,439

## POPCORN PACKAGE

Richard P. Dunn, Mount Clemens, Mich., assignor to Dun-Hot, Inc., Hazel Park, Mich., a corporation of Michigan

Filed Oct. 3, 1966, Ser. No. 583,590

Int. Cl. A23b 9/00

U.S. Cl. 99—171

1 Claim



A plurality of nestable popcorn kernel packages having an open topped relatively shallow pan provided with an annular flange, a flexible cover extending across and downwardly into the pan and having substantially the same relatively shallow outline as the pan, and a charge of popcorn kernels confined between the pan and cover. The cover is upwardly flexible upon the cooking and expansion of the kernels. The cover is doubled over itself in the area of the flange with an outer edge extending beyond the flange to serve as a pull rim.

3,519,440

## AEROSOL TOPPINGS

Joachim W. Staackmann, Tinley Park, and Arlen R. Campbell, Danville, Ill., assignors to CPC International Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 12, 1967, Ser. No. 645,486

Int. Cl. B65b 31/00

U.S. Cl. 99—189

14 Claims

Aerosol whipped toppings for ice cream and other desserts having a solids content of 60–70% existing in an aqueous emulsion form, which composition includes in carefully proportioned amounts, sugar, fat, non-fat milk solids, water and a unique emulsifying system promoting adequate over-run when expelled from the pressurized container. Composition is also stable and resistant to microbial attack under storage conditions at room temperature.

3,519,441

## PROCESS FOR TREATING FLOUR AND STARCH TO ELIMINATE FREE SH GROUPS

Peter J. Ferrara, 47 E. 87th St., New York, N.Y. 10028, and James A. Snodgrass, Edinburgh, Scotland; said Snodgrass assignor to said Ferrara

No Drawing. Filed Aug. 5, 1966, Ser. No. 570,402

Int. Cl. A21d 6/00

U.S. Cl. 99—216

6 Claims

Preparation of a storage stable flour and/or starch which does not undergo rancidification by heating flour and/or starch to a temperature within the range of 220–305° F., maintaining the flour and/or starch at a temperature within this range, in contact with an atmosphere containing same in an amount of about 92 to 98 mole percent, under a pressure of 5–40 p.s.i.g., for a period of at least ten minutes, this time being sufficient to chemically modify the flour and/or starch so that no free SH groups are present therein and cooling the flour and/or starch.

3,519,442

## APPARATUS FOR DISTRIBUTING A SUBSTANCE THROUGHOUT A MASS OF MATERIAL

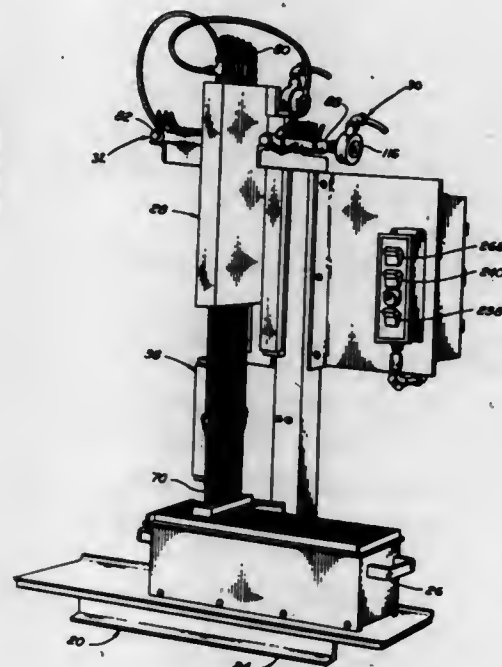
Roland A. Blomgren, Glen Ellyn, and Henry J. Dokter and Robert E. Murphy, Chicago, Ill., and Harry W. Carey and Burton J. Waxler, Lima, Ohio, assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

Filed Sept. 15, 1967, Ser. No. 668,314

Int. Cl. A231 3/34

U.S. Cl. 99—256

10 Claims



An apparatus for injecting first a quantity of gas and then a quantity of additive substance in mixture with gas into a mass of solid or semi-solid material is comprised of a rectangular box for holding the material and a vertically reciprocable injector assembly connected to pressurized sources of gas and additive substance. The box has a foraminous cover to prevent upward displacement of the material therein, and one of the box or injector assembly is indexed horizontally in coordination with the vertical reciprocation of the injector assembly. Valves in the connecting lines for gas and additive substances are actuated in accordance with the vertical movement of the injector assembly. In the preferred form the material box is indexed horizontally by a mechanical element that includes a positive positioning mechanism so as to insure accurate placement and uniform penetration of the material being processed.

3,519,443

## CAPILLARY TYPE INK AND INSTRUMENTS USING THE SAME

Meyer Kaplan, Edison, and Norman Melnick, Highland Park, N.J., assignors to Chemolene Company, Inc., Bordentown, N.J., a corporation of New Jersey

Filed Nov. 9, 1966, Ser. No. 593,182

Int. Cl. C09d 11/00

U.S. Cl. 106—22

12 Claims

Capillary type inks particularly adapted for use in writing instruments and characterized by their quick drying properties and their limited penetration of bond paper when used while the inks are further characterized by being resistant to evaporation on exposure to the atmosphere. The ink comprises a solution of a dye in a liquid medium having a viscosity within the limits of about 0.6 to 200 centipoises at 25° C. and containing at least 10% by weight of formamide.

3,519,444

## STATIC MOLD RELEASE AGENT

Lloyd H. Brown, Crystal Lake, and Daniel S. P. Eftax, Barrington, Ill., assignors to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed Apr. 12, 1968, Ser. No. 721,112

Int. Cl. B28b 7/36

U.S. Cl. 106—38.24

1 Claim

A method of making static molds which includes coating the shaping surface with an aqueous release agent suspension comprising specified quantities of: gel forming mineral powder, such as Western bentonite; lubricating powder such as graphite; and soap.

3,519,445

Al<sub>2</sub>O<sub>3</sub>-P<sub>2</sub>O<sub>5</sub>-B<sub>2</sub>O<sub>3</sub> GLASS-CERAMIC ARTICLES AND METHODS

John F. MacDowell and Lois E. Wilson, Painted Post, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed Nov. 6, 1967, Ser. No. 681,004

Int. Cl. C03c 3/22

U.S. Cl. 106—39

9 Claims

This invention relates to glass-ceramic articles in the Al<sub>2</sub>O<sub>3</sub>-P<sub>2</sub>O<sub>5</sub> composition field wherein boric oxide (B<sub>2</sub>O<sub>3</sub>) constitutes the nucleating agent or crystallization catalyst and, particularly, to such glass-ceramic articles which are transparent and stable in the presence of alkali metal vapors even at high temperatures, recommending their use as high temperature lamp envelopes.

3,519,446

## CERAMIC MATERIAL

John A. Earl, Alhambra, Calif., assignor, by mesne assignments, to Physical Sciences Corporation, Los Angeles, Calif., a corporation of California

No Drawing. Continuation of application Ser. No.

288,440, June 17, 1963. This application Sept. 19, 1968, Ser. No. 764,021

Int. Cl. C03c 3/10

U.S. Cl. 106—53

3 Claims

Hermetic seal provided by two frits, viz K-Pb-As-Al-SiO<sub>2</sub> and Na-Al-B-Ti-SiO<sub>2</sub>; and optionally containing oxides of Li and Co.

3,519,447

## CERAMIC REFRACTORY

Edward F. Adams, Corning, and George D. McTaggart and Emerson K. Norman, Horseheads, N.Y., assignors, by mesne assignments, to Corhart Refractories Company, a corporation of Delaware

Filed Aug. 21, 1967, Ser. No. 661,999

Int. Cl. C04b 35/48

U.S. Cl. 106—57

5 Claims

Shaped sintered refractory ceramic bodies of zirconia-alumina-silica are described. Zirconia constitutes from 60 to 90% by weight of the sintered products. The zirconia is not stabilized. Nevertheless, and despite the high zirconia content, substantially crack-free sintered bodies of practical size for use in glass-melting tanks are produced. These refractory bodies are resistant to corrosion by molten glass at high use temperatures and exhibit low stoning potential. A schedule for the successful firing of green bodies of the compositions is disclosed.

3,519,448

## ZIRCONIA-ALUMINA FUSED REFRACTORY MATERIALS AND STRUCTURES

Allen M. Alper and Robert N. McNally, Corning, N.Y., assignors to Corhart Refractories Company, Louisville, Ky., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 643,337, June 5, 1967. This application Jan. 26, 1968, Ser. No. 700,748

Int. Cl. C04b 35/48

U.S. Cl. 106—57

15 Claims

Fused refractory materials and structures of the zirconia-alumina type containing large zirconia crystals as a primary phase. Composition consists essentially of, analytically by weight: at least 50% ZrO<sub>2</sub>, 1 to 29% Al<sub>2</sub>O<sub>3</sub>, 0.1 to 25% SiO<sub>2</sub>, 0.5 to 15% rare earth oxide, 0 to 6% P<sub>2</sub>O<sub>5</sub>, 0 to 5% alkaline earth oxide, 0 to 4% alkali oxide, 0 to 47% Cr<sub>2</sub>O<sub>3</sub>, 0 to 25% FeO, 0 to 4% halogen, and at least 90% of ZrO<sub>2</sub> plus Al<sub>2</sub>O<sub>3</sub> plus SiO<sub>2</sub> plus rare earth oxide plus Cr<sub>2</sub>O<sub>3</sub> plus FeO plus halogen. Structures useful in glass tanks exhibit corrosion, wear, high temperature and thermal shock resistance and low blistering and stoning.

3,519,449

## CEMENTITIOUS COMPOSITIONS HAVING INHIBITED SHRINKAGE AND METHOD FOR PRODUCING SAME

Henry Nash Babcock, Old Greenwich, Conn., assignor to U.S. Grout Corporation, Old Greenwich, Conn., a corporation of Connecticut

No Drawing. Filed May 22, 1967, Ser. No. 640,408

Int. Cl. C04b 7/02, 7/12

U.S. Cl. 106—89

11 Claims

The shrinkage of aqueous hydraulic cement mixtures is eliminated by incorporating therein a fluid coke with a controlled amount of moisture less than about 3% by weight. The amount of fluid coke that may be used to eliminate the shrinkage is less than 10% based on the weight of the cement in the mixture.

3,519,450

## BINDING COMPOSITION

Charles Polla, 46—58 158th St.,

Flushing, N.Y. 11358

No Drawing. Filed Oct. 16, 1967, Ser. No. 675,314

Int. Cl. C04b 11/14

U.S. Cl. 106—114

5 Claims

A binding composition comprising a gypsum plaster, a lightweight granular aggregate and wheat paste, said wheat paste being present in an amount of 3% to 20% based on the dry weight of the total composition.

3,519,451

## METHOD FOR PRODUCING A HYDROLYZED CASEIN DERIVATIVE LOW IN CALCIUM

Samuel Loshak, Stamford, Conn., and Harold K. Salzberg, Bainbridge, N.Y., assignors to Borden, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Original application Nov. 27, 1963, Ser. No. 326,378, now Patent No. 3,421,918, dated Jan. 14, 1969. Divided and this application Aug. 6, 1968, Ser. No. 765,728

Int. Cl. C08h 7/00

U.S. Cl. 106—138

6 Claims

Casein is dissolved in an aqueous alkali at pH above about 11.5 together with about 4–10 parts by weight per 100 parts casein of a calcium ion suppressant selected from the group consisting of sodium oxalate, sodium fluoride, and sodium citrate. This solution is then heated with stirring to a temperature above 160° F. for a time between about 10–90 minutes at a pH above about 11.5. This reaction mixture is then filtered to remove the in-



soluble calcium salts leaving a hydrolyzed casein derivative having less than 0.2% calcium and capable of forming sprayable, clear, amber solutions in ethanol.

### 3,519,452 SULFONATED CARBON BLACK PIGMENTED COMPOSITIONS

Donald Rivin, Framingham, Mass., Jerome Aron, Providence, R.I., and Haig C. Donolan, Chelmsford, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware  
No Drawing. Filed Mar. 9, 1967, Ser. No. 621,758  
Int. Cl. C08h 9/00; C09d 11/06, 11/10

U.S. Cl. 106—261 9 Claims  
Coating compositions based on organic vehicles such as lacquers and inks, which compositions contain sulfonated carbon blacks and manifest improved properties of masstone jetness, blueness and viscosity stability. For example, the jetness, blue tone, and viscosity stability properties of lacquers based on such synthetic resins as acrylic and alkyd melamine resins and the properties of inks based on substantially aliphatic drying oils media such as heat bodied linseed oil are found to be enhanced by the incorporation of sulfonated carbon black pigments.

### 3,519,453 CLAY PRODUCTS AND METHOD OF PRODUCING SAME

Horton H. Morris and Kenneth L. Turner, Gordon, Ga., assignors to Freeport Sulphur Company, New York, N.Y., a company of Delaware  
Filed Apr. 10, 1967, Ser. No. 629,699  
Int. Cl. C08h 17/06; C09c 1/42

U.S. Cl. 106—288 8 Claims  
New clay products having a novel and improved combination of properties including opacifying powers, particle size, surface area, oil absorption, G.E. brightness and color as well as low abrasion and comprising individual clay platelets adhered together providing increased void volume and high bulking properties that make them useful and uniquely desirable alone as paper fillers, prime or top coating pigments and particularly in combination with other well-known filler, prime or top coating pigments. The new clays also reduce pigment costs for obtaining high opaque papers and can be applied as top or prime coatings at low coat weights.

A method of producing the novel clay products, advantageously from coarse kaolin clay fractions which have been delaminated and which are substantially free of undelaminated aggregates and booklets, by heating the fractions in a specified manner until the combined properties, including opacity, particle size, surface area, oil absorption, G.E. brightness, color and abrasion are changed to form a unique and desirable structural product having clay particles adhered together, thereby providing a product having increased void volume within its structure. The method is also applicable to fine domestic kaolin clay fractions which have been delaminated.

### 3,519,454 KAOLIN SLURRIES CONTAINING PEROXY-HYDRATES AS GERMICIDES

Edgar W. Sawyer, Jr., Metuchen, and Charles G. Albert, Basking Ridge, N.J., and John G. Miller, Philadelphia, Pa., assignors, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Edison, N.J., a corporation of Delaware  
No Drawing. Filed Sept. 27, 1967, Ser. No. 671,104  
Int. Cl. C08h 17/06, 17/64

U.S. Cl. 106—288 10 Claims  
Kaolin slurries adapted for use in preparing clay-coated paper are treated with peroxyhydrate compounds in order to control the population of micro-organisms by mycoid and mycostatic action.

3,519,455  
TREATMENT OF CARBON BLACK  
Yuan C. Fu, Pittsburgh, Pa., assignor to Phillips Petroleum Company, a corporation of Delaware  
No Drawing. Original application Nov. 30, 1964, Ser. No. 414,840, now Patent No. 3,391,105, dated July 2, 1968. Divided and this application Mar. 28, 1968, Ser. No. 717,015

Int. Cl. C09c 1/56 3 Claims  
U.S. Cl. 106—307  
Carbon black is contacted with thiourea at elevated temperatures in a substantially stagnant air atmosphere to reduce the pH and increase the volatile content of the carbon black.

3,519,456  
TRANSFER MATERIALS  
Kenneth James Reed and Alan Lennox Lythgoe, London, England, assignors to Letraset Limited, London, England, a British company  
No Drawing. Filed Feb. 2, 1965, Ser. No. 429,904  
Claims priority, application Great Britain, Feb. 4, 1964, 4,749/64; July 1, 1964, 27,218/64  
Int. Cl. B41m 3/12; B44c 1/00

U.S. Cl. 117—3.1 3 Claims  
Transfer materials in which an image, design or printed matter (generally referred to as indicia) are transferred from a carrier sheet to a receptor surface are described. The transfer sheet comprises a carrier sheet, and, superimposed on a face of said sheet, a layer of one or more indicia in the form of a transferable cohesive ink composition comprising a mixture of a tacky pressure-sensitive component, a low-tack deformable component, a high tensile strength polymer and a pigment, the cohesive ink composition having a surface of low-tack.

3,519,457  
TREATMENT OF INGOT MOULDS  
Roderic H. Hammerton and Anthony C. Wardell, both of 285 Long Acre, Nechells, Birmingham 7, England  
No Drawing. Filed Dec. 29, 1966, Ser. No. 605,619  
Claims priority, application Great Britain, Dec. 30, 1965, 55,241/65  
Int. Cl. B28b 7/36, 7/38

U.S. Cl. 117—5.3 3 Claims  
A process for treating the bottom of ingot moulds with a dry layer of a composition comprising a finally divided refractory material and both solid and liquid thermosettable or chemically hardenable synthetic resins. The layer is heated to bond the powder onto the bottom plate. Such a coating minimizes normal damage resulting from impacting streams of molten metals.

3,519,458  
METHOD FOR REDUCING THE CORROSION SUSCEPTIBILITY OF FERROUS METAL HAVING FLUXING AGENT RESIDUE  
Werner Rausch, Stierstadt, Taunus, Germany, assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York  
No Drawing. Filed Feb. 23, 1967, Ser. No. 617,793  
Claims priority, application Germany, Mar. 1, 1966, 1,521,869  
Int. Cl. C23f 11/00; C23g 1/14

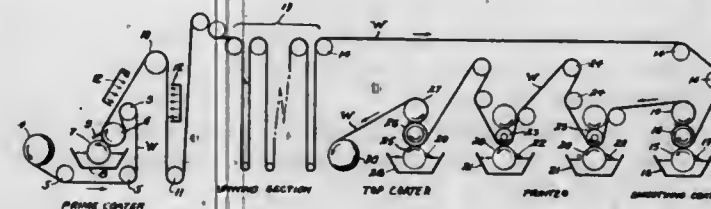
U.S. Cl. 117—6 4 Claims  
A process for treating ferrous metal surfaces contaminated with a welding or soldering flux wherein such surfaces are contacted with a composition containing an organic amine having a solubility in water of at least 0.5 gram per liter and a pK value in excess of 7 and an organic dissolving or solvating aid which is soluble in both water and mineral oil. Suitable amines which may be used are the alkanol amines, such as mono-, di-, and triethanolamine, while suitable dissolving aids include ethoxylated materials such as butylmonoglycol ether and

alcohols such as cyclohexanol. These compositions may be applied to the ferrous surfaces containing fluxing agent residues by brushing, spraying, or the like processes, and may be retained on the surface until it is subjected to the normal aqueous cleaning process prior to further metal treatment, such as phosphating, lacquering or the like.

3,519,459  
PROCESS FOR PRODUCING FINELY POROUS COATINGS  
Peter Hofmann and Christian Guth, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland  
No Drawing. Filed Aug. 31, 1965, Ser. No. 484,088  
Claims priority, application Switzerland, Sept. 23, 1964, 12,360/64  
Int. Cl. B44d 1/32; D06q; D21h 1/10

U.S. Cl. 117—11 13 Claims  
A process is provided for forming finely porous coatings on textiles. In this process the textile to be treated is coated with a mixture containing a (1) polymerizable resin that will cross-link with or without an aminoplast or an epoxide, (2) optionally, an aminoplast or epoxide, (3) a porous granular substance which is insoluble in water, and (4) a substance that prevents the granular substances from being completely enveloped. The coating mixture is then cross-linked. Thereafter, if desired, the granular substance is converted into a water-soluble form and washed out.

3,519,460  
WEB PRINTING AND COATING METHOD AND APPARATUS  
Edward R. Erb, Geryville, Pa., assignor to GAF Corporation, a corporation of Delaware  
Continuation of application Ser. No. 270,591, Apr. 4, 1963. This application Mar. 8, 1967, Ser. No. 633,647  
Int. Cl. B41m 1/38; B05c 1/12  
U.S. Cl. 117—15 21 Claims

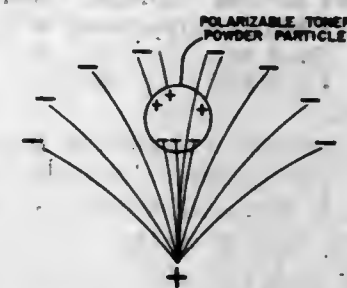


Method and apparatus for use in coating a web in the manufacture of surface type covering material, especially fibrous webs employed in the manufacture of floor covering material. According to the method and apparatus the web is coated with a heat hardenable liquid polyvinyl resin organosol and is then passed into the nip of a rubber roll and a heated metal roll to develop a bead of liquid resin material in the nip from which coating material in liquid form is distributed on the surface of the web as it enters the nip, the coated side of the web being maintained in contact with the heated roll beyond the nip to harden the coating material.

3,519,461  
ELECTROSTATIC DIPOLE PRINTING  
Philip A. Stowell, Paoli, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan  
Continuation-in-part of application Ser. No. 379,088, June 30, 1964, and also is a continuation of application Ser. No. 733,184, Apr. 19, 1968. This application Sept. 2, 1969, Ser. No. 856,893  
Int. Cl. G03g 13/00

U.S. Cl. 117—17.5 15 Claims  
A method of electrostatic printing by producing electrical dipoles on a dielectric surface, introducing un-

charged polarizable toner powder particles into the field created by the dipoles, and causing the particles to be



polarized in this field, and thereby be attracted to and deposited upon the dipole areas of the dielectric surface.

3,519,462  
METHOD OF IMPREGNATING POLYMETHYL METHACRYLATE  
Alexander Christian Bristol, Stamford, and Allan Ellis Sherr, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Filed Mar. 21, 1966, Ser. No. 535,704  
Int. Cl. B44d 5/06; C09d 5/18, 5/22  
U.S. Cl. 117—33.3 3 Claims

A method of impregnating a plastic material without introducing distortions to its surface which comprises immersing the plastic in a heated bath comprising propylene glycol and a plastic additive such as a U.V. absorber or an I.R. absorber; removing the plastic from the bath; and evaporating off the glycol thereby leaving the impregnated plastic material with an undistorted surface.

3,519,463  
ADHESIVE INK  
Henry H. Baum, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland  
No Drawing. Filed Mar. 1, 1967, Ser. No. 619,609  
Int. Cl. B41c 1/06; B41m 5/02  
U.S. Cl. 117—36.1 1 Claim

The novel heat sensitive element of this invention comprises a support, preferably a flexible backing such as paper, upon which is coated at least one layer of a novel composition in a state of at least partial crystallization. In a state of at least partial crystallization the composition is substantially nontacky, nonfluid, and solid at room temperature. When heated to a temperature substantially elevated above room temperature, the heat sensitive novel coating of this invention undergoes a transition to an amorphous state and, thereafter, for a substantial period of time, exhibits a tackifying temperature substantially below the original tackifying temperature. Since only the image areas in the heat-sensitive layer are selectively heated by conductive heat transfer to a temperature above the original tackifying temperature, only the image areas of the heat-sensitive coating are activated. After activation, the material in the coating composition of this invention remains tacky while the tacky coating is brought into contact with a plurality of copy papers to which copy papers the heat-sensitive coating is selectively transferred in the image areas.

The range of the components of the composition of this invention is set forth as follows:

	Percentage by weight, dry basis
(I) Hydrogenated rosin	5-20
(II) Polyvinylacetate copolymer	5-20
(III) Film-forming transfer regulator	1-4
(IV) Plasticizer	50-70
(V) Carbon black	4-15
(VI) Diazo dye	2-15



3,519,464

**MASTER PAPER FOR THERMAL PAGE PRINTER**  
Lester Alfred Balster and Daniel Joseph Kay, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland  
No Drawing. Filed Mar. 1, 1967, Ser. No. 619,602  
Int. Cl. B41c 1/06; B41m 5/02

U.S. Cl. 117—36.1

1 Claim

The novel heat sensitive element of this invention comprises a support, preferably a flexible backing such as paper, upon which is coated at least one layer of a novel composition in a state of at least partial crystallization. In the state of at least partial crystallization the composition is substantially nontacky, nonfluid, and solid at room temperature. When heated to a temperature substantially elevated above room temperature, the heat sensitive novel coating of this invention undergoes a transition to an amorphous state and thereafter, for a substantial period of time, e.g., twenty minutes, exhibits a tackifying state at a temperature substantially below the original tackifying temperature. Since only the image areas in the heat-sensitive layer are selectively heated by conductive heat transfer to a temperature above the original tackifying temperature, only the image areas of the heat-sensitive coating are activated. After activation, the material in the image areas remain tacky at substantially lower temperatures while the unactivated background areas remain nontacky at this lower temperature.

The range of the components of the composition of this invention is set forth as follows:

	Percentage by weight, dry basis
(I) N-ethyl-p-toluene sulfonamide	50-70
(II) Glycerol ester of hydrogenated rosin	5-10
(III) Chlorinated rubber	2.5-4
(IV) Diazo dye	2-15
(V) Carbon black	1-10
(VI) Casein	1-5
(VII) Vinylacetate polymer, modified	6-12
(VIII) Sodium silicate	1-5

3,519,465

**EPOXY RESIN BONDED TO CURED SILICONE RUBBER AND METHOD OF FORMING**  
Marvin E. Lyles, Garden Grove, Calif., assignor to Beckman Instruments, Inc., a corporation of California  
No Drawing. Continuation of application Ser. No. 492,873, Oct. 4, 1965. This application June 28, 1968, Ser. No. 745,073

Int. Cl. B44d 1/14; B32b 27/38

U.S. Cl. 117—47

10 Claims

A bond is formed between a surface of cured silicone rubber and an epoxy resin overcoat by applying a thin layer of primer to the silicone rubber, allowing it to stand for about half an hour, and wiping off. The desired polymerizable epoxy resin is placed onto the so-treated area and allowed to cure. The primer comprises an epoxy material, a vinyl aromatic material, and a vinyl silane, the latter two capable of cross-linking with the epoxy material. The treatment enables a firm bond to be made.

3,519,466

**METHOD FOR COLOR PRINTING THERMOPLASTIC OR RUBBER ARTICLES**  
Akiyuki Akamatsu, Yokohama, Japan, assignor to Toyo Kako Co., Ltd., Tokyo, Japan, a corporation of Japan  
No Drawing. Filed July 11, 1966, Ser. No. 563,965  
Claims priority, application Japan, July 15, 1965, 40/42,263

Int. Cl. D06p 1/76

U.S. Cl. 117—38

8 Claims

A process for printing on a molded article of a thermoplastic resin or a rubber which comprises heating an

ink containing a benzene-soluble, reactive dye and a wetting agent soluble in benzene in contact with the surface of the molded article which contains an organometallic compound, at a temperature higher than 50° C. but lower than the softening point of the article, whereby the dye permeates the article and reacts with the organometallic compound to become fixed therein. The formed print is resistant to abrasion and solvents and is sharp. The amount of the organometallic compound required to fix the dye is 0.01 to 3.0% of the article and the amount of the wetting agent is 3 to 30%. The wetting agent serves to dissolve the ink and may be a mineral oil, an animal or vegetable fat or oil, a plasticizer, a higher fatty acid or the like.

3,519,467

**FORMATION OF THIN OXIDE LAYERS**

Emile Plumet, Gilly, Pierre Bohain, Montignies-sur-Sambre, and Albert Servais, Gomelles, Belgium, assignors to Glaverbel S.A., Brussels, Belgium

Filed May 17, 1967, Ser. No. 639,082

Claims priority, application Luxembourg, May 18, 1966, 51,137

Int. Cl. C03c 17/10

U.S. Cl. 117—54

10 Claims

An improved technique for coating a surface with a metal oxide layer of uniform thickness by applying a solution of a compound, other than the oxide, of the metal, the uniformity of the resulting oxide layer being improved by preliminarily moistening, or superficially wetting the surface to be coated with a solvent for the starting metal compound, the metal compound being subsequently oxidized to form the desired coating.

3,519,468

**NOVEL WOOD STRUCTURES AND THEIR MANUFACTURE**

Gordon E. Brown and Richard R. Huff, Seattle, Wash., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 311,240, Sept. 24, 1963. This application Aug. 28, 1968, Ser. No. 755,791

Int. Cl. C08k 1/32, 1/70

U.S. Cl. 117—65.2

2 Claims

In overlays for wood products formed from a mixture of wood fibers having a bulk density of up to about 0.16 gram/cc. and an aqueous phenol-formaldehyde resole resin solution, the improvement which comprises employing an acid catalyst to cure the resole resin and/or employing a sulfonated phenol-formaldehyde resole resin in admixture with the wood fibers.

3,519,469

**STRUCTURAL BOARD COMPOSED OF WAX-COATED CELLULOSIC PARTICLES**

Howard B. Berrong, Wilton, Conn., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Apr. 19, 1966, Ser. No. 543,560

Int. Cl. B05b 7/14

U.S. Cl. 117—100

10 Claims

A process is provided for coating cellulosic material by heating a wax, capable of forming an emulsion with water, to its melting point, contacting the thus-melted wax with steam, subjecting the resulting mixture to mechanical atomization to form an aqueous emulsion of finely divided wax particles and contacting cellulosic material with the aqueous emulsion thus formed.

3,519,470

**METHOD FOR TREATING PACKAGING MATERIAL WITH A HYDROCOLLOID RELEASE COATING**

Arthur L. Gordon, Des Plaines, and Leonard A. Warwick, Niles, Ill., assignors to Kraftco Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 10, 1967, Ser. No. 652,041

Int. Cl. B44d 5/08

U.S. Cl. 117—86

11 Claims

A release agent for packaging materials to be used with food products and a method for providing improved release properties for such packaging materials. The release agent is a thin film or layer of a suitable hydrocolloid. Suitable hydrocolloids may be selected from treated or untreated starches, polysaccharide gums, farinaceous materials or modified cellulose materials.

3,519,471

**PROCESS FOR PRODUCING COATED LIME PRODUCT**

Thomas E. Ban, Cleveland Heights, Ohio, assignor to McDowell-Wellman Engineering Company, a corporation of Ohio

Filed June 30, 1967, Ser. No. 650,458

Int. Cl. B44d 1/94

U.S. Cl. 117—100

1 Claim



A coated ferro-lime product is provided which is useful as a flux material, and comprising a core of lime and having a protective coating of ferruginous material surrounding said core. The product is produced by coating limestone rubble with iron oxide, or iron oxide-carbon mixtures, charging the coated limestone to a traveling grate, and exposing the particles to a hot gas draft that causes calcination and vitrification.

3,519,472

**MANUFACTURE OF SILICON CARBIDE**

Michael David Cameron Dyne, Great Shelford, and Christopher Charles Evans, Saffron Walden, England, assignors to National Research Development Corporation, London, England

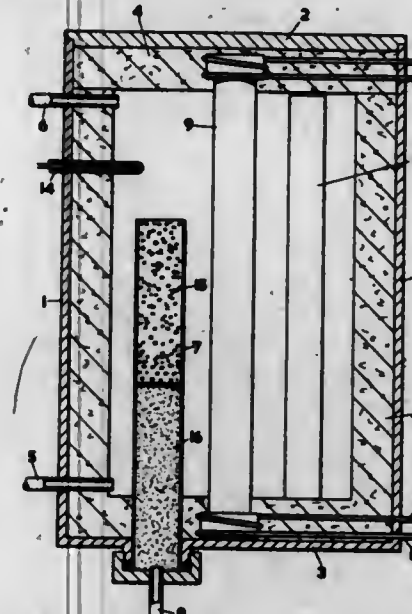
Filed Mar. 28, 1968, Ser. No. 716,937

Claims priority, application Great Britain, Mar. 29, 1967, 14,211/67

Int. Cl. C23c 13/04

U.S. Cl. 117—106

9 Claims



A process for the manufacture of silicon carbide whiskers which comprises reacting at a temperature between about 1200° C. and 1600° C. silicon monoxide vapor and carbon monoxide in the presence of hydrogen and solid-

phase carbon, and providing adjacent these reactants a substrate heated to a temperature above about 1200° C. whereby silicon carbide is formed as whiskers upon the surface of the substrate.

3,519,473

**PROCESSES FOR THE DEPOSITION OF NICKEL COATINGS**

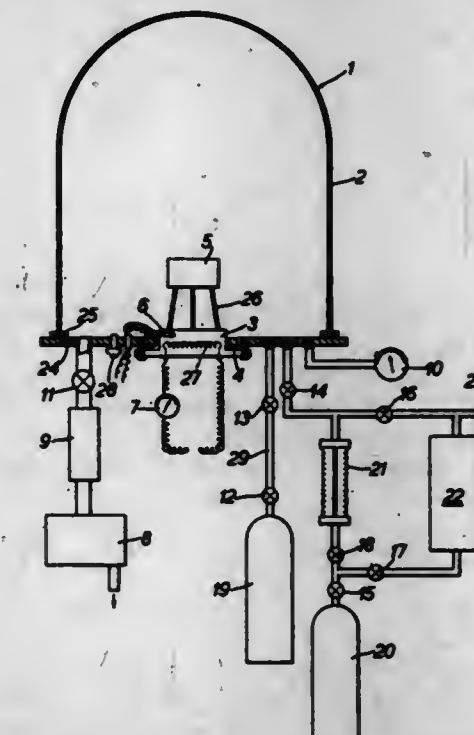
Arthur Ross Popley, Tadley, England, assignor to United Kingdom Atomic Energy Authority, London, England  
Filed July 17, 1967, Ser. No. 653,984

Claims priority, application Great Britain, July 22, 1966, 33,168/66

Int. Cl. C23c 11/02

U.S. Cl. 117—107.2

10 Claims



Surfaces are coated with nickel by exposing the surfaces to an atmosphere comprising a mixture of nickel carbonyl vapour and carbonyl sulphide vapour. Diluent inert gas may be added to the vapour mixture.

3,519,474

**LIGHT-DIFFUSING SURFACES FOR GLASS-CERAMIC ARTICLES**

Ann F. Bopp, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed Feb. 2, 1967, Ser. No. 613,420

Int. Cl. C03c 17/22

U.S. Cl. 117—124

3 Claims

This invention relates to the formation of a light-diffusing and chemically resistant surface on a side of a sheet of glass-ceramic by applying a thermally-decomposable material, such as CaCO<sub>3</sub>, to one surface of an uncerammed sheet of glass-ceramic and heating the sheet and CaCO<sub>3</sub>, so as to react the CaCO<sub>3</sub> with the surface to form the desired surface and to ceram the uncerammed glass-ceramic.

3,519,475

**THERMOSETTING RESIN COATED ASBESTOS YARN FOR USE IN DRYER'S FELTS**

Clifford Hoyle, Asbestos, Quebec, Edgar Gardner Stevens, Danville, Quebec, and John Maxwell Gibb, Ville La Salle, Quebec, Canada, assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 9, 1966, Ser. No. 680,360

Int. Cl. B32b 19/02; D03d 15/12

U.S. Cl. 117—126

4 Claims

An improved heat and moisture resistant paper maker's dryer felt, comprising an open weave construction of a



composite of textile fibers including asbestos fiber with the asbestos fiber coated with thermosetting acrylic resin.

### 3,519,476 PROCESS FOR IMPREGNATING WOOD AND PRODUCTS THEREOF

Bart J. Bremmer and Lawrence F. Sonnabend, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed Nov. 22, 1967, Ser. No. 684,955  
Int. Cl. C09d 5/18; B27k 3/50

U.S. Cl. 117—136 10 Claims  
A process for impregnating wood with a dimensionally stabilizing and fire-retardant resin which comprises: (1) reacting a mixture of a phenol and  $\text{NH}_3$  urea or an amine with an aldehyde, and then adding an acid to that reaction mixture; (2) impregnating the wood with the above product; and (3) contacting the impregnated wood with heat alone, or heat and an excess of  $\text{NH}_3$  or an amine to cure the resin.

### 3,519,477 SIZING CELLULOSIC AND ACRYLIC STAPLE FIBER YARNS WITH ACRYLONITRILE/ ACRYLIC ACID COPOLYMER

Hans Wolf, Ludwigshafen (Rhine), Herbert Spoor, Mutterstadt, Pfalz, and Wilhelm Ruemens and Heinz Poble-mann, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany  
No Drawing. Filed Jan. 31, 1967, Ser. No. 612,811  
Claims priority, application Germany, Feb. 1, 1966, 1,594,905

Int. Cl. D02g 3/40; B32b 27/08, 27/12  
U.S. Cl. 117—139.5 8 Claims  
Sizing materials for stable yarns consisting of, or containing, a water-soluble polymer which contains copolymerized units of (a) acrylonitrile and (b) acrylic acid and its sodium or ammonium salt in the molar ratio of (a):(b)=1:1.5 to 1:7.

### 3,519,478 PAPER IMPREGNATION WITH BLOCKED URETHANE PREPOLYMERS

Charles H. Howell, Jr., Newark, N.J., assignor to Diamond Shamrock Corporation, Cleveland, Ohio, a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 525,303, Feb. 7, 1966. This application Jan. 10, 1969, Ser. No. 790,478

Int. Cl. B44d 1/46; B32b 27/10  
U.S. Cl. 117—155 1 Claim  
A paper substrate is treated with an aqueous emulsion containing a urethane prepolymer having blocked isocyanate groups capable of being unblocked, a surfactant and water and thereafter heated to unblock the blocked urethane prepolymer and to cure the resulting unblocked prepolymer.

### 3,519,479 METHOD OF MANUFACTURING SEMICONDUCTOR DEVICE

Morio Inoue and Gota Kano, Suita-shi, and Jinichi Matsuno and Shigetoshi Takayanagi, Kyoto, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan  
Filed Dec. 6, 1966, Ser. No. 599,613  
Claims priority, application Japan, Dec. 16, 1965, 40/77,689, 40/77,690, 40/77,691

Int. Cl. H01l 7/00, 7/36  
U.S. Cl. 117—200 8 Claims  
In an improved chemical evaporation-deposition method, hydrogen and halides of tungsten or molybdenum

in gaseous form are preheated and deposited as a metal film on a substrate held at a temperature below  $500^\circ\text{C}$ . In this method, an improved semiconductor device having a Schottky barrier on a semiconductor substrate and other electrical devices employing the metal film on the substrate are manufactured.

### 3,519,480 PROCESS FOR TREATING PHOTOCONDUCTIVE CADMIUM SULFIDE LAYERS

Franz Trautweiler, Pittsford, and Otis G. Peterson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Filed Jan. 13, 1967, Ser. No. 608,957  
Int. Cl. B44d 1/48; G03g 5/02

U.S. Cl. 117—201 4 Claims  
To increase the photoconductivity of thin, vacuum-deposited cadmium sulfide layers, they are reacted with vapors of a cuprous halide or a silver halide at elevated temperatures and under reduced pressure. Overexposure to these vapors causes a decline in the ratio of light conductivity to dark conductivity from a previously obtained maximum, but such photoconductivity can be reversibly regulated and restored at least to such previously obtained maximum by subsequently treating the overexposed cadmium sulfide layer to vapors of cadmium metal under similar conditions of elevated temperature and reduced pressure.

### 3,519,481 METHOD FOR FORMING THIN FILMS HAVING SUPERCONDUCTIVE CONTACTS

Reuben E. Joynton and Constantine A. Neugebauer, Schenectady, and John R. Ralston III, Niskayuna, N.Y., assignors to General Electric Company, a corporation of New York  
Filed Oct. 14, 1966, Ser. No. 586,808  
Int. Cl. H01v 11/02

U.S. Cl. 117—212 6 Claims



Superconductive contacts are formed on a thin film of niobium, tantalum and their alloys by the selective deposition of a superconductive contact metal atop the film within the chamber employed for the film deposition without breaching the vacuum of the chamber between depositions. Preferably metals forming a soft oxide layer, e.g. tin, are employed to form the contacts and the strain between the contacts and film desirably may be reduced by the selective deposition of an alloy of the contact metal and film metal in registration with the contact location prior to the deposition of only the contact metal thereon. Superconductive contacts also can be deposited atop an oxidized film of niobium, tantalum and their alloys by initially baking the film in vacuum to dissolve the surface oxide layer in the underlying metal and subsequently vacuum depositing the superconductive contacts atop the clean film surface.

### 3,519,482 METHOD OF PREPARING LOW D.E. STARCH HYDROLYSATES

Raoul G. P. Walon, Brussels, Belgium, assignor to CPC International Inc., a corporation of Delaware  
No Drawing. Filed Oct. 10, 1967, Ser. No. 674,347  
Int. Cl. C13k 1/06; C08b 25/02

U.S. Cl. 127—38 5 Claims  
A procedure for preparing low D.E. starch hydrolysates by treating starches with a cation exchange resin to hy-

drolyze the starch to a product starch hydrolysate having a D.E. ranging from about 10 to about 45, and more often 10-40. The starch hydrolysate product is especially characterized as having a relative low ash content, essentially that of the starting basic starch material.

### 3,519,483 SEPARATOR FOR ALKALINE ELECTRIC BATTERIES AND METHOD OF MAKING

Helmuth Louis Pfleger and Howard Eugene Hoyt, Huntingdon Valley, Pa., assignors to Borden, Inc., New York, N.Y., a corporation of New Jersey  
No Drawing. Filed Nov. 2, 1967, Ser. No. 679,987

Int. Cl. H01m 35/00, 3/00  
U.S. Cl. 136—6 12 Claims  
This invention relates to battery separator membranes of high electrolytic conductivity comprising a cellulose ether and a compatible metallic salt of water soluble aliphatic acids and their hydroxy derivatives.

### 3,519,484 SEPARATOR FOR ALKALINE ELECTRIC CELLS AND METHOD OF MAKING

Helmuth Louis Pfleger and Howard Eugene Hoyt, Huntingdon Valley, Pa., assignors to Borden, Inc., New York, N.Y., a corporation of New Jersey  
No Drawing. Filed Nov. 2, 1967, Ser. No. 679,996  
Int. Cl. H01m 3/00, 35/00

U.S. Cl. 136—6 11 Claims  
This invention relates to the battery separator membranes of high electrolytic conductivity comprising a cellulose ether and a compatible water-soluble base and to batteries utilizing said membranes.

### 3,519,485 ELECTRODES FOR ELECTROCHEMICAL GENERATORS

René Chassoux, Talence, and Jean Pierre Cailley, Ambares, France, assignors to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France  
Filed July 2, 1968, Ser. No. 742,021

Claims priority, application France, July 5, 1967, 113,228; June 14, 1968, 155,121  
Int. Cl. H01m 35/06, 35/20

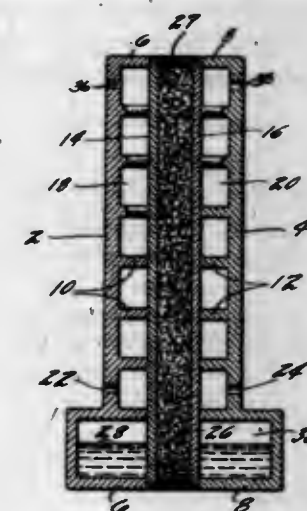
U.S. Cl. 136—56 21 Claims  
Electrodes for electrochemical generators such as storage batteries comprising a metal frame in which a perforated sheet such as a grid or screen is fixed to the frame in a mid-plane position with reference to the electrode thickness as by tabs extending from the frame and welded to the perforated sheet to fix its location, the active agglomerated powder electrode material being applied to both faces of the perforated sheet and compressed against said sheet and cominglingly interpenetrating the perforations of the said sheet.

### 3,519,486 CONTROL OF ELECTROLYTE IN A FUEL CELL

Richard G. Huebscher, Mayfield Village, and Thomas H. Hacha, Willoughby, Ohio, assignors, by mesne assignments, to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Filed Oct. 6, 1966, Ser. No. 584,849

Int. Cl. H01m 27/00  
U.S. Cl. 136—86 3 Claims  
A trapped electrolyte fuel cell is disclosed wherein excess electrolyte seeps through the electrodes and is allowed to drain down the sides of the electrodes into the electrolyte reservoir at the bottom of the cell. When operating

conditions require additional electrolyte, the electrolyte within the reservoir is absorbed by the matrix and car-

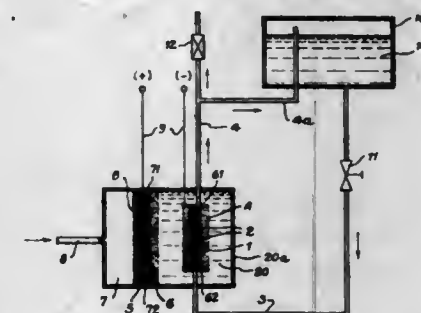


ried up into the operative portions of the cell by capillary action.

### 3,519,487 VENTED POROUS FUEL CELL ELEMENT AND PROCESS

Günter Wolf and August Winsel, Kelkheim, Germany, assignors to Varta Aktiengesellschaft, Frankfurt am Main, Germany  
Filed Oct. 5, 1967, Ser. No. 673,214

Claims priority, application Germany, Oct. 8, 1966, 1,596,304  
Int. Cl. H01m 27/12  
U.S. Cl. 136—86 12 Claims



A fuel cell with one or more porous gas diffusion electrodes which are composed of two fine pore covering layers and at least one coarser pore catalyst working layer in which hydrazine is converted into hydrogen and nitrogen, is provided with means for both venting a gaseous by-product such as nitrogen from the cell and regulating the flow of a liquid containing hydrazine, or a salt thereof, or a liquid containing hydrogen peroxide into the cell.

A further embodiment of the disclosure lies in the use of the electrical output of the fuel cell elements of the fuel cell to regulate the flow into the fuel cell of one or more of the liquid materials.

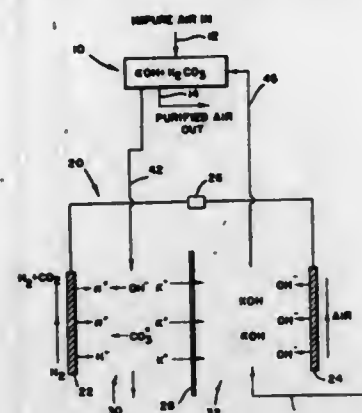
### 3,519,488 CARBON DIOXIDE ABSORBER MEANS AND FUEL CELL TO REGENERATE ABSORBENT

Jose Giner, Sudbury, Mass., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Original application Mar. 30, 1967, Ser. No. 627,119.  
Divided and this application Mar. 21, 1969, Ser. No. 833,220

Int. Cl. H01m 27/14  
U.S. Cl. 136—86 20 Claims  
A process and system are provided for scrubbing  $\text{CO}_2$  from gas streams and regenerating the scrubbing medium.



The scrubbing medium is an alkaline solution, preferably of an alkali metal hydroxide. The regeneration is effected by one or more regenerating fuel cells which utilize spent scrubber solution as an electrolyte. Hydroxyl ions are consumed at the cell anode, and produced at the cell cathode, and positive alkali metal ions migrate from the anolyte to the catholyte to preserve the electroneutrality of the cell.



The pH of the anolyte solution is thereby reduced to about 0, and  $\text{CO}_2$  gas is evolved, regenerating the solution. The regenerating cell preferably contains a barrier spaced between the anode and cathode to prevent back diffusion of alkali metal hydroxide from the catholyte to the anolyte. The barrier can be a porous diaphragm, but is preferably a cation permeable membrane.

3,519,489

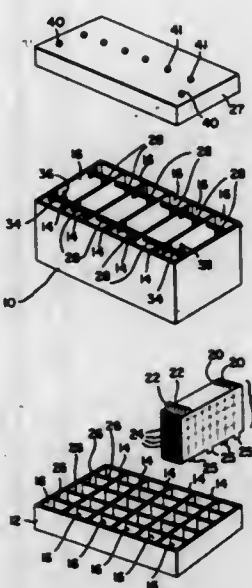
## METHOD OF MAKING A BATTERY

Frederick J. Port, Shaker Heights, Ohio, assignor to ESB Incorporated, a corporation of Delaware  
Filed May 2, 1968, Ser. No. 726,068

Int. Cl. H01m 35/18

U.S. Cl. 136-176

10 Claims



A battery has a container consisting of an upper portion and a lower portion sealed together in any convenient manner. The cover may be separate from, or integrally constructed with, the upper portion of the container. Single cell or multicell as well as primary or secondary batteries may be so constructed.

In multicell batteries the intercell strap connectors extend through the partitions of the cell compartments, preferably as molded inserts in the partitions. Preferably the ends of the intercell strap connectors are anchored by the container. Strap connectors may extend from end cells through the container as inserts molded therein to function as terminals.

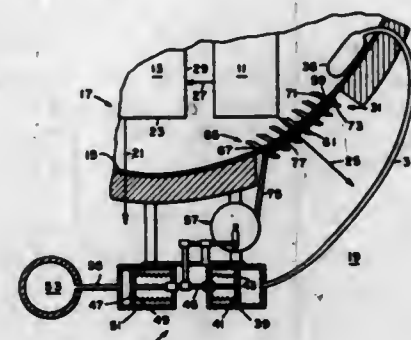
### 3,519,490 HIGH TEMPERATURE THERMAL CONTROL FOIL SHUTTER

Albert R. Lieberman, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission  
Filed Nov. 22, 1967, Ser. No. 685,059

Int. Cl. G05d 23/02; G21h 1/00

U.S. Cl. 136-202

5 Claims



Composite heat rejection louver made of compact, non-oxidizing, series-arranged foils for maintaining a relatively uniform temperature distribution on the heat source of a radioisotope heated thermoelectric generator by selectively controlling the heat source radiation to the ambient with a high radiation view factor when open and low parasitic heat losses when closed.

3,519,491

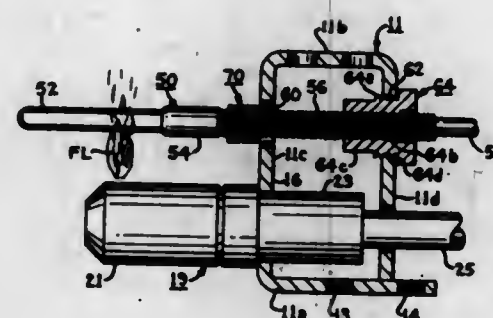
## THERMOCOUPLE POSITIONING AND MOUNTING MEANS

Raymond E. Grohall, Norbert J. Mimier, and John H. Thornberry, Milwaukee, Wis., assignors to Penn Controls, Inc., Oak Brook, Ill., a corporation of Delaware  
Filed June 27, 1968, Ser. No. 740,542

Int. Cl. G01k 1/14

U.S. Cl. 136-217

10 Claims



A threaded thermocouple is easily mountable in correct position in a variety of thermocouple-gas burner assemblies equipped with a mounting bracket having an aperture defined therein for receiving the thermocouple. A connector nut threaded onto the thermocouple is externally threaded for fastening in cooperating threads cut into the bracket aperture. In another version the nut cooperates with a second threaded fastener for mounting and positioning the thermocouple on the bracket. The fastener is of substantially elongated slot cross-sectional shape, the midsection of the slot being slightly reduced to define two contiguous, thermocouple encircling portions. A first one of such portions is dimensioned for a loose fit over the thermocouple for free longitudinal movement along the thermocouple length to a position abutting the mounting bracket and encircling a threaded portion of the thermocouple. The second of such substantially circular fastener portions is provided with internal threads and is dimensioned for threaded engagement with the

threaded portion of the thermocouple. After the fastener is slid to a position abutting the bracket, the fastener is moved in a radial direction, causing its loose fitting portion to move out of encircling position and placing its threaded portion into threaded engagement with the thermocouple. In this position the fastener is readily removable by a simple radial movement to replace its thread engaging portion with its loose fitting portion on the thermocouple. Alternately, the fastener may be crimped at its loose fitting portion such that, thereafter, the fastener may only be moved relative to the thermocouple by threaded movement thereon. In one version of the assembly, a guide tip is provided on the connector nut for easy guidance into the receiving aperture. In a version designed for brackets equipped with unthreaded thermocouple receiving apertures, the connector nut has no external threads but has one or more abutting surfaces dimensioned to act as positioning stops against the mounting bracket.

3,519,492

## PROCESS FOR THE PRODUCTION OF PURE SEMICONDUCTOR MATERIALS

James O. Huml and Gilbert S. Layne, Midland, and Willard A. Williams, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 21, 1967, Ser. No. 692,289

Int. Cl. B01j 17/00; C01b 27/00; C01g 9/08

U.S. Cl. 148-1.6

20 Claims

A process for producing semiconductor material from semiconductor source materials which comprises: contacting a semiconductor source material with a subsulfide forming agent under an otherwise inert atmosphere and at a sufficient temperature to form a gaseous product mixture containing at least gaseous subsulfides of the semiconductor material; lowering the temperature of the gaseous product mixture sufficiently below the subsulfide formation temperature at the pressure being utilized to dissociate and precipitate purified semiconductor material.

3,519,493

## METAL COATING COMPOSITIONS

Engene R. Farone, Mentor-on-the-Lake, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 17, 1967, Ser. No. 631,133

Int. Cl. C23f 7/08

U.S. Cl. 148-6.15

6 Claims

Metal coating compositions are prepared by mixing a polymeric polyol (preferably a styrene-allyl alcohol copolymer), an epoxy resin, phosphoric acid, and a thermosetting phenol-aldehyde resin. They impart an attractive color, ranging from gold to dark walnut, to the coated surface, the shade depending on curing time and temperature.

3,519,494

## METHOD FOR COATING FERROUS METAL SURFACES

Rudolf Engesser, Frankfurt am Main, Richard Tuch, Habsburger Allee, Werner Rausch, Stierstadt, Tannus, and Winfried Menzer, Sprendlingen-Hirschsprung, Germany, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York  
No Drawing. Filed June 21, 1967, Ser. No. 647,595

Claims priority, application Germany, July 12, 1966, 1,521,879

Int. Cl. C23f 7/10

U.S. Cl. 148-6.15

5 Claims

A process for forming a protective and/or paint-base coating on ferrous metal surfaces wherein the surface to be treated is contacted with an aqueous acidic zinc phosphate solution containing fluoride, at least one oxidizing agent accelerator, boric acid, and at least three milli-

grams per liter of an activating acting titanium phosphate. Desirably, the phosphatizing solution has a total  $\text{P}_2\text{O}_5$  content within the range of about 2 to 12 grams per liter and the solutions desirably also contain a non-ionic wetting agent. Nitrate and nitrite ions are the preferred oxidizing agent accelerators in the solution.

3,519,495

PROCESS FOR COATING METAL SURFACES  
Elmer H. Plaxton, Bloomfield Hills, Mich., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 378,946 and Ser. No. 378,982, both June 29, 1964. This application Dec. 31, 1968, Ser. No. 789,409

Int. Cl. C23f 7/10

U.S. Cl. 148-6.16

7 Claims

A metal coating process which comprises applying a phosphate or oxalate conversion coating composition to a zinc, aluminum or ferrous metal surface and forming thereon a substantially dry, uniform phosphate or oxalate conversion coating, a portion of which coating is water soluble. Thereafter, a resinous fixing or immobilizing coating composition is applied which reacts out the water-soluble portion of the conversion coating, producing water-soluble complex organic resinous products and forming a dry, uniform composite coating on the metal. A stabilizing or passivating composition containing hexavalent chromium is also applied, which composition may be incorporated in the fixing composition or applied sequentially following the application of the fixing composition. Preferably, all of the coating materials are applied by "mist-on" type spray application.

3,519,496

## METHOD FOR OXIDIZING ALLOYS

John B. Finn and Carl J. Hudecek, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio  
No Drawing. Filed Sept. 8, 1967, Ser. No. 666,451

Int. Cl. C23f 7/04

U.S. Cl. 148-6.35

6 Claims

A process for oxidizing alloys by first grit blasting and cleaning and then oxidizing the alloy at a temperature of 2000° F. to 2300° F. for 2 to 8 minutes to produce an oxide surface on said alloy.

3,519,497

## METHOD FOR THE THERMAL TREATMENT OF STEEL RAILS

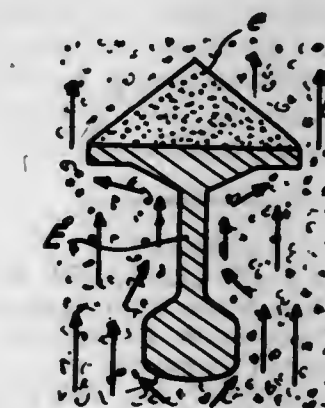
Jacques Pomey, Paris, France, assignor to Lorraine-Escout, Paris, France, a company of France  
Filed Apr. 28, 1966, Ser. No. 545,936

Claims priority, application France, Apr. 28, 1965, 149,815; Mar. 11, 1966, 53,062

Int. Cl. C21d 1/34, 1/56

U.S. Cl. 148-14

2 Claims



Hot steel rail taken directly from rolling mill and completely immersed in a fluidized bed of refractory powder. Rail arranged in bed with its head on the bottom,



its flange on top, and the flat face of the flange horizontal. Temperature of bed maintained between 560° and 620° C. To produce isothermal perlitic transformation, or between 380° and 460° C. to produce isothermal bainitic transformation. Rails may contain 0.4 to 1.0% C, 0.5 to 2.5% Mn, 0.02 to 1.8% Si, up to 1.5% Cr, up to 0.5% Mo, up to 0.4% V, and up to 0.25% Nb.

3,519,498

**FERROMAGNETIC FILM**

Kie Y. Ahn, Bedford, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 14, 1966, Ser. No. 565,181

Int. Cl. H01f 1/14; C21d 1/04; C22c 19/00

U.S. Cl. 148—31.55

3 Claims

The quality factor

$$\frac{H_c}{\alpha H_k}$$

of a ferromagnetic film having uniaxial anisotropy is controllably altered by homogeneously dispersing silver therein. By coevaporating nickel, iron and silver in weight relationship of Ni:Fe:Ag of approximately 81:19:4 to 81:19:6, the resulting ferromagnetic film has a quality factor wherein  $H_c$  is controllably altered dependent upon the amount of included silver and the product  $\alpha H_k$  is not changed. The ferromagnetic film has relatively larger coercive force along the easy axis than the film without Ag present. Further, the film has zero magnetostriction and substantially zero crystalline anisotropy.

3,519,499

**HEAT TREATED FORGING DIE HAVING A LOW ALLOY CONTENT**

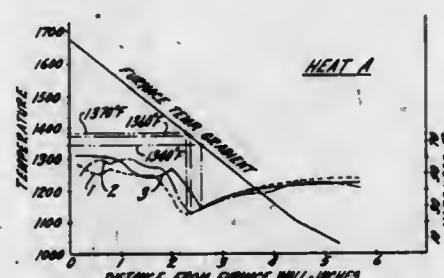
Alfred F. Finkl, Evanston, and William Wilson, Jr., Chicago, Ill., assignors to A. Finkl & Sons Co., Chicago, Ill., a corporation of Illinois

Filed Apr. 19, 1966, Ser. No. 543,661

Int. Cl. C04b 35/70; C22c 29/00

U.S. Cl. 148—36

3 Claims



A massive forging die for hot shaping characterized by uniformity of hardness in thick sections, a lower critical of at least 1365° F., high wear and wash resistance, and heat treated by heating to produce an austenitic structure, interrupted quenching into at least the bainitic range, and conventional tempering, and have C .30-.45; Mn .40-.80; Si .20-.65; Ni .40-1.00; Cr 1.70-2.60; Mo .55-1.20; V .06-.20; Fe balance and usual impurities.

3,519,500

**ELECTRICALLY CHARGEABLE PARTICLE**

Harold Weinstein, Van Nuys, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Dec. 29, 1967, Ser. No. 694,652

Int. Cl. H01l 5/00

U.S. Cl. 148—33

5 Claims

An electrically chargeable particle formed of monocrystalline silicon having a spherical junction therein.

Incident light on the junction creates a potential difference between the concentric shells of opposite conduc-



tivity types to form a charge on the exterior of the particle.

3,519,501

**CHROMIC ACID-ORGANIC COATING COMPOSITIONS**

Harvey Stuart Holden, Chesterland, Irving Malkin, University Heights, William Wayne Warner, Painesville, and Alexander W. Kennedy, Chardon, Ohio, assignors to Diamond Shamrock Corporation, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Apr. 16, 1968, Ser. No. 721,571

Int. Cl. C23f 7/26; C09d 5/08

U.S. Cl. 148—6.2

10 Claims

Corrosion-inhibiting, hexavalent-chromium-containing coating compositions for metal surfaces are prepared with chromic acid in combination with carboxylic acids having one, three, or more carboxyl groups per molecule. These acids are employed along with an additional organic component which may be an amino acid, a carbamoyl-containing hydrocarbon, or a heterocyclic ring compound containing carbon and nitrogen ring atoms. Compositions are cured on metal surfaces at elevated temperature to augment the bonding of the resulting residue to the surface. Surfaces containing typically 5-600 milligrams per square foot of the residue exhibit outstanding corrosion resistance and, for weldable substrates, retain weldability without deleterious degradation of such corrosion resistance.

3,519,502

**METHOD OF MANUFACTURING SINTERED METALLIC MAGNETS**

Hakaru Masumoto, Sendai, Takeo Kobayashi, Natori, and Kiyoshi Watanabe, Sendai, Japan, assignors to The Foundation; The Research Institute of Electric and Magnetic Alloys, Sendai, Japan

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,751

Claims priority, application Japan, Aug. 4, 1964, 39/43,824

The portion of the term of the patent subsequent to Aug. 31, 1982, has been disclaimed

Int. Cl. H01f 1/08; C21d 1/04

U.S. Cl. 148—102

3 Claims

A method of manufacturing sintered metal magnets which comprises compressing powders of metal and alloy consisting essentially of the base composition of 30 to 94% of Co, up to 26% of Al, and an effective amount up to 69% total of at least one member selected from the group consisting of up to 50% Ni, up to 20% of Ti, up to 20% of Mo, up to 13% of Cr, up to 18% of V, up to 25% of W, up to 7.5% of Fe, up to 12% of Mn, up to 47% of Cu, up to 19% of Si, up to 45% of Sn, and up to 21% of Sb, to a required shape, sintering the shaped article thus obtained in a nonoxidizing atmosphere, then subjecting the article to a heat treatment for precipitating ferromagnetic fine particles of  $\gamma$  phase in a matrix of  $\epsilon$  phase, and finally magnetizing it in a strong magnetic field.

3,519,503

**FABRICATION METHOD FOR THE HIGH TEMPERATURE ALLOYS**

Joseph B. Moore, Jupiter Tequesta, and Roy L. Athey, North Palm Beach, Fla., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Dec. 22, 1967, Ser. No. 692,705

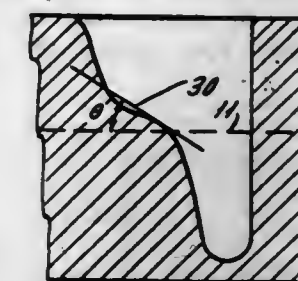
Int. Cl. C22f 1/18

U.S. Cl. 148—11.5

14 Claims

The high strength, difficult to forge alloys, particularly those adapted to gas turbine engine use, are processed in compression under controlled conditions of temperature and reduction to place them in a temporary condition of low strength and high ductility and are subsequently forged to the desired configuration in hot dies at a temperature where the temporary condition of low strength and high ductility is maintained. The forged parts are then returned to their normal condition of high strength and hardness by conventional heat treatment. The material processing and part forging are usually accomplished below but within about 450° F. of the normal recrystallization temperature of the alloy.

groove is then reduced in diameter and a second etching operation causes the groove to cut through a junction ex-



tending through the wafer, and causes the interior surface of the annular groove to form an acute angle.

3,519,507

**ULTRASONIC SPLICING**

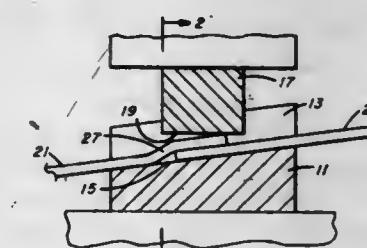
Charles W. Pierson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 15, 1968, Ser. No. 744,817

Int. Cl. B29c 2/08

U.S. Cl. 156—49

5 Claims



Splicing the overlapping ends of thermoplastic moving picture film between an anvil and an ultrasonic horn which have plane non parallel surfaces inclined at an acute angle to one another. This eliminates the embrittlement which occurs when the horn and anvil have parallel surfaces.

3,519,508

**METHOD OF MAKING A RUBBER COVERED STEEL MILL ROLLER**

Yale Karmell, Chicago, and Kermit K. Geiger, Carpentersville, Ill., assignors to Samuel Bingham Company, Franklin Park, Ill., a corporation of Illinois

Original application Dec. 7, 1966, Ser. No. 599,825, now Patent No. 3,451,112, dated June 24, 1969. Divided and this application Jan. 9, 1969, Ser. No. 800,321

Int. Cl. B31c 1/08

U.S. Cl. 156—171

4 Claims



A method of making a rubber covered steel mill roller comprising winding resin soaked fibers about a metal core, separately forming a rubber sleeve and then placing the rubber sleeve over said fiber wound metal core.

3,519,509

**NON-WOVEN NETWORK AND APPARATUS AND METHOD FOR MAKING SAME**

Lester Gidge and Valmor R. Poulin, Jr., Nashua, N.H., assignors to Union Carbide Corporation, a corporation of New York

Filed June 8, 1965, Ser. No. 462,347

Int. Cl. D04h 3/05; B65h 23/02, 51/18

U.S. Cl. 156—181

8 Claims

An apparatus and method for producing a unitary, non-woven, open-mesh network by first pre-forming a criss-

3,519,504

**METHOD FOR ETCHING SILICON NITRIDE FILMS WITH SHARP EDGE DEFINITION**

Jerome J. Cuomo, New York, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 13, 1967, Ser. No. 609,223

Int. Cl. H01l 7/00, 7/44

U.S. Cl. 148—187

14 Claims

An arrangement is provided for employing silicon nitride in semiconductor devices as an insulating, passivating and masking material. Sharp edge definition of the pattern of silicon nitride used is obtained by chemical etching employing masks such as molybdenum, tungsten or silicon, the pattern of these masks being etched by photoetching techniques.

3,519,505

**IGNITION MATERIAL CONTAINING TELLURIUM DIOXIDE, BORON AND FLUOROPOLYMERIC BINDER**

Frank H. Gardner, Huntington Beach, Calif., assignor to Space Ordnance Systems, Inc., El Segundo, Calif., a corporation of California

No Drawing. Filed Mar. 1, 1967, Ser. No. 619,567

Int. Cl. C06d 5/00

U.S. Cl. 149—19

4 Claims

A combustible material, particularly suited for electrically initiated ordnance devices, consists of tellurium dioxide as the oxidizer and a fuel composed of boron and a fluoroelastomeric binder.

3,519,506

**HIGH VOLTAGE SEMICONDUCTOR DEVICE**

Benjamin Topas, Santa Monica, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Original application Nov. 26, 1963, Ser. No. 325,872, now Patent No. 3,320,496. Divided and this application Mar. 9, 1967, Ser. No. 646,773

Int. Cl. C23f 1/02; H01l 7/50

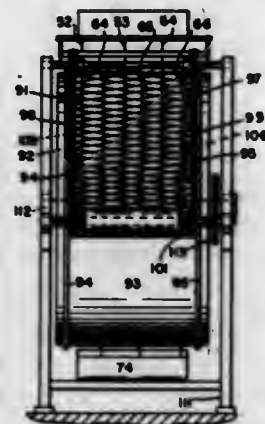
U.S. Cl. 156—11

2 Claims

The process for etching a shaped groove in a semiconductor wafer in which an annular surface area on the top of the wafer is exposed and a groove is initially etched therethrough. The mask in the center of the annular



cross, open-mesh, network from strands, free of adhesive, the network being advanced along a path with its selvage edges maintained at a predetermined distance apart, then guiding a plurality of additional, or extra, adhesive strands longitudinally into superposed position on the



pre-formed, open-mesh, network, in the spaces between the network intersections, and then further along the path setting the adhesive on said extra strands to adhere to both the upper and lower sets of criss-cross strands in the network to unitize the same, with the network strands still substantially free of any adhesive stiffness.

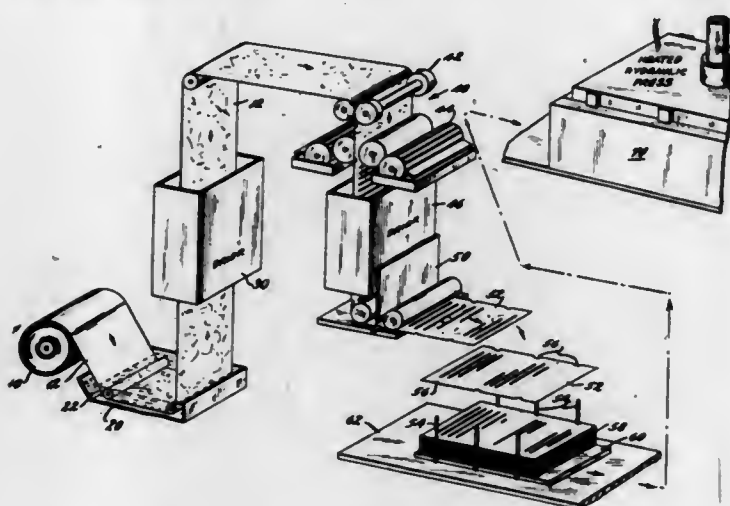
3,519,510

**FORMATION OF STRUCTURAL HONEYCOMB**  
Edward J. Ardolino, Box 169A, Robin Hood Road, Havre de Grace, Md. 21078; Joseph D. Bova, 2104 Harford Road, Fallston, Md. 21047; and Donald P. Hoover, R.D. 3, Barkess Court, Aberdeen, Md. 21001  
Filed May 26, 1967, Ser. No. 641,634

Int. Cl. B31d 3/02

U.S. Cl. 156-197

6 Claims



The present invention is directed to a method of forming a structural honeycomb from a fibrous web. The procedure involves pre-impregnating the fibrous web with a non-blocking thermoplastic film forming resin, then printing glue lines with a heat settable adhesive. The web is then converted into structural honeycomb. A preferred polyimide pre-impregnant is the condensation product of 3,4-dicarboxy-1,2,3,4-tetrahydro-1-naphthalenesuccinic dianhydride and p,p'-diaminodiphenylmethane.

3,519,511

**LOW-VISCOSITY POLYOLEFINS HAVING EXTENDED TACK**

Harry W. Coover, Jr., Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 13, 1965, Ser. No. 495,704

Int. Cl. G03g 5/00

U.S. Cl. 156-234

3 Claims

An article of manufacture comprising a substrate having coated thereon a crystallizable, polymeric, thermo-

plastic hydrocarbon material having an I.V. of from about 0.05 to about 0.7, a melt viscosity of from about 500 to about 100,000 cp. at 150° C., and a tack time of at least about 5 seconds. In another aspect, the invention comprising using said thermoplastic hydrocarbon material for adhering structures together and particularly in document copying applications.

3,519,512

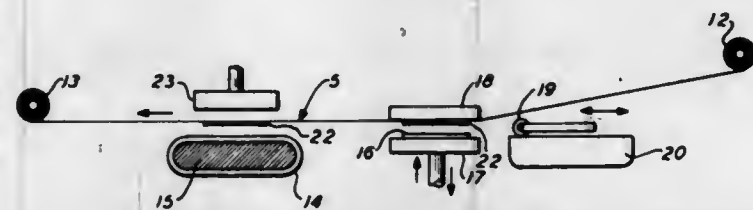
**METHOD AND APPARATUS FOR APPLYING DESIGNED INDICIA TO ARTICLES**

Myron H. Downs, North Caldwell, N.J., assignor, by direct and mesne assignments, to Downs Process Company, Little Falls, N.J., a corporation of New Jersey  
Filed Jan. 16, 1968, Ser. No. 698,200

Int. Cl. B44c 1/16; B41m 3/00

U.S. Cl. 156-236

4 Claims



A method and apparatus for the stamping of roll leaf on the surface of articles, wherein the leaf itself is sensitized in the desired areas to form a predetermined design prior to advancement of the leaf to the stamping position of the apparatus, and followed by the overall hot, pressurized application of the leaf to the article, to effect transfer thereof restricted to the sensitized areas of predetermined design. Preferably, however, the article is first sensitized in the areas of the desired decorative indicia by the application of a prime coating. Subsequently, the article with its decorative prime coating is inserted in the stamping machine and subjected to the overall hot, pressurized application of the leaf, resulting in the transfer therefrom of only the restricted areas previously sensitized by the prime coating.

3,519,513

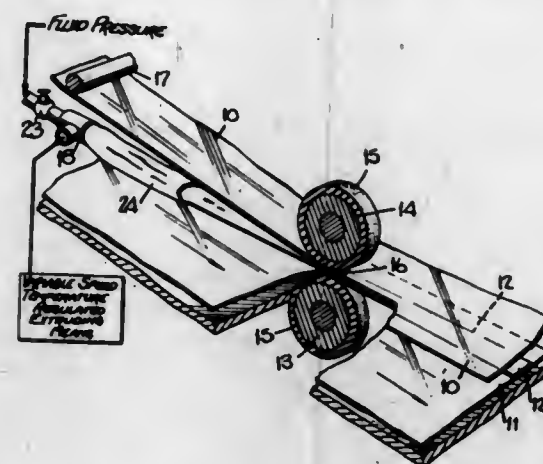
**BONDING OF SHEET MATERIAL**  
Fred B. Wilham, Pensacola, Fla., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York

Filed Jan. 21, 1966, Ser. No. 522,148

Int. Cl. B29b 1/14, 5/00

U.S. Cl. 156-244

4 Claims



This invention relates to a method of bonding together two opposed sheet surfaces including the steps of feeding an inflated hollow tube of bonding material between the surfaces and then bringing the surfaces together and flattening the bonding material therebetween.

3,519,514

**METHOD IN THE MANUFACTURE OF OBJECTS, PREFERABLY PACKAGES, WITH WALLS HAVING AT LEAST TWO LAYERS OF DIFFERENT THERMOPLASTIC MATERIAL LAMINATED TO ONE ANOTHER**

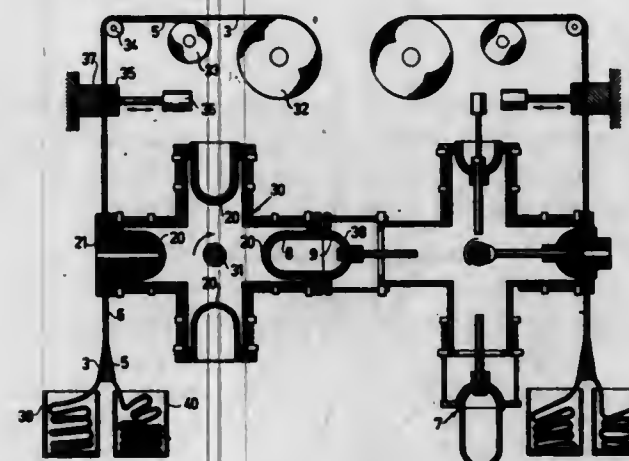
Rolf Lemart Ignell and Gad Anders Ransing, Lund, Sweden, assignors to Sobrefina SA, Fribourg, Switzerland, a Swiss company

Filed Feb. 27, 1967, Ser. No. 618,960

Int. Cl. B32b 31/18

U.S. Cl. 156-267

2 Claims



A method of manufacturing packages from at least two laminated layers of different thermoplastic materials. In one embodiment of the method, patches of one of the materials are laminated onto a web of the other material in longitudinal spaced relation along the web, the laminated areas are cut out in succession and formed to establish the wall of the package, and the remaining part of the web is led off to a waste collector. In another embodiment of the invention, the two materials are initially in the form of two webs which are drawn off supply rolls, the two webs are then laminated together over only those longitudinally spaced areas thereof which are to form the walls of each package, the laminated areas are cut out in succession from the webs and formed to establish the wall of the package, and the remaining parts of the two webs are separated and led off to separate waste collectors.

3,519,515

**HEAT SEALING METHOD FOR PLASTIC FILMS**  
Peter Thomas Jennings, Stevenage, England, assignor to British Viqueen Limited, London, England, a corporation of Great Britain

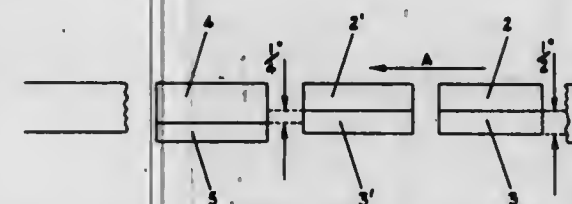
Filed Oct. 28, 1966, Ser. No. 590,302

Claims priority, application Great Britain, Nov. 8, 1965, 47,258/65

Int. Cl. C09j 5/00

U.S. Cl. 156-311

12 Claims



A method of forming an elongated heat seal between at least two adjacent layers of plastic film by applying thereto heat sufficient to melt the film layers and then applying forced cooling to the seal so produced while it is held between two surfaces, in which the forced cooling is applied to only a portion of the width of the seal along the length thereof, and the remaining portion is allowed to cool slowly from the molten state.

3,519,516

**METHOD FOR BONDING SILOXANE RUBBER-BASE VULCANIZATES USING A POLYSILOXANE ADHESIVE**

Dmitry Yakovlevich Zhinkin, 5 Parkovaya ul. 56, korp. 6; Antonina Matveevna Medvedeva, Ul. Eremova 12, kv. 46; Zinoviy Naumovich Nudel'man, Ul. Zverinet'skaya 12, kv. 43; and Tatiana Borisovna Ilina, Ul. Mashki Poryvaevoi 16, kv. 47, all of Moscow, U.S.S.R.

No Drawing. Filed Feb. 17, 1967, Ser. No. 616,782

Int. Cl. C09j 5/00

U.S. Cl. 156-329

1 Claim

A cold adhesive bonding method is provided in which a substitute polysiloxane adhesive is applied to the surface of at least one of two specimens to be bonded together, one specimen being a siloxane rubber-base vulcanizate, the second specimen being the same vulcanizate, or a metal, or a metal/alloy. The specimens are clamped together under pressure for 2 to 48 hours at a temperature of 10 to 40° C. The substituted polysiloxane adhesive has the formula



wherein: R represents the same or different radicals selected from the group consisting of alkyl, alkenyl, cycloalkyl, or aryl radicals; Y is a substituent at the nitrogen atom selected from the group consisting of hydrogen and  $R_{n-1}Si$ ; n is 2 or 3, and x is an integer greater than unity.

3,519,517

**METHOD OF AND MEANS FOR MICROWAVE HEATING OF ORGANIC MATERIALS**

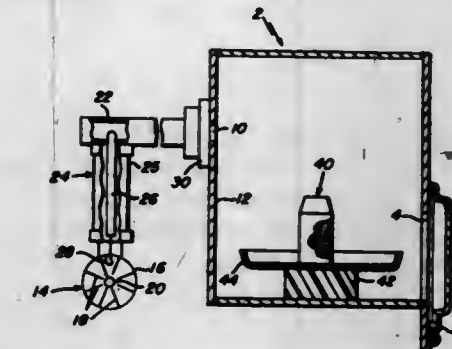
Edward C. Dench, Annisquam, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Sept. 30, 1966, Ser. No. 583,330

Int. Cl. B29c 19/02; B29h 5/26; H05b 9/06

U.S. Cl. 156-380

4 Claims



A product having a high granular content is adhesively bonded together utilizing microwave energy radiated within an enclosure. The addition of a material having high microwave energy absorbing characteristics, such as graphite, carbon, carbon black or a powdered refractory metal, permits substantial reduction in curing times of, illustratively, sand core molds in the foundry industry to yield a self-supporting product. The improvement is also applicable to other products where adhesive bonding is required.

3,519,518

**COMPOSITE TUBING PRODUCT AND APPARATUS FOR MANUFACTURING THE SAME**

Richard A. Matthews, Chagrin Falls, and Hans A. Johansen, Mantua, Ohio, assignors to Samuel Moore and Company, Mantua, Ohio, a corporation of Ohio

Application July 7, 1966, Ser. No. 563,512, now Patent No. 3,400,737, dated Sept. 10, 1968, which is a continuation-in-part of application Ser. No. 250,390, Jan. 9, 1963, now Patent No. 3,269,422. Divided and this application May 9, 1968, Ser. No. 728,000

Int. Cl. B65h 81/00

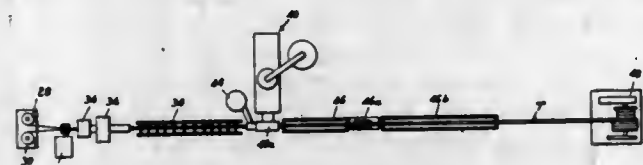
U.S. Cl. 156-392

10 Claims

An apparatus system and method for continuously producing a deformable, composite tubing product includ-



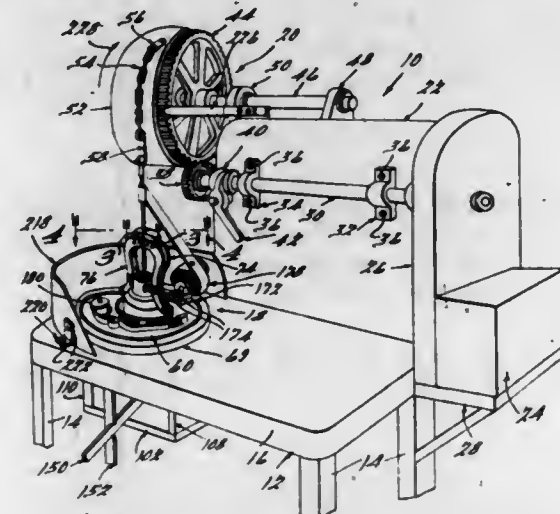
ing a pay-off device for a sampling line and pay-off device for a heating line with a conveyance system for moving the lines in engaged heat transfer relation along their



length. An applicator mechanism is disposed for applying a flexible, thermo-barrier layer around the lines and an extruding mechanism is disposed for applying an outer flexible polymeric sheath around the thermo-barrier layer.

**3,519,519**  
**TAPE WRAPPING MACHINE**  
Michael J. Basso, 7642 Woodward Ave.,  
Detroit, Mich. 48202  
Filed Oct. 23, 1965, Ser. No. 503,815  
Int. Cl. B65h 81/08; H01b 13/08

U.S. Cl. 156-430 13 Claims



A tape wrapping machine for making wire conductor harnesses and comprising means defining a support structure, an annular turntable defining a central opening, means rotatably supporting the turntable on the structure, a pair of nonrotatable jaw members disposed within the opening, means for selectively moving the jaw members to and from a position clampingly engaging a conductor to be wrapped with tape, means detachably engageable with a conductor for moving the same relative to the jaw members and the turntable, means including spindle means for supporting at least one roll of tape on the turntable at a position relative to the conductor whereby rotation of the turntable will result in the tape being unrolled and wrapped around the conductor, and means for simultaneously advancing the conductor relative to the turntable means and rotating the turntable means whereby the tape will be wrapped around the conductor in a generally helical configuration.

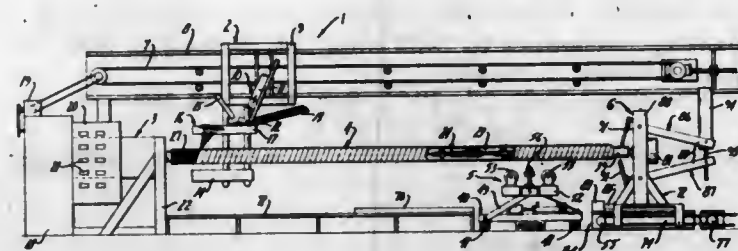
**3,519,520**  
**FIBER REINFORCED PLASTIC PIPE WINDING APPARATUS**

Ritchey O. Newman, Jr., Midland, Mich., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York  
Filed Dec. 21, 1967, Ser. No. 692,518  
Int. Cl. B31c 1/08, 11/04, 11/06

U.S. Cl. 156-431 14 Claims

A fiber reinforced plastic pipe winding apparatus which includes a steam curing assembly adapted for insertion in a pipe winding mandrel, a mandrel support mechanism which facilitates removal of the pipe from the end of the mandrel, and a tailstock-mandrel stripper mechanism for stripping the cured plastic pipe from the mandrel.

The apparatus is particularly adapted for the fabrication of fiber reinforced polyester resin plastic pipe utilizing a combination of woven glass tape and glass fibers

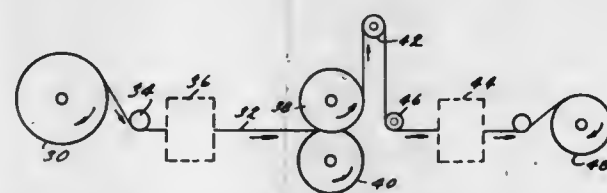


impregnated with polyester resin and then steam cured. The apparatus may also be used for making fiber reinforced epoxy pipe, or any plastic pipe in which the close control of the process conditions is important.

**3,519,521**  
**APPARATUS FOR MAKING FILTERING MATERIAL FOR CIGARETTES**

Paul A. Muller, Triesenberg, Liechtenstein, assignor to Celfil Company Establishment, Vaduz, Liechtenstein, a corporation of Liechtenstein  
Application May 22, 1967, Ser. No. 640,255, now Patent No. 3,466,358, dated Sept. 9, 1969, which is a continuation-in-part of application Ser. No. 841,919, Sept. 2, 1959, which is a division of application Ser. No. 502,016, Apr. 18, 1955, which in turn is a continuation-in-part of application Ser. No. 447,478, Aug. 3, 1954; said application Ser. No. 640,255 is also a continuation-in-part of application Ser. No. 841,918, Sept. 1, 1959, which is a continuation-in-part of application Ser. No. 504,647, Apr. 28, 1955, and is also a division of application Ser. No. 635,470, Jan. 22, 1957. Divided and this application June 19, 1969, Ser. No. 834,791

Int. Cl. B31f 1/00, 1/22, 1/36  
U.S. Cl. 156-592 5 Claims



Apparatus for treating paper to render it particularly adapted to be gathered and enclosed in a wrapper to make a filter cord subdividable into efficient cigarette filters. The paper is first moistened to prevent undue tearing in a longitudinal grooving and lateral stretching treatment, which loosens and exposes fibers, by passage through the nip between heated meshing rollers having alternating circumferential ribs and grooves. Subsequent drying time is shortened by maintaining the web in contact with one of the rollers through an appreciable wrap angle on emergence from the nip. The grooving and stretching treatment may be carried out progressively in successive stages by a train of three or more intermeshing rollers arranged to provide at least two nips therebetween.

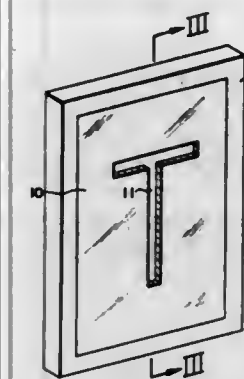
**3,519,522**  
**STRENGTHENING OF PHOTSENSITIVE GLASS ARTICLES**

Joseph Ference, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York  
Filed Dec. 21, 1966, Ser. No. 603,592  
Int. Cl. C03c 15/00; B44f 1/06; G03c 5/00

U.S. Cl. 161-2 5 Claims

This invention relates to the manufacture of glass articles bearing surface designs in intaglio or in relief

and having an integral strengthening border portion, said articles being produced from a photosensitively opacifiable glass and said border portion being comprised of

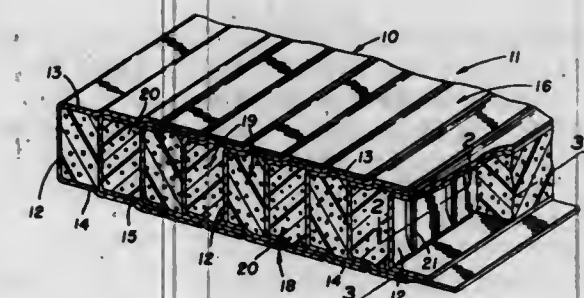


crystals developed in situ within the glass having a coefficient of thermal expansion lower than that of the glass.

**3,519,523**  
**COMPOSITE COREBOARD HAVING A PLURALITY OF PARTIALLY NESTED, CHANNEL-SHAPED SKIN ELEMENTS**

Clarence J. Rodman and Thorne K. Broome, Alliance, Ohio, assignors of one-half each to said Rodman, doing business as Alliance Tool Company, Alliance, Ohio, and said Broome

Filed Dec. 4, 1967, Ser. No. 687,571  
Int. Cl. B32b 3/14  
U.S. Cl. 161-36 7 Claims

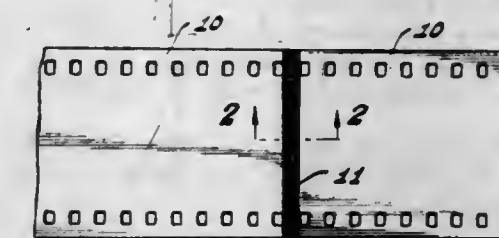


A skin element having an improved septum for use in composite coreboard construction. The skin element is generally of channel-shaped cross section with the septum, or web portion, oriented transversely of the substantially parallel, spaced flanged portions. The septum is provided with a plurality of longitudinally spaced, lateral offsets which increase its columnar strength. This increase in columnar strength provides a greater bending strength to the coreboard. In addition, passages through the septum are positioned so as not to diminish the increased columnar strength thereof. When assembled in a coreboard, the skin elements are partially nested to form longitudinal cells between the spaced septums of successive skin elements. The core, a rigid, but frangible, cellular foam, fills these cells. The aforesaid passages eliminate distortion to the septums that would reduce their columnar strength by permitting communication between the cells as the core forms. These passages also provide a mechanical bond for the core material between successive cells after the core is formed, and this bond further tends to stabilize the desired orientation of the septums transversely of the board.

**3,519,524**  
**SPLICE FOR THE ADJACENT ENDS OF TWO PHOTOGRAPHIC FILM STRIPS**

Harlan L. Baumbach, 14332 Mulholland Drive,  
Los Angeles, Calif. 90024

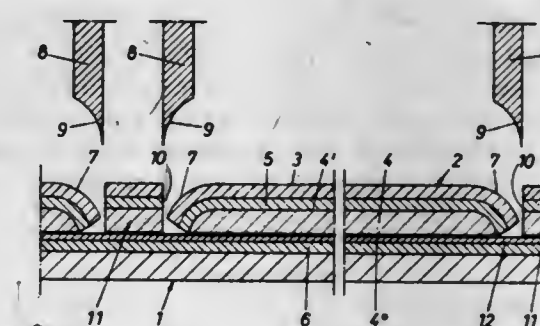
Filed Nov. 17, 1967, Ser. No. 683,909  
Int. Cl. B32b 7/10  
U.S. Cl. 161-38 12 Claims



A splice and splicing process for photographic film strip. The meeting ends of two film strips are connected by a narrow, foraminous, metallic strip, which bridges across the meeting ends of the strips. This strip is preferably a 150 mesh screen, woven of fine wire. The screen is partially embedded into the surface of the plastics film material by heating it electrically and then pressing it down, causing the film material adjacent the screen wires to melt the adjacent portions of the film. Thus, the screen sinks partially into the film, and plugs or studs of the film substance are extruded upwards through the screen perforations. A large number of these rise above the screen wires, and then flow laterally, forming heads or portions of heads projecting laterally partially over the wires for securely locking the screen to the film.

**3,519,525**  
**SELF-SEALING LABEL**  
Werner Jackstadt, Wuppertal-Sonnborn, Germany, assignor to Wilh. Jackstadt & Co., Wuppertal-Elberfeld, Germany, a corporation of Germany

Filed Sept. 27, 1966, Ser. No. 582,332  
Claims priority, application Germany, Oct. 2, 1965, J 29,110  
Int. Cl. B32b 1/04  
U.S. Cl. 161-44 4 Claims



A label or the like non-removably adhering to an object to which the label is to be applied, comprising a carrier layer, at least one label disposed removably on the carrier layer, and including an adhesive layer means for non-removably adhering under the influence of humidity to an object to which the label is to be applied when the adhesive layer means is exposed to moisture when the label including the adhesive layer means is removed from the carrier layer, a protective layer at and covering each side of the adhesive layer means, the adhesive layer means comprising adhesive formers, to which 5% air hardening isocyanate is added, the protective layer means



being impermeable to humidity, comprising a material selected from the group consisting of polyvinylidene chloride, polyethylene, polyterephthalic ester and the like, and one of the protective layer means is connected non-removably to the carrier layer and the other of the protective layer means is non-removably connected to said label.

3,519,526

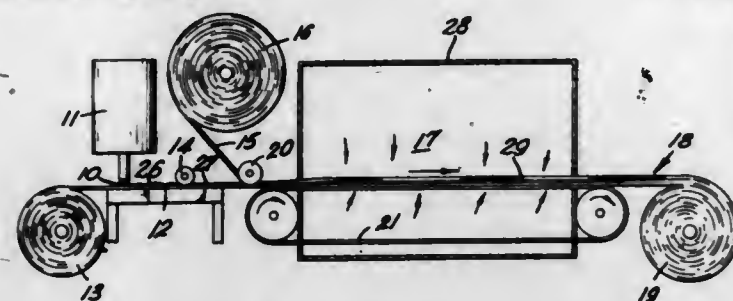
## ELASTOMER-BACKED CARPET

Robert J. Carey and George M. Bryant, South Charleston, and Andrew T. Walter, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Filed July 21, 1966, Ser. No. 566,988  
Int. Cl. B32b 5/20, 27/40; D03d 27/100

U.S. Cl. 161-67

2 Claims



A method for making an elastomer-backed carpet having a backing of absorbent paper impregnated with an elastomer.

3,519,527

## EMBOSSED PLASTIC SURFACE COVERINGS AND METHOD OF PREPARING SAME

Richard P. Crowley, Milton, Mass.  
(23 Salem Road, Wellesley, Mass. 02181)  
Continuation-in-part of application Ser. No. 541,100, Apr. 8, 1966, now Patent No. 3,453,171, dated July 1, 1969. This application July 21, 1966, Ser. No. 566,810

Int. Cl. B32b 5/18, 3/26

U.S. Cl. 161-120

22 Claims



A laminated sheet material having an embossed surface design comprises a first sheet composed of a non-cellular sheet material having predetermined areas of differential resistance to deformation and a second sheet composed of a cellular thermoplastic sheet material, one surface of which is bonded to said first sheet.

3,519,528

## COMPOSITE PACKING MATERIAL

Charles A. Fourness, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Continuation of application Ser. No. 339,173, Jan. 21, 1964. This application Dec. 11, 1967, Ser. No. 693,046

Int. Cl. B32b 3/00

U.S. Cl. 161-120

3 Claims



A composite packing material comprising a pair of paper sheets between which a batt of paper material is disposed with the batt being glued to at least one of the

sheets and the sheets being embossed through the batt at points which are in a spaced pattern, the batt comprising individual pieces of corrugated or creped paper material limited in diameter between 1/2 inch and 1 1/2 inches.

3,519,529

## PUNCTURE RESISTANT LAMINATE WITH CRINKLED FILM LAYER

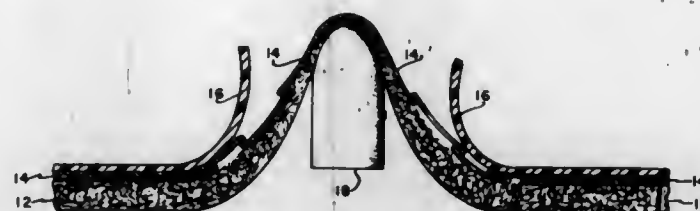
Richard L. Cook, Phoenix, Ariz., assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

Filed Feb. 13, 1967, Ser. No. 615,639

Int. Cl. B32b 3/28; B64d 37/00; F41h 5/00

U.S. Cl. 161-128

6 Claims



A puncture resistant material particularly designed for use with liquid containing fuel tanks is provided which utilizes a thin plastic film crinkled up into a greatly reduced area, but being essentially flat and retained in this size and shape between a layer of felt or other similar type material, and some smooth non-permeable membrane to hold the crinkled film in its crinkled relation adjacent the felt. This structure achieves an energy absorbing action to spread the kinetic energy of impact at a specific point over a very large area thus defeating puncturing of the material.

3,519,530

## REINFORCED PLASTIC BALLOON MATERIAL LAMINATES WITH CREPE EFFECT

Arthur D. Struble, Jr., Torrance, Calif.  
(2101 Rosita Place, Palos Verdes, Calif. 92266)  
Filed Dec. 11, 1964, Ser. No. 417,555  
Int. Cl. B32b 3/28, 7/02; B64b 1/58

U.S. Cl. 161-129

1 Claim

This invention generally relates to composite, flexible, laminated sheet materials wherein at least one sheet layer consists of a thermoplastic or thermosetting material, with or without strengthening filaments, metal foil layers, or plastic foam layers. The laminated sheets of this invention are particularly useful for balloon construction, but they also have other uses. More specifically, a filament reinforced plastic balloon material is provided having a crepe effect in the plastic layer. The crepe effect is produced by bonding the plastic material to the reinforcing filaments while the latter are in a stretched condition. The crepe effect prevents cracking of the plastic due to shrinkage at extremely low temperatures.

3,519,531

## COATED POLYPROPYLENE FILM AND LAMINATES FORMED THEREFROM

Earl Gordon James, Clifton Forge, Va., and Robert N. Manning, Marshallton, Del., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 162,919, Dec. 28, 1961. This application Dec. 30, 1966, Ser. No. 605,973

Int. Cl. B32b 27/08

U.S. Cl. 161-254

7 Claims

Copolymers of ethylene and unsaturated carboxylic acid esters and particularly vinyl acetate and ethyl acrylate

form adherent heat-sealable coatings on oriented polypropylene film. The coated film can be used as such or heat-sealed to other film-forming materials, including polypropylene itself, to form laminates.

3,519,532

## CONTINUOUS DIGESTER DISCHARGER CONTAINING AUTOMATIC TEMPERATURE AND LEVEL SENSING MEANS AND METHOD THEREOF

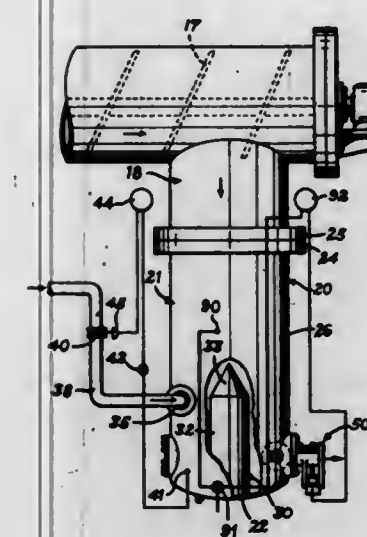
Douglas G. Sutherland, Middletown, Ohio, assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio

Filed Apr. 17, 1967, Ser. No. 631,291

Int. Cl. D21c 7/08

U.S. Cl. 162-52

4 Claims



A cold blow discharger for use with a continuous digester for wood pulp in the manufacture of paper, which receives the treated wood chips from the digester, reduces the temperature thereof, and expands them through an orifice from where they are transferred to the subsequent steps in the manufacturing process. The discharger utilizes no moving parts, and liquor, at a specific temperature and pressure, is admitted tangentially to the discharger establishing a swirling flow pattern in the discharger, thus maintaining circulation in the discharger while reducing both the temperature of the pulp components and the steam requirements of the system as a whole.

3,519,533

## LIGHT ACTIVATED INTERNAL SIZING OF PAPER

Francis B. Gallagher, Stanhope, N.J., and Charles E. Feazel, Mountain Brook, Ala., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 21, 1967, Ser. No. 654,963

Int. Cl. D21d 3/00; D21h 3/08

U.S. Cl. 162-179

5 Claims

This application relates to a method of internally sizing paper by mixing with an aqueous slurry of paper pulp 0.2% to 2.5% by weight, based on the weight of the dry pulp, of certain fatty acid condensation products, forming the thus treated paper pulp into sheets, and exposing the sheets to actinic light for a sufficient period to expose the sheets to at least enough radiant energy to achieve a sized paper having a lactic acid penetration time greater than 600 seconds and an ink flotation time greater than 900 seconds. For example, using ultraviolet light, which is preferred, the quantity of radiant energy should be at least about  $6 \times 10^{-2}$  watt-sec./cm.<sup>2</sup> of radiant energy. The condensation products are further characterized by having at least 32% by weight of unsaponifiable matter and by having a mean molecular weight of at least 3 times that of the fatty acid.

3,519,534  
METHOD AND APPARATUS FOR MEASURING THE INFINITE MULTIPLICATION FACTOR OF NUCLEAR REACTOR SYSTEMS

Giuseppe Ghilardotti, Milan, and Giuseppe Brighenti, Bologna, Italy, assignors to SNAM Progetti S.p.A., Milan, Italy, a company of Italy

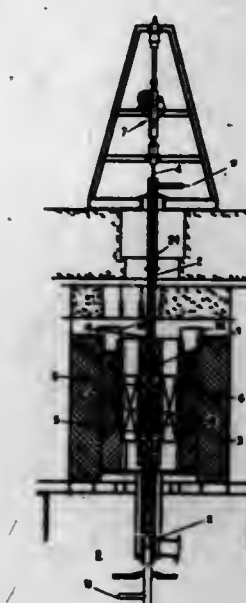
Filed July 13, 1967, Ser. No. 653,095

Claims priority, application Italy, July 14, 1966, 16,288/66

Int. Cl. G21c 17/00

U.S. Cl. 176-19

6 Claims



A method and apparatus for measuring the infinite multiplication factor of nuclear reactor systems by determining the amount of poison which reduces the infinite multiplication factor ( $K_{\infty}$ ) to unity with the null reactivity method carried out by the oscillation technique of the pile oscillator method.

3,519,535

## NUCLEAR FUEL ASSEMBLY WITH PLURAL INDEPENDENT CONTROL ELEMENTS AND SYSTEM THEREFOR

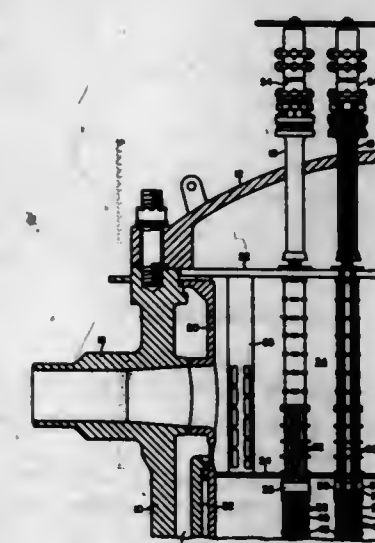
Robert J. French, Pittsburgh, and Harry N. Andrews, Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 24, 1968, Ser. No. 700,153

Int. Cl. G21c 7/08

U.S. Cl. 176-35

6 Claims



A nuclear reactor is disclosed which has a plurality of fuel assemblies consisting of commingled fuel rods and guide tubes. A portion of these fuel assemblies have a plurality of two-position control elements or neutron



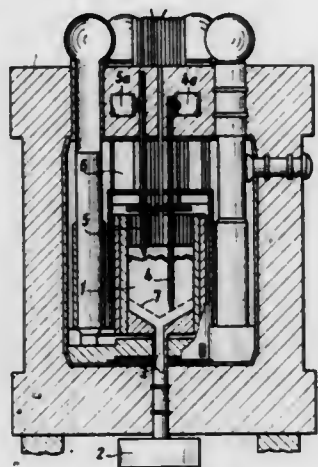
absorbers which can be telescoped within their respective guide tubes. Each individual control element, which may have more than one control module associated therewith, may be removed or inserted independent of the remaining control elements. The reactor can therefore be more efficiently controlled and may be utilized for load follow service.

### 3,519,536 METHOD OF CONTROLLING NUCLEAR REACTORS

Wilfried Rausch, Dollweg, Germany, assignor to Brown Boveri/Krupp Reaktorbau G.m.b.H., Dusseldorf, Germany, a German company  
Filed Aug. 2, 1967, Ser. No. 657,934  
Int. Cl. G21c 7/08

U.S. Cl. 176—36

1 Claim



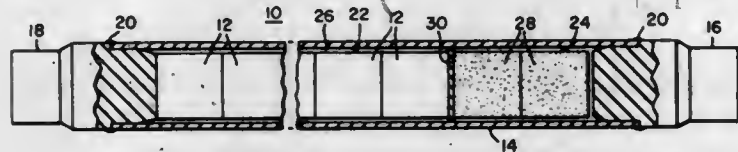
A packed or "pebble bed" reactor is shut down by inserting the control rods directly into the packing of fuel elements.

### 3,519,537 INTERNAL GAS ADSORPTION MEANS FOR NUCLEAR FUEL ELEMENT

Harry M. Ferrari, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Feb. 2, 1968, Ser. No. 702,631  
Int. Cl. G21c 3/02

U.S. Cl. 176—68

4 Claims



An improved fuel element having a controllable internal pressure, for a neutronic reactor including an elongated hermetically sealed tube, a plurality of bodies of fissionable material within the tube and forming a clearance space therewith, and a body of a high surface area monatomic gas adsorber, such as activated charcoal, within the tube for adsorbing fissionable product gases.

### 3,519,538 CHEMICALLY COUPLED ENZYMES

Ralph A. Messing, Horseheads, and Howard H. Weetall, Elmira, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York  
Filed Sept. 5, 1968, Ser. No. 757,696  
Int. Cl. C07g 7/02

U.S. Cl. 195—63

35 Claims

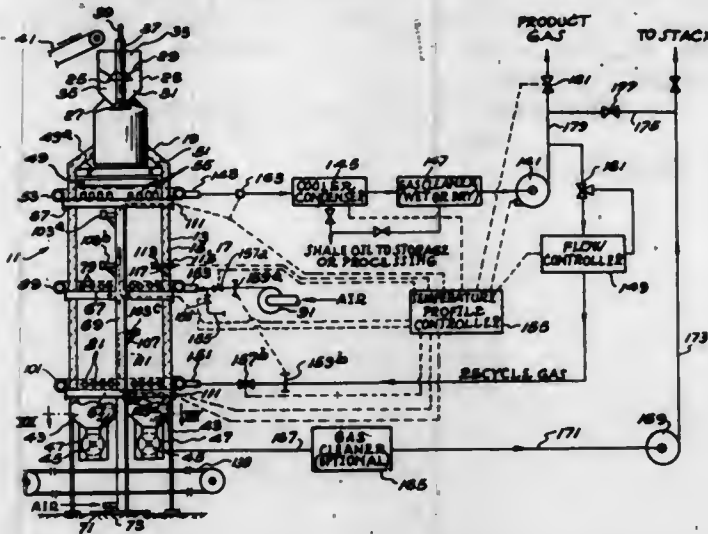
This invention relates to the stabilization of enzymes by chemically coupling the enzymes to an inorganic carrier by means of an intermediate silane coupling agent whereby the enzymes become insolubilized and can be used and reused over an extended period of time.

### 3,519,539 APPARATUS FOR RETORTING OIL SHALE HAVING A CENTRAL AXIAL HOLLOW COLUMN

Elwood V. Schulte, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware  
Filed Sept. 25, 1967, Ser. No. 670,275  
Int. Cl. C10b 1/04; C10g 1/00

U.S. Cl. 202—117

18 Claims



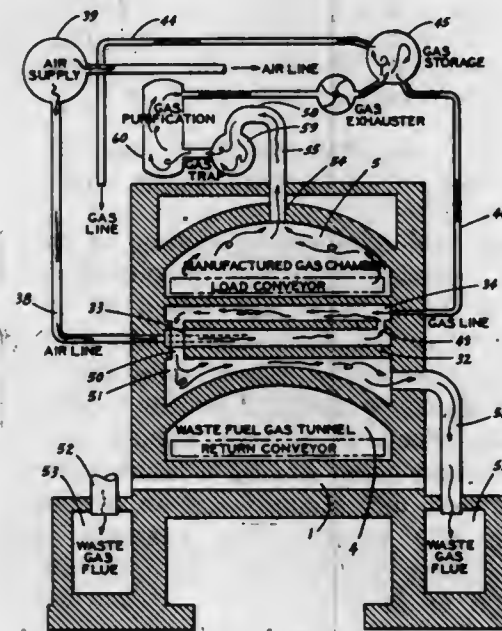
Retorting of oil shale ore is carried out in a shaft-type furnace wherein: recycle gas is used to cool the spent oil shale ore in a cooling zone; air is mixed with the recycle gas and the mixture burns in a combustion zone above the cooling zone; and the gaseous products of combustion, including the kerogen derivatives that are driven from the oil shale ore, are removed from adjacent the top of the shaft furnace. The temperature within the retort furnace is controlled by apparatus within carefully defined limits. The gases and kerogen derivatives removed from the retort are separated and the combustible portion of gases, as recycle fuel gas, is fed back into the retort.

### 3,519,540 CARBONIZING OVEN HAVING PARALLEL HORIZONTAL FLUES AND U-SHAPED AIR DUCTS

Maurice D. Curran, 916 Davis St., Garden City, Kans. 67846  
Filed May 6, 1968, Ser. No. 726,751  
Int. Cl. C10b 1/06

U.S. Cl. 202—117

7 Claims



A carbonizing oven comprising a refractory chamber and a lower chamber, the floor of said refractory cham-

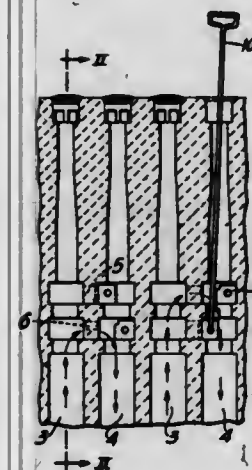
ber being fabricated of material having heat transfer properties and a conveyor for pushing waste organic material along said refractory chamber floor for direct subjection to heat passing therethrough. Heat producing means are located between said upper and lower chambers and consist of air ducts and combustion flues arranged in paired, vertically aligned relationship for extension transversely of the oven and with said ducts being suitably connected to exterior supplies of air and gas.

### 3,519,541 HORIZONTAL COKE OVEN HAVING PLURAL ADJUSTABLE OPENING IN HEATING WALL

Heinrich Schurhoff, Essen-Heidlingen, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware  
Filed Mar. 7, 1968, Ser. No. 711,293  
Claims priority, application Germany, Mar. 16, 1967, 1,671,319

U.S. Cl. 202—139

2 Claims



In a coke oven, reversal of the heating gas is provided by providing, at each of two vertical levels in the heating wall, two symmetrically arranged connected openings that border on the oven wall, and that are capable of being closed or throttled by slidable bricks. The slidable bricks are movable laterally on shelves which are essentially flush with the lower edge of the connected openings.

### 3,519,542 PROCESS FOR TREATING A CATHODICALLY CHROMATED METAL SURFACE

Yoichi Kitamura, Yokohama, and Tsuneo Inui, Kudamatsu-shi, Japan, assignors to Toyo Kohan Co., Ltd., Tokyo, Japan, a corporation of Japan  
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,277  
Claims priority, application Japan, Nov. 12, 1964, 39/63,648

Int. Cl. C23f 7/26; C23b 11/00

U.S. Cl. 204—35

1 Claim

A process of improving cathodically produced hydrated chromium oxide coatings on metals comprises immersing at a temperature of 30° to 70° C. for a period of 1 to 60 seconds the coated metal in an aqueous solution of 1 to 50 gms./l. of at least one cationic surface active agent selected from the group consisting of aliphatic primary amine acetates, quaternary ammonium salts, pyridinium salts, picolinium salts, polyoxyethylene alkyl amines, and a composition selected from the group consisting of polycondensation products of dicyanodiamide and formaldehyde, dicyanodiamine and formaldehyde, guanidine and formaldehyde, and diguanide and formaldehyde.

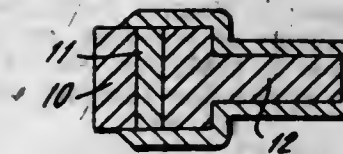
876 O.G.—8

### 3,519,543 PROCESS FOR ELECTROLYTICALLY CLEANING AND POLISHING ELECTRICAL CONTACTS

Childress B. Gwyn, Jr., Wethersfield, Conn., assignor to Talon, Inc., Meadville, Pa., a corporation of Pennsylvania  
Filed Oct. 27, 1967, Ser. No. 678,590  
Int. Cl. C23b 3/06

U.S. Cl. 204—140.5

4 Claims



Process for cleaning and polishing contacts of molybdenum, tungsten and alloys thereof by nickel plating the contacts after brazing them to ferrous supports and then electrolytically deplating the contacts.

### 3,519,544 PROCESS FOR THE MANUFACTURE OF OXETANE DERIVATIVES

Carl-Heinrich Krauch, Heidelberg, and Samir Yacoub Farid and Dieter Heas, Mulheim (Ruhr), Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Blebrich, Germany, a corporation of Germany  
No Drawing. Filed Oct. 12, 1967, Ser. No. 674,762  
Claims priority, application Austria, Oct. 17, 1966, A 9,684/66

U.S. Cl. 204—158

5 Claims

A process for the manufacture of oxetane derivatives comprises combining vinylene carbonate with a monocarbonyl or 1,2-dicarbonyl compound in an inert solvent and irradiating the combination with light comprising the wavelength corresponding to the initial band of the carbonyl compound, such light, however, being substantially devoid of wavelengths below about 350 mμ when a monocarbonyl is employed and substantially devoid of wavelengths below about 370 mμ when a 1,2-dicarbonyl is employed.

### 3,519,545 MANUFACTURE OF SUCROSE FROM STARCH HYDROLYSATES USING RADIATION

Tadayuki Goda, Tokyo, Japan, assignor to Nippon Gosei Kagaku Kabushiki Kaisha, Tokyo, Japan, a company of Japan  
Continuation-in-part of application Ser. No. 275,130, Apr. 23, 1963. This application May 19, 1964, Ser. No. 368,626

U.S. Cl. 204—160.1

3 Claims

A process for manufacturing sucrose from starch hydrolysates which involves exposing hydrolysate to the rays of two different mercury vapor illumination tubes.

### 3,519,546 METHOD OF INCREASING THE ACTIVITY OF A CATALYST IN THE OXIDATION OF CARBON MONOXIDE

Vin Jang Lee, Rochepoint, Mo.  
(408 Edgewood, Columbia, Mo. 65201)  
No Drawing. Filed Mar. 6, 1967, Ser. No. 620,646  
Int. Cl. C01b 31/20

U.S. Cl. 204—164

8 Claims

A time varying electric field is applied to the surface of a carbon monoxide oxidation catalyst. The electric field is applied to the surface of the catalyst, which promotes the formation of reactive intermediates such as



adion or other active species on or near the catalytic surface; then the direction of the field is reversed to promote deionization and desorption of the products. The frequency of the electric field is adjusted so that it is in resonance with the staying time of the chemical product on the catalytic surface.

3,519,547

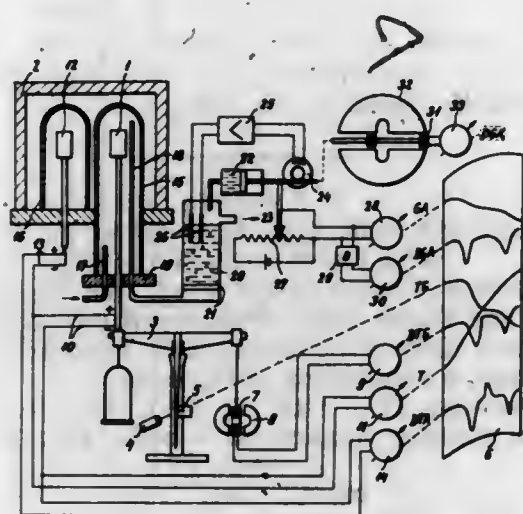
## APPARATUS FOR GAS ANALYSIS

Ferenc Paulik, Jeno Paulik, and Laszlo Erdey, Budapest, Hungary, assignors to Magyar Tudomanyos Akademia (Hungarian Academy of Sciences), Budapest, Hungary  
Filed June 2, 1967, Ser. No. 643,133  
Claims priority, application Hungary, June 7, 1966, PA-882

Int. Cl. G01n 27/46

U.S. Cl. 204-195

7 Claims



Apparatus to be connected to thermoanalytical equipment for the simultaneous automatic measuring of the amount of gas decomposition products formed in the course of thermal decomposition of substances, the process of gas formation and the speed of said process.

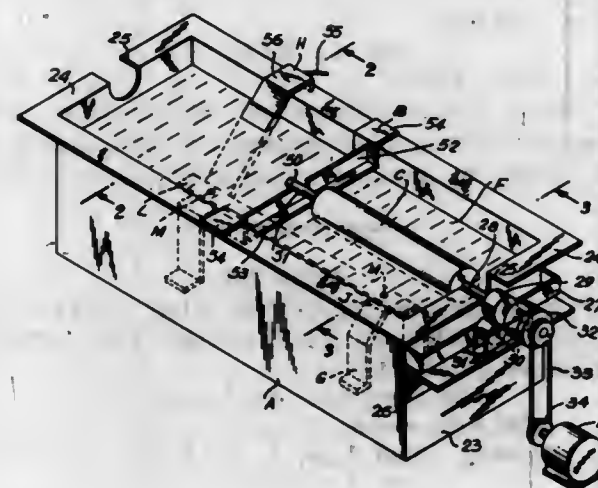
3,519,548

## PLATING SYSTEM

Fred B. Karlquist, Union, N.J., assignor to Pamarco, Inc., Roselle, N.J., a corporation of Maryland  
Filed Apr. 5, 1967, Ser. No. 628,585  
Int. Cl. C23b 5/68, 5/70, 5/74

U.S. Cl. 204-212

7 Claims



A plating system for electroplating rollers, the system comprising a tank having a rounded notch in one end

wall to support one trunnion of the roller and a notched bracket to support the opposite trunnion. The U-shaped notched bracket is supported from the two opposite tank side walls in a slideable relationship therewith by two flanges positioned so that the trunnion notch will be substantially at the same level with the end wall notch. An anode is provided having an elongated body section with three supporting feet and one upward-extending oblique and insulated contact leg hooking over the tank edge. The roller is immersed only about 20 to 30 percent and the elongated anode section is positioned directly below the roller at a distance of one half to two times the diameter of the roller. The roller is sequentially plated and then exposed to air.

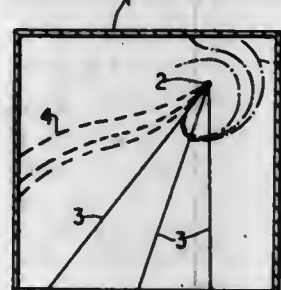
3,519,549

## APPARATUS FOR PERFORMANCE OF CARRIER-FREE, CONTINUOUS ELECTROPHORESIS IN VERTICAL CELLS

Wolfgang Grassmann, 10 Jungwirthstrasse, 23 Munich, Germany, and Kurt Hannig, 45 Pentenriederstrasse, 8033 Munich, Germany  
Filed Nov. 17, 1964, Ser. No. 411,845  
Claims priority, application Germany, Nov. 18, 1963, G 39,197; Dec. 13, 1963, G 39,383  
Int. Cl. B01k 5/00

U.S. Cl. 204-299

11 Claims



1. Apparatus for continuous free-flow electrophoresis comprising two rectangular, electrically non-conductive plates in spaced alignment to each other forming a separation chamber, said separation chamber being substantially in a vertical arrangement; a pair of electrode chambers each ionically connected to one of a pair of opposite side edges of said plates and ionically communicating with said separating chamber, each of said electrode chambers enclosing at least one electrode electrically connected to an electrical source; a third marginal top section of said separating chamber being electrically non-conductive and tightly sealed between said electrode chambers; at least one connection to a buffer solution and supply feed inlet to said separation chamber adjacent to said third marginal top section; the marginal space opposite said feed inlet connections being closed by a horizontal bar having a plurality of outlets arranged at regular intervals over its entire length between said electrode chambers communicating with a plurality of receptacles, each of said outlets extending from the inner separating space between said plates to its paired outer receptacle for solution flowing out of said outlet whereby each of said receptacles is in liquid connection; means for supplying buffer solution and material to be electrophoretically separated to said feed inlet connections; and means for intermittently withdrawing electrophoretically separated material and buffer solution from each of said collecting receptacles simultaneously and in equal volume in ratio to the flow rate through said separating space; and at least one cooling means comprising a heat distribution plate which is in heat-conductive, electrically non-conductive connection with said separation chamber, said heat distribution plate

consisting of a heat-conductive material being in heat-conductive contact at a plurality of points with a plurality of Peltier cells on its surface which faces away from said separation chamber.

3,519,550

## APPARATUS FOR CREATING HIGH-VOLTAGE PULSES

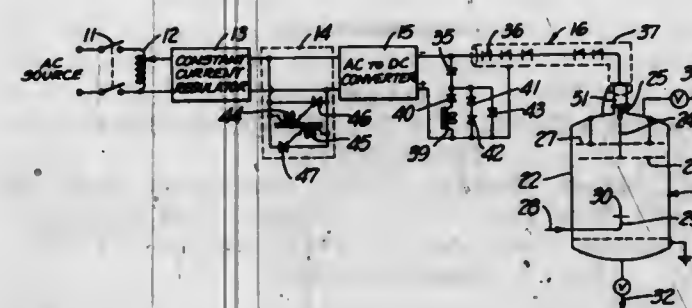
Joseph D. Winslow, Jr., and Homer M. Wilson, Houston, Tex., assignors to Petrolite Corporation, St. Louis, Mo., a corporation of Delaware

Filed Nov. 28, 1967, Ser. No. 684,207

Int. Cl. B03c 5/02; H03k 5/00

U.S. Cl. 204-305

13 Claims



Electric precipitation or treatment of emulsions by high-voltage pulses. Generation of high-voltage pulses by charging a capacitor and discharging the capacitor into the load through a multilayer solid-state switch comprising a plurality of pnpn junctions. Initiation of switch conduction resulting from the magnitude of the switch current corresponding to the overall applied voltage. Initiation of switch conduction resulting from a trigger current applied at one junction.

3,519,551

## REACTOR FOR THE DECOMPOSITION OF LIQUID HYDROCARBONS BY THE ELECTRIC DISCHARGE PROCESS

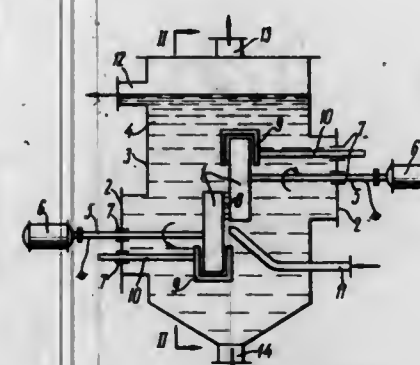
Natan Saulovich Pechuro, Frunzenskaya nab. 40, kv. 28, and Oleg Jurievich Pesin, Mytnaya ul. 16, kv. 38, both of Moscow, U.S.S.R.

Filed July 26, 1967, Ser. No. 656,101

Int. Cl. C07c 3/48

U.S. Cl. 204-325

3 Claims



A reactor for the decomposition of liquid hydrocarbons comprises a pair of rotatable electrodes immersed in the liquid hydrocarbons and having opposed end faces spaced from one another with overlapping regions forming an arc zone. Also mounted within the liquid hydrocarbons are scrapers adjacent the end faces of the electrodes outside the arc zone for removal of solid decomposition products from the surfaces.

3,519,552

## SOLIDS DRYING PROCESS

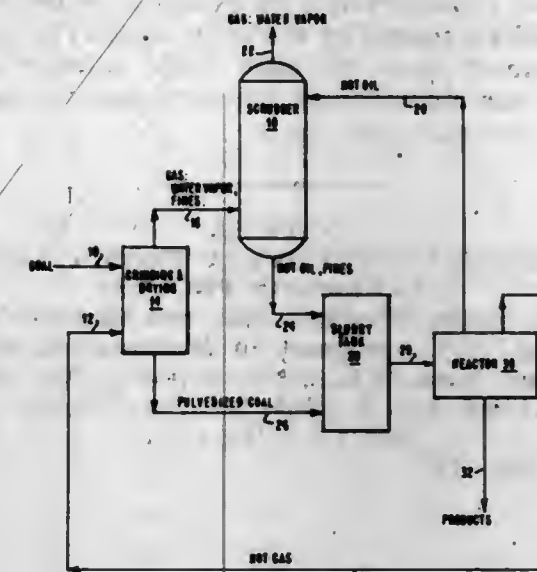
Katherine C. Hellwig, Trenton, N.J., assignor to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey

Filed Feb. 21, 1968, Ser. No. 707,061

Int. Cl. C10g 1/00

U.S. Cl. 208-8

5 Claims



A process for drying a particulate carbonaceous solid material by passing a hot, relatively moisture-free gas through the material and scrubbing the gas with a liquid which is at a higher temperature than the gas, whereby the liquid retains the fines and the moisture from the solids material is carried away in the gas.

3,519,553

## COAL CONVERSION PROCESS

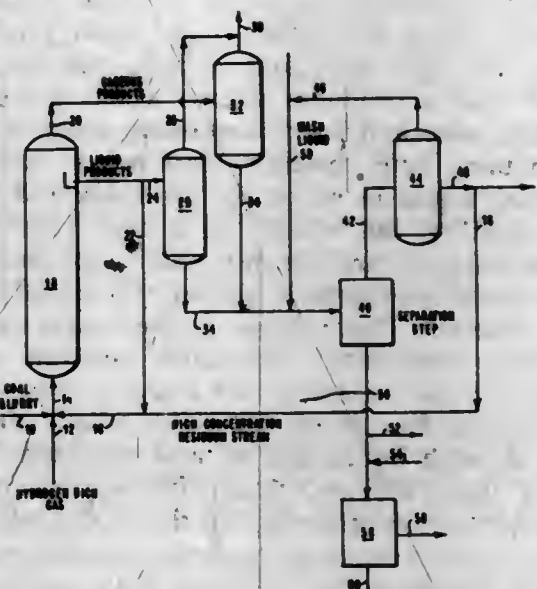
Edwin S. Johanson and Seymour C. Schuman, Princeton, Harold H. Stotler, Westfield, and Ronald H. Wolk, Lawrence Township, Mercer County, N.J., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey

Filed Apr. 8, 1968, Ser. No. 719,315

Int. Cl. C10g 1/04

U.S. Cl. 208-10

19 Claims



A process for the catalytic hydrocracking of solid carbonaceous feed materials by passing an oil slurry of the particulated feed with hydrogen upwardly through a



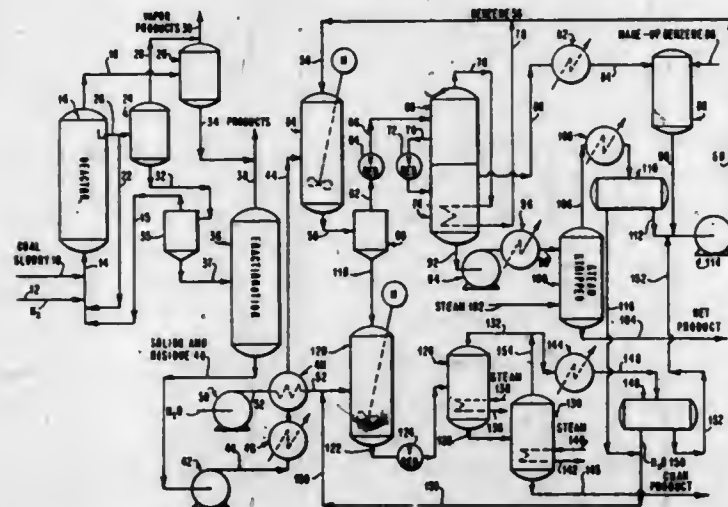
catalytic reaction zone such that the catalyst bed is in the ebullated state and removing gaseous and liquid products from the reaction zone along with solids. The liquid products are fractionated into light distillates, middle oils, recycle and slurry oils and a residuum and solids containing bottoms material. A wash liquid is then mixed with the bottoms material after which the combined wash liquid and bottoms material are subjected to a separation step whereby the residuum and other valuable hydrocarbons in the bottoms material which were retained by the solids are preferentially attracted by the wash liquid. The solids are then separated from the wash liquid solution and the residuum and hydrocarbon products may be easily recovered from said wash liquid.

### 3,519,554 RESIDUUM RECOVERY FROM COAL CONVERSION PROCESS

Harold H. Stotler, Westfield, N.J., and Michael Calderon, Flushing, N.Y., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey  
Filed Apr. 8, 1968, Ser. No. 719,456  
Int. Cl. C10g 1/06

U.S. Cl. 208—10

7 Claims



A process for the catalytic hydrocracking of a solid carbonaceous feed material by passing an oil slurry of the particulated feed with hydrogen upwardly through a catalytic reaction zone at high temperatures and pressures, such that the catalyst bed is in the ebullated state, and removing gaseous and liquid products from the reaction zone along with solids. The liquid products are separated into light distillates, middle oils, recycle and slurry oils and a residuum stream which is recycled to the reaction zone and solids-containing bottoms material which contains both residuum and heavy hydrocarbon oils. A wash liquid in which the residuum and oils have a high solubility, but which has a high volatility relative to the residuum and which is readily condensable with water at about atmospheric pressure is mixed with the bottoms material. This mixture is then separated into a first portion containing substantial amounts of wash liquid and oil and residuum and a second portion which contains essentially all of the solids along with small amounts of wash liquid and oil and residuum. The first portion is thermally and steam fractionated into pure wash liquid which is returned into the process and oil and residuum which is subjected to further downstream treatment. The second portion is mixed with water at about 180° F. and is then fractionated at reduced pressures such that the water contained in the mixture vaporizes and steam strips the wash liquid from the mixture. This results in a solids water slurry and a water-wash liquid mixture from which the wash liquid may easily be recovered and reused in the process.

3,519,555  
**EBULLATED BED COAL HYDROGENATION**  
Percival C. Keith, Peapack, Edwin S. Johanson, Princeton, Ronald H. Wolk, Lawrence Township, Mercer County, and Seymour B. Alpert and Seymour C. Schuman, Princeton, N.J., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 602,713, Dec. 19, 1966, and a continuation-in-part of application Ser. No. 340,899, Jan. 29, 1964. This application Nov. 8, 1968, Ser. No. 774,540

Int. Cl. C10g 1/08

U.S. Cl. 208—10

9 Claims

A coal hydrogenation process employing an expanded catalyst bed and producing better than 80% conversion of coal to gas and liquid petroleum products.

### 3,519,556 PRETREATMENT OF HYDROCONVERSION CATALYSTS

Hans U. Schutt, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Dec. 18, 1967, Ser. No. 691,219  
Int. Cl. C10g 13/02; B01j 11/74

U.S. Cl. 208—111

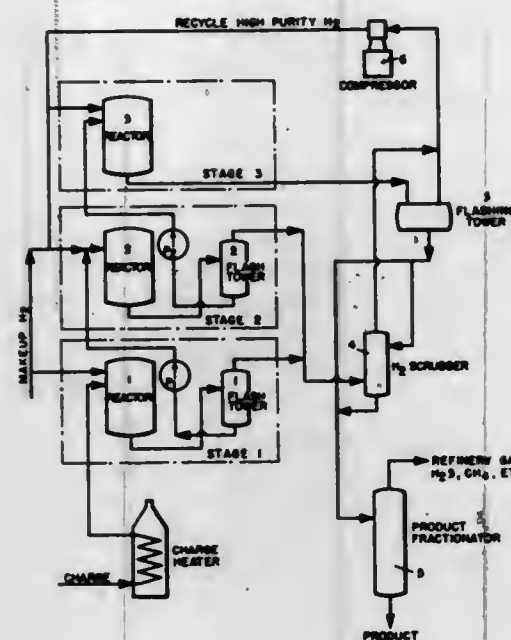
10 Claims

Hydroconversion catalysts prepared by incorporating hydrogenation metal components into a hydrogel of refractory oxide and containing at least one Iron Group hydrogenation metal component are greatly improved in catalytic activity, stability and regenerability by subjecting the catalyst to a special activation consisting of sequential calcination and sulfiding at a temperature of at least 930° F.

3,519,557  
**CONTROLLED HYDROGENATION PROCESS**  
Carl E. Pruks, Madison, Conn., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey  
Continuation of application Ser. No. 632,973, Apr. 24, 1967. This application Aug. 15, 1969, Ser. No. 852,153  
Int. Cl. C10g 23/02

U.S. Cl. 208—143

11 Claims



An improved process of hydrogenating petroleum fractions wherein the temperature and reaction are controlled by intermittently dissipating the exothermic heat of reaction before the temperature rises above a predetermined level by carrying out the hydrogenation in several and separate catalytic reaction stages and interposing there-

between a slight but rapid pressure reduction of about 50 p.s.i. whereby gaseous and very light materials such as H<sub>2</sub>S, CH<sub>4</sub>, and CO<sub>2</sub> are vaporized and removed.

### 3,519,558 SEPARATION OF SIMILAR SOLUTES USING A SEMIPERMEABLE MEMBRANE

William W. Cooper IV, Sudbury, Richard P. de Filippi, Weston, and Robert S. Timmins, Concord, Mass., assignors to Abcor, Inc., Cambridge, Mass., a corporation of Massachusetts

No Drawing. Filed Feb. 15, 1968, Ser. No. 705,636

Int. Cl. B01d 13/00

U.S. Cl. 210—23

21 Claims

Solutes of substantially the same molecular weight, size, or configuration are separated by means of semipermeable membranes, by first modifying at least one of the solutes so that the membrane will no longer pass the thus-modified solute while the unmodified material will pass through the membrane. The modification of the solute is achieved by agglomeration of the solute by, e.g., micelle formation. The process is particularly applicable to the separation of rosin acid soap and fatty acid soap from crude tall oil soap.

### 3,519,559 POLYGLYCIDYL POLYMERS AS WATER CLARIFIERS

Patrick M. Quinlan, Webster Groves, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Mar. 8, 1965, Ser. No. 438,115. Divided and this application Jan. 17, 1969, Ser. No. 792,156

Int. Cl. C02b 1/20

U.S. Cl. 210—54

14 Claims

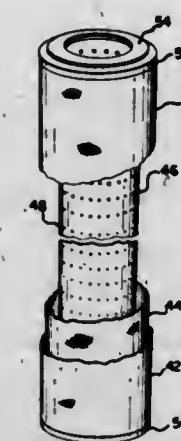
A process of water clarification which employs polyglycidyl polymers, copolymers thereof and derivatives thereof as water clarifiers.

### 3,519,560 METHOD AND APPARATUS FOR REMOVING WATER FROM FLUIDS

Lucian W. Taylor, Los Altos, Calif., assignor to Filters, Inc., San Jose, Calif., a corporation of California  
Filed Oct. 2, 1967, Ser. No. 672,233  
Int. Cl. B01d 29/42

U.S. Cl. 210—316

8 Claims



A filter separator assembly employing a separator element for separating water from hydrocarbon liquids wherein the separator element is formed of a material which militates against the passage of water therethrough while allowing the passage of a hydrocarbon fluid therethrough and is provided with means to effect a substantially uniform fluid flow therethrough throughout the entire length thereof.

### 3,519,561 ALKOXYLATED TERTIARY AMINE ANTISTATIC COMPOSITION

Andrew J. Kelly and Robert C. Britt, Chattanooga, Tenn., assignors, by mesne assignments, to GAF Corporation, New York, N.Y., a corporation of Delaware

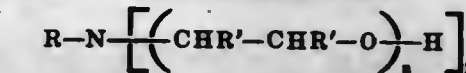
Filed June 23, 1966, Ser. No. 559,859

Int. Cl. D06m 15/52, 13/34

U.S. Cl. 252—8.8

8 Claims

An antistatic composition particularly adapted for use on textiles and related materials consisting of an aqueous solution, having a pH within the range of about 4 to 7, and containing as active ingredients about 1 part by weight of an alkoxyalted tertiary amine of the formula...



wherein R represents an aliphatic hydrocarbon radical of from about 8 to about 22 carbon atoms, R' represents a member of the group consisting of hydrogen and methyl and n represents an average integer of from 1 to about 50, and from about 1 to 5 parts by weight of an humectant. The humectant may be either a nonionic humectant (such as glycerine) or an ionic humectant (including strong electrolytes such as calcium chloride). When the humectant is nonionic, there must also be present at least 0.01 part by weight of a strong electrolyte, i.e., the salt of a strong base and a strong acid.

### 3,519,562 TEXTILE LUBRICANT

Arthur W. Lanner, Terrace Park, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of applications Ser. No. 363,288, Apr. 28, 1964, and Ser. No. 494,910, Oct. 11, 1965. This application May 18, 1966, Ser. No. 550,890

Int. Cl. C10m 7/00; D06m 13/00, 13/46

U.S. Cl. 252—8.8

11 Claims

A textile lubricant comprising an oxidized Fischer-Tropsch wax and an emulsifier which is (a) a cationic quaternary ammonium compound, or (b) an admixture of (a) with a nonionic polyethylene oxide emulsifier. The textile lubricant may be employed for imparting increased tear strength, wear and abrasion resistance and softness to durable press finished cotton and cotton-synthetic fiber blends.

### 3,519,563 THIOPHOSPHATE SALTS OF ARALKYLENE DIAMINES AS ANTIWEAR, EXTREME PRESSURE AND OXIDATION INHIBITOR AGENTS

Warren Lowe, El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Oct. 31, 1967, Ser. No. 679,570

Int. Cl. C10m 1/48

U.S. Cl. 252—32.7

3 Claims

Oil soluble phosphorodithioic acid salts of aralkylene diamines are provided as antiwear agents, extreme pressure agents and oxidation inhibitors in lubricating oils.

### 3,519,564 HETEROCYCLIC NITROGEN-SULFUR COMPOSITIONS AND LUBRICANTS CONTAINING THEM

Paul W. Vogel, Lyndhurst, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 663,208, Aug. 25, 1967. This application May 17, 1968, Ser. No. 731,363

Int. Cl. C10m 1/38

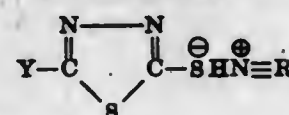
U.S. Cl. 252—47.5

10 Claims

Hydrazine (or substituted hydrazines) and carbon disulfide react with acylated polyamines (wherein the acylating agent is a carboxylic compound, preferably a succinic



compound, containing at least about 20 carbon atoms) to produce compositions useful as corrosion and rust inhibitors for lubricants. The compositions contain heterocyclic compounds of the formula



wherein Y is —SH or



is the acylated polyamine residue.

3,519,565

#### OIL-SOLUBLE INTERPOLYMERS OF N-VINYLTHTIOPYRROLIDONES

Lester E. Coleman, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 668,958, Sept. 19, 1967. This application July 5, 1968, Ser. No. 742,517

Int. Cl. C10m 1/38

U.S. Cl. 252—47.5 8 Claims  
N-vinylthiopyrrolidone, and its lower alkyl-substituted homologs, are interpolymerized with polymerizable alkyl ( $C_8$  or greater) carboxylates and (optionally) other oxygen-containing monomers to produce oil-soluble polymers. These polymers are useful in lubricating oils as viscosity index improvers, dispersants and oxidation inhibitors.

3,519,566

#### METHOD OF MAKING ELECTROPHOTOGRAPHIC DEVELOPER FOR ETCH RESIST IMAGE PATTERNS

Walter L. Garrett, Freeland, Mich., and Henderson C. Gillespie, Moorestown, N.J., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 7, 1966, Ser. No. 592,344

Int. Cl. G03g 9/04

U.S. Cl. 252—62.1 4 Claims  
A liquid electrophotographic developer composition for forming a photoresist in the preparation of printing plates, masters and the like contains a cross-linking promoting catalyst, a silicone intermediate resin, and a carrier liquid of an aliphatic or aromatic hydrocarbon, the composition being characterized by an electrical conductivity of from about  $0.5 \times 10^{-11}$  to about  $1.0 \times 10^{-9}$  reciprocal ohm centimeters. The composition is useful in bringing about cross-linking of the binder resin already laid down in admixture with a photoconductive material such as zinc oxide as a coating on a suitable substrate such as a photoengraving metal plate. After cross-linking of the binder in the coating, the uncross-linked portions of the coating are washed or dissolved away to leave photoresist.

3,519,567

#### PIEZOELECTRIC CERAMICS

Norio Tsubouchi, Masao Takahashi, Tomeji Ohno, and Tsuneo Akashi, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Minato-ku, Tokyo-to, Japan

Filed Aug. 7, 1968, Ser. No. 750,794

Claims priority, application Japan, Aug. 11, 1967, 42/51,505

Int. Cl. C04b 35/00

U.S. Cl. 252—62.9 1 Claim  
A piezoelectric ceramic is provided consisting essentially of a solid solution of the system

$\text{Bi}(\text{Ni}_{1/2}\text{Ti}_{1/2})\text{O}_3\text{—Bi}(\text{Ni}_{1/2}\text{Zr}_{1/2})\text{O}_3\text{—PbTiO}_3\text{—PbZrO}_3$   
wherein up to 25 atom percent of lead may be replaced by at least one element selected from the group consisting of barium, strontium and calcium.

3,519,568

#### ROPE SOAP

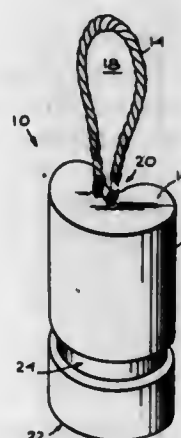
Lawrence Needleman, 1300 N. Larrabee St., Los Angeles, Calif. 90069

Filed Apr. 3, 1967, Ser. No. 627,714

Int. Cl. C11d 17/04

U.S. Cl. 252—93

8 Claims



A rope soap consisting of a bar of soap having at least one loose loop of rope extended from one side thereof. The bar defines a plurality of interconnected rope-accommodating grooves in which the loose rope is wound about the bar to form an integrally packaged unit therewith. The depths of the grooves may be chosen to form protective belts about the bar. Soap and rope of contrasting colors and/or complementing textures may be chosen to enhance the appearance of the integrally packaged unit.

3,519,569

#### ABRASIVE SCOURING CLEANSER

Ramon Bruno Diaz, Douglaston, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 18, 1966, Ser. No. 550,923

Int. Cl. C11d 7/56

U.S. Cl. 252—99 8 Claims  
An abrasive scouring cleanser containing as essential ingredients a water-insoluble inorganic siliceous abrasive material, a hypochlorite-chlorine liberating compound, a water-soluble organic detergent compound and from about 0.1 to about 10% by weight of an alkali metal bromide salt, the latter serving to suppress the evolution of volatile agents containing hypochlorite-generated osmophores.

3,519,570

ENZYMES - CONTAINING DETERGENT COMPOSITIONS AND A PROCESS FOR CONGLUTINATION OF ENZYMES AND DETERGENT COMPOSITIONS  
Charles Bruce McCarty, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of applications Ser. No. 544,846, Apr. 25, 1966, and Ser. No. 620,608, Mar. 6, 1967. This application Apr. 12, 1967, Ser. No. 635,293

Int. Cl. C11d 3/04, 7/16, 11/60

U.S. Cl. 252—135 24 Claims  
Granular, enzyme-containing detergent compositions wherein the stability of the enzymes is enhanced and

a process for making said enzyme-containing detergent compositions by rendering the surfaces of detergent granules glutinous with a low melting, ordinarily solid non-ionic surface active agent and conglutinating, with the glutinous detergent granules, powdered enzymes which are active in the pH range of from about 4 to about 12 and the temperature range of from about 50° F. to about 185° F.

#### ERRATUM

For Class 252—300 see:  
Patent No. 3,519,635

3,519,571

#### PROCESS FOR PREPARING METAL SOAP MIXTURES

Alfred Szczepanek, Niederau, and Günter Koenen, Lendersdorf, Germany, assignors to Hoechst-Chemie Gesellschaft mit beschränkter Haftung, Duren-Chemie, Duren, Rhineland, Germany, a limited-liability company of Germany

No Drawing. Filed Mar. 29, 1967, Ser. No. 628,227

Int. Cl. B01j 1/16

U.S. Cl. 252—400 10 Claims  
Mixtures of a metal soap (I) melting below 40° C. and of a metal soap (II) not melting below 140° C. are formed by reacting a saturated, straight chain  $C_8\text{—}C_{24}$  fatty acid with a suitable metal compound of metal (II) at a temperature above 100° C., in a melt of metal soap (I), or in an excess of the fatty acid. Organic additives melting below 140° C. may be present.

3,519,572

#### BLOOD CONTROL

Donald A. Kita, Jackson Heights, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 3, 1966, Ser. No. 583,934

Int. Cl. G01n 33/00

U.S. Cl. 252—408 7 Claims  
A process for the production of a stabilized, lyophilized preparation of lysed red blood cells standardized for use as a control for hemoglobin determinations in mammalian, especially human blood.

3,519,573

#### STEAM-OXYGEN ACTIVATION OF NICKEL-MOLYBDENUM CATALYSTS

Richard H. Coe, Seabrook, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 321,445, Nov. 5, 1963. This application May 11, 1967, Ser. No. 637,620

Int. Cl. B01j 11/74, 11/76

U.S. Cl. 252—439 3 Claims  
A fresh nickel-molybdenum catalyst is activated by a treatment with a gaseous mixture of steam and oxygen (or air) under controlled conditions at a temperature of about 750° F.

3,519,574

#### PROCESS FOR MANUFACTURE OF CATALYST MATERIAL AND CATALYST MATERIAL PRODUCED THEREBY

Joseph Dennis Colgan, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Connecticut

No Drawing. Filed July 10, 1967, Ser. No. 652,019

Int. Cl. B01j 11/36, 11/40

U.S. Cl. 252—451 10 Claims  
This invention relates to a process for preparing catalyst material which comprises preparing a slurry of an in-

organic oxide gel, typically an alumina-coated silica-alumina hydrogel, adding a petroleum fraction having a boiling range between about 300 and 950° F. to said slurry to form an oil-in-water emulsion, subjecting said emulsion to sufficient shearing action to eliminate the fluidizing effect of the continuous water phase thereby stiffening the hydrogel, extruding the stiffened hydrogel through an orifice of from  $\frac{1}{16}$  to  $\frac{1}{2}$  inch in diameter, and drying and calcining said extrudates. The resulting formed catalyst materials have improved strength and other physical properties.

3,519,575

#### METHOD OF PREPARING AN IRON GROUP METAL-TIN CATALYST

John E. Bozlk, Plum Borough, and William L. Kehl, Indiana Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 25, 1968, Ser. No. 778,807

Int. Cl. B01j 11/22

U.S. Cl. 252—472 10 Claims  
A method of preparing iron group metal-tin catalysts of controlled composition by intimately mixing the wet precipitates obtained from separate solutions of the metal salts. Hydrogen reduction of the mixture after drying results in an iron group metal-tin alloy with surface area of catalytic magnitude.

3,519,576

#### LATENT CURING EPOXY COMPOSITIONS CONTAINING A CRYSTALLINE POLYPHENATE SALT OF A POLYAMINE AND 2,4,4-TRIMETHYL-2,4,7-TRIHIDROXYFLAVAN

Calvin K. Johnson, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Nov. 23, 1966, Ser. No. 596,410

Int. Cl. C08j 30/14

U.S. Cl. 260—2 6 Claims  
Single component latent curing epoxy resin compositions containing as a heat activatable curing agent a crystalline polyphenate salt of a polyamine and a polyhydric phenol, substantially insoluble in the resin at room temperature, preferred examples being a 1:1 salt of 2,4,4-trimethyl-2',4',7'-trihydroxyflavan and N,N'-dimethyl-1,3-propanediamine, and the 2:1 salt of bisphenol A and triethylenetetramine.

3,519,577

#### METHOD FOR FORMING ELASTOMERIC PARTICLES

Leonard L. Olson, St. Paul Park, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed June 22, 1964, Ser. No. 377,048

Int. Cl. C08g 22/44, 53/08; C08d 13/10

U.S. Cl. 260—2.5 10 Claims  
A method is taught for forming ground particles of organic polymeric material, capable of passing a screen of 100 mesh, each particle being essentially uniformly permeated with a random network of capillary-type micro-passages within which a volatile liquid is essentially uniformly distributed. The method involves polymerization of precursor ingredients in a volatile liquid in which the precursor ingredients are soluble, and then grinding the polymerizate while the volatile liquid is still present. The mass so ground is extremely crumbly and friable.



3,519,578

## CELLULAR COMPOSITIONS

Geoffrey Allen, Victor Bryan, and Robert Alfred Darrall, Manchester, England, assignors to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain  
No Drawing. Filed Sept. 6, 1966, Ser. No. 577,531  
Claims priority, application Great Britain, Sept. 10, 1965, 38,687/65

Int. Cl. C08j 1/20; C08f 47/10

U.S. Cl. 260—2.5 10 Claims  
This invention relates to foaming a hydrocarbon polymer with a dinitrosopentamethylene tetramine blowing agent and the improvement which comprises adding a solid salt of urea with an organic acid to prevent the development of obnoxious odor from the decomposition of the blowing agent.

3,519,579

## PROCESS FOR MAKING POLYURETHANE FOAMS WITH POLYSILOXANES HAVING REACTIVE —NCO AND —NCS GROUPS

Bernard Kanner, West Nyack, and Enrico James Pepe, Amawalk, N.Y., assignors to Union Carbide Corporation, New York, N.Y., a corporation of New York  
No Drawing. Continuation-in-part of application Ser. No. 422,428, Dec. 30, 1964. This application Mar. 10, 1969, Ser. No. 845,801

Int. Cl. C08g 22/46, 31/24, 31/26

U.S. Cl. 260—2.5 6 Claims  
This invention relates to the use of polysiloxanes having at least one isocyanato or isothiocyanato group as foam stabilizers in the one-shot process for producing polyurethane foams.

3,519,580

## PROCESS OF MAKING A WATER-REPELLENT COMPOSITION FOR THE MANUFACTURE OF MOLDED PRODUCTS

Herbert William Schou, Palsgaard, Juelsminde, Denmark  
No Drawing. Continuation-in-part of application Ser. No. 426,662, Jan. 19, 1965. This application Sept. 6, 1967, Ser. No. 665,732  
Claims priority, application Denmark, Jan. 22, 1964, 331/64

Int. Cl. C08g 51/18, 51/52, 51/04

U.S. Cl. 260—17.2 9 Claims  
Water-repellent moldable compositions are prepared from a composition of fibrous organic substances and a hardenable binder by substantially uniformly distributing in said composition a water-repellent additive which remains in pulverulent, non-coalescent condition, such as for example alkane wax, asphalt, bituminous products, oxidized or polymerized fatty acids and the like in mixture with a pulverulent carrier substance. The water-repellent carrier is sorted as to particle size, before, during or after treatment with the water-repellent agent.

3,519,581

## METHOD OF PRODUCING SYNTHETIC LIGNIN-POLYISOCYANATE RESIN

Howard H. Moorer, Walter K. Dougherty, and Frank J. Ball, Charleston, S.C., assignors to Westvaco Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Original application Aug. 3, 1959, Ser. No. 831,017. Divided and this application Jan. 13, 1967, Ser. No. 698,960

Int. Cl. C08h 5/02; C08g 22/08

U.S. Cl. 260—17.5 3 Claims  
Lignin dissolved in a solvent therefor is reacted with an organic polyisocyanate that is in intimately dispersed relation with respect to the dissolved lignin. The solvent may be a volatile solvent or a substantially non-volatile solvent containing hydroxyl groups such as a glycol that

also is reactive with the polyisocyanate. In certain cases the polyisocyanate itself may be the solvent for the lignin. The non-volatile solvent containing hydroxy groups, when used, may be esterified with carboxyl groups of the lignin prior to reaction of the lignin with the polyisocyanate.

3,519,582

## EPOXIDE RESIN COMPOSITIONS

Peter Clefford, Saffron Walden, John Michael Coulter, Giltbrook, and Georg Sigfrid Neumann, Duxford, Cambridge, England, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland  
No Drawing. Filed Oct. 18, 1967, Ser. No. 676,080  
Claims priority, application Great Britain, Oct. 27, 1966, 48,258/66

Int. Cl. C08g 30/14

U.S. Cl. 260—18 10 Claims  
A hardenable composition of matter comprising an epoxide resin, and, as hardener therefor, an aliphatic polyamine containing at least three nitrogen atoms, and directly attached to said nitrogen atoms, at least three hydrogen atoms and at least one member selected from the group consisting of benzyl group,  $\alpha$ -phenylethyl group, benzyl group substituted by halogen in the phenyl nucleus, benzyl group substituted in phenyl nucleus by alkyl group containing at most two carbon atoms,  $\alpha$ -phenylethyl group substituted by halogen in the phenyl nucleus and  $\alpha$ -phenylethyl group substituted in phenyl nucleus by alkyl group containing at most two carbon atoms.

3,519,583

## AQUEOUS EMULSION ELECTROCOATING COMPOSITION

Olin W. Huggard, Rocky River, Ohio, assignor to Mobil Oil Corporation, a corporation of New York  
No Drawing. Filed Nov. 13, 1967, Ser. No. 682,636  
Int. Cl. C08g 17/16; C09d 3/66, 5/24

U.S. Cl. 260—21 10 Claims  
Aqueous emulsions particularly adapted for electrophoretic deposition are provided with the discontinuous oil phase of the emulsion comprising normally liquid unsaturated oil modified by reaction with unsaturated acid to enable dispersion with a polycarboxylic acid emulsifying agent, the properties of the system being improved through the presence in the modified oil of more than 20% of a nonwater-soluble, water dispersible amino-plast resin. Typical modification of the oil is by adduction with maleic or fumaric acid to provide an acid number of from 5–30 which is insufficient for water solubilization. In this way, organic solvents can be omitted from the oil phase. Methyl ethyl ketone is dissolved in the aqueous phase of the emulsion to improve the throwing power of the system.

3,519,584

## VINYL HALIDE POLYMERS STABILIZED WITH MIXTURES COMPRISING A METAL PHENATE-PHOSPHITE AND A METAL CARBOXYLATE-PHOSPHITE

Gordon M. Juredine, Cleveland Heights, Ohio, assignor to Synthetic Products Company, Cleveland, Ohio, a corporation of Ohio  
No Drawing. Continuation-in-part of applications Ser. No. 510,424, Oct. 18, 1965, and Ser. No. 615,860, Sept. 15, 1966. This application Dec. 5, 1966, Ser. No. 599,416  
Int. Cl. C08f 45/58, 45/62

U.S. Cl. 260—23 24 Claims  
Asymmetric alkaline earth metal phenate-phosphites are prepared by reacting a dispersion in high boiling organic liquid of an oxide of a polyvalent metal with equal molar amounts of a phenol (including substituted phenols and thiophenols) and with an organic phosphite having at least one aryl group in addition to two organic substituents of 4 to 18 carbon atoms, 0.1 to 10 parts of product

are incorporated into various high polymers (for example PVC) to provide stabilization without the undesirable plate-out, haze formation, and other disadvantages obtained with alkaline earth metal carboxylates and/or phenates alone or in conjunction with prior art phosphites. Carboxylic salts of cadmium, tin, etc. may also be present. The composition is also advantageous in oils, fuels, etc.

3,519,585

## PRESSURE SENSITIVE ADHESIVE COMPOSITION

James A. Miller, Akron, Ohio, assignor to Morgan Adhesives Company, Stow, Ohio, a corporation of Ohio  
No Drawing. Continuation-in-part of application Ser. No. 660,191, Aug. 14, 1967, which is a continuation-in-part of application Ser. No. 542,209, Apr. 13, 1966. This application Apr. 25, 1969, Ser. No. 819,486  
Int. Cl. C08d 9/12; C09j 3/26

U.S. Cl. 260—27 10 Claims  
A pressure sensitive adhesive made from two copolymers of the styrene-butadiene type, one having blocks of polystyrene at each end of the polymer molecule and one having a polystyrene block at one end of the polymer molecule. A tackifying resin, e.g., pentaerythritol ester of hydrogenated rosin, is included in the adhesive. Appropriate solvents, e.g., hydrocarbons, are used.

3,519,586

## BLENDS OF WAXES AND CRYSTALLINE COPOLYMERS OF BUTENE-1 AND PROPYLENE OR ETHYLENE

James E. Guillet, Toronto, Ontario, Canada, and Robert L. Combs, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Filed Oct. 12, 1967, Ser. No. 674,756  
Int. Cl. C08f 45/52

U.S. Cl. 260—28.5 9 Claims  
Hydrocarbon or other waxes are blended with crystalline block copolymers of butene-1 and propylene or ethylene, propylene being preferred, to give coating compositions which may be applied by hot-melt coating methods. The composition may contain varying proportions of the copolymer, for example between about 1% and about 50% by weight of the total blended resins. In the copolymer, varying ratios of butene-1, ethylene, and/or propylene are useful. For example between about 20% and about 95% of butene-1 units may be present in the polymer. Homopolymers of ethylene or propylene are not suitable in modifying the waxes, and the copolymers described in the specification are, surprisingly superior to butene-1 crystalline homopolymers. The compositions have a low cloud point, high strength, are highly cohesive, have low melt viscosities, provide hard tough waterproof protective coatings or laminations and are excellent for impregnating paper, fabrics, plastic films and the like. The coating methods include curtain, dip, spray, extrusion, and aqueous emulsions of the modified wax composition.

3,519,587

## PRESSURE SENSITIVE ADHESIVES OF VINYL ACETATE/VINYL LAURATE COPOLYMERS

Hubert Wiest, Joseph Heckmaier, and Eduard Bergmeister, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Bavaria, Germany, a corporation of Germany  
No Drawing. Filed Oct. 23, 1967, Ser. No. 677,023  
Claims priority, application Germany, Oct. 31, 1966, W 42,704  
Int. Cl. C09j 3/14; C08f 45/52

U.S. Cl. 260—28.5 2 Claims  
This invention relates to pressure sensitive adhesives, i.e. substances which are also called "sticky adhesive

substances," "dry sticky adhesives," "self-adhesive, substances" or "stick-on adhesives," and in English language literature mostly "pressure sensitive adhesives."

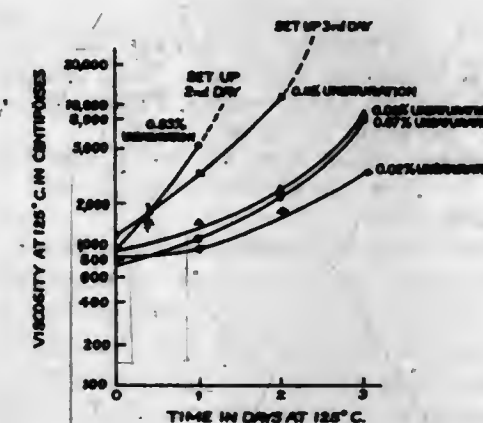
Such substances are used on a large scale as adhesive layers on various bases, particularly on tapes or other flat bases, e.g. medical adhesive tapes, insulating tapes for electrical devices, self-adhesive tapes for other purposes, self-adhesive labels or self-adhesive foils, or for instance for sealing envelopes and bags.

3,519,588

## EMULSIFIABLE WAXES FROM POLYOLEFINS

Hugh J. Hagemeyer, Jr., and Raymond L. Etter, Jr., Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
Filed Mar. 8, 1963, Ser. No. 263,792  
Int. Cl. C08d 5/00

U.S. Cl. 260—29.6 18 Claims



Emulsifiable polyolefin waxes, particular polyethylene waxes, having improved properties are produced by thermally degrading the polyolefin in an inert atmosphere to form a low molecular weight, unsaturated product which is then hydrogenated prior to oxidation.

3,519,589

## ETHYLENE POLYMERS

Harold D. Lyons, Overland Park, Kans., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware  
No Drawing. Filed Aug. 1, 1966, Ser. No. 569,050  
Int. Cl. C08f 45/24, 15/00

U.S. Cl. 260—29.6 5 Claims  
Stable, high-solids, self-emulsifiable aqueous dispersions of water-insoluble ethylene-alkyl acrylate polymers having relatively low viscosities are obtained by the controlled hydrolysis of an ethylene-alkyl acrylate polymer so as to convert at least 55 mol percent of the acrylate groups to the amide form.

3,519,590

## STABLE ETHYLENE COPOLYMER AQUEOUS DISPERSIONS

Raymond M. Henry and Rajinder K. Kochhar, Overland Park, Kans., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware  
No Drawing. Filed Dec. 28, 1966, Ser. No. 605,495  
Int. Cl. C08f 45/56, 47/18

U.S. Cl. 260—29.6 15 Claims  
The viscosity stability of aqueous dispersions of amide-containing self-emulsifiable ethylene-alkyl acrylate polymers is increased by controlling the pH of such aqueous dispersions.



3,519,591

## PROCESS FOR TREATING FILLERS

Justin C. Bolger, Needham, Mass., assignor to Amicon Corporation, Lexington, Mass., a corporation of Massachusetts

No Drawing. Filed Dec. 1, 1967, Ser. No. 687,147  
Int. Cl. C08g 51/10; C08k 1/14

U.S. Cl. 260—37

10 Claims

Chrysotile asbestos is dispersed in water at a reduced pH and chemically bonded to a functional, cationic organic compound such as those exhibiting a pH of above 4 and a solubility in water of less than about 10% to improve its dispersibility and flow-modifying character in diverse chemical systems. The novel treated-asbestos products of this method and the novel compositions formed of these novel treated asbestos products are also subjects of the instant invention. Among such compositions are thixotropic epoxy-based pastes, polyester compositions, and polyvinyl chloride plastisols.

3,519,592

## INDOLE COMPOUNDS

Kenneth G. Holden, Stratford, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 18, 1967, Ser. No. 631,619  
Int. Cl. C07d 51/02, 27/40

U.S. Cl. 260—240

6 Claims

3-phenacylidene-2-oxindoline-7-carboxylic acids and esters, prepared by converting 2,3-dioxindoline-7-carboxylic acids to 3-hydroxy-3-phenacyl-2-oxo compounds and subsequent dehydration. The 3-phenacylidene compounds are reduced to the 3-phenacyl compounds and then ring-closed with hydrazine to give 3-phenylpyridazinoindoles. 2-oxindoline-7-carboxylic acids are prepared by stepwise reduction of the 2-3-dioxo compounds. Certain of the compounds have antiinflammatory activity.

3,519,593

## POLYMER COATED MINERAL FILLER AND METHOD OF MAKING AND USING SAME

Justin C. Bolger, Needham, Mass., assignor to Amicon Corporation, Cambridge, Mass., a corporation of Massachusetts

No Drawing. Filed May 22, 1967, Ser. No. 640,372  
Int. Cl. C08f 45/06, 45/10; C09c 3/00

U.S. Cl. 260—41

18 Claims

Mineral fillers are dispersed in an organic solvent with a cationic or anionic surface active agent and coated with a water-insoluble vinyl polymer either by mixing with the dispersion a solution of the preformed polymer or by polymerizing the polymer on the filler surface. The coated fillers are used in enhancing the properties of synthetic thermoplastic polymeric materials, particularly polypropylene.

3,519,594

## COATED ASBESTOS AND METHOD OF MAKING AND USING SAME

Alan Sherman Michaels, Lexington, Mass., assignor to Amicon Corporation, Lexington, Mass., a corporation of Massachusetts

No Drawing. Filed Nov. 9, 1967, Ser. No. 681,933  
Int. Cl. C08f 1/84

U.S. Cl. 260—41

9 Claims

Basic fibrous and particulate fillers, having isoelectric points above about 8, e.g. chrysotile asbestos, are well dispersed in an aqueous medium in which is dissolved a barium, strontium, or calcium compound, and a water-soluble per-compound initiator of polymerization; a water-insoluble ethylenically unsaturated monomer dispersed in the medium is polymerized to form a polymer

coating on the filler. The coated filler is used as a filler by dispersing it in a mass of organic polymeric material such as polypropylene.

3,519,595

## STABILIZED POLYAMIDES

Karl Heinz Hermann and Hans Rudolph, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 28, 1967, Ser. No. 626,378  
Claims priority, application Germany, Apr. 2, 1966, F 48,847

Int. Cl. C08g 51/56

U.S. Cl. 260—45.75

5 Claims

Polyamide compositions are stabilized by the addition of 0.001 to 0.2 percent by weight of a copper salt and 0.001 to 5 percent by weight of zinc iodide, cadmium iodide, arsenic iodide, antimony iodide or bismuth iodide.

3,519,596

## STABILIZED POLYETHYLENE SULFIDE COMPOSITIONS

Stuart M. Ellerstein, Trenton, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Aug. 10, 1967, Ser. No. 659,585  
Int. Cl. C08g 51/60

U.S. Cl. 260—45.75

22 Claims

Thiocyanate and selenocyanate compounds are used alone, and in conjunction with various other compounds, such as organic nitrogen compounds and certain inorganic metal oxides, as stabilizers for ethylene sulfide polymers to prevent the degradation of such polymers during the high temperature molding thereof into various molded articles, as well as to prevent degradation of the polymers during the subsequent use of such molded articles at the service temperatures employed during the use of such articles.

3,519,597

## ADDUCTS OF HEXAHALOCYCLOPENTADIENE WITH ALKADIENES AS FIRE-RETARDANT ADDITIVES FOR POLYMERS

Edward D. Well, Yonkers, N.Y., and John F. Porter, Durham, N.C., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 345,066, Feb. 17, 1964, and Ser. No. 597,855, Nov. 30, 1966. This application Nov. 29, 1967, Ser. No. 686,704

Int. Cl. C08g 51/58; C08f 45/58; C09k 3/28  
U.S. Cl. 260—45.75

10 Claims

Mono- and di-Diels-Alder adducts of hexahalocyclopentadiene with terminally double bonded alkadienes having 8 to 20 carbon atoms are useful as fire retardant additives in polymers.

3,519,598

## STABILIZED POLY(ETHYLENE SULFIDE) COMPOSITIONS

Roy Larsen, Lambertville, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 477,288, Aug. 4, 1965. This application June 21, 1968, Ser. No. 745,071

Int. Cl. C08g 51/56, 51/60, 51/62

U.S. Cl. 260—45.75

20 Claims

Solid thermoplastic ethylene sulfide polymers are stabilized with a combination of certain organic nitrogen containing compounds and certain organic and inorganic compounds of Group II-B metals.

3,519,599

## SUBSTITUTED PHENYL BENZOATES USEFUL AS ULTRAVIOLET LIGHT INHIBITORS

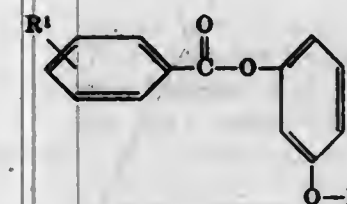
Gordon C. Newland and Gerald R. Lappin, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 18, 1968, Ser. No. 714,021  
Int. Cl. C08f 45/58; C08c 27/66

U.S. Cl. 260—45.85

6 Claims

Substituted phenyl benzoates having the general formula



wherein R is an alkyl radical or an aryl radical and R<sup>1</sup> is hydrogen, an alkyl radical or an aryl radical; said compounds being useful as ultraviolet light inhibitors for polyolefins, cellulose esters and poly(vinyl chlorides).

3,519,600

## ROOM TEMPERATURE CURING ORGANO-POLYSILOXANE ELASTOMERS

Kallash Chandra Pandey, Adrian, Mich., and Richard Eugene Ridenour, Sylvania, Ohio, assignors, by mesne assignments, to Stauffer-Wacker Silicone Corporation, a corporation of Delaware

No Drawing. Filed Feb. 3, 1966, Ser. No. 524,855  
Int. Cl. C08f 11/04

U.S. Cl. 260—46.5

4 Claims

Compositions convertible to the elastomeric state upon exposure to moisture are produced by reacting a silanol-terminated linear organopolysiloxane fluid with a 2,4,6,8-tetraalkyltetra(N,N-dialkylaminoxy)cyclotetrasiloxane.

3,519,601

## SILOXAMINE COMPOUNDS

Charles E. Creamer, Ridgefield, Conn., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 26, 1968, Ser. No. 747,823  
Int. Cl. C08f 11/04

U.S. Cl. 260—46.5

8 Claims

Linear siloxamine polymers containing at least three pendent (R'(Y)SiO) aminosiloxy units wherein R' is hydrogen, phenyl, lower alkyl or a Y radical and Y is an amino radical of the formula —NX<sub>1</sub>X<sub>2</sub> where X<sub>1</sub> is hydrogen or lower alkyl and Y<sub>2</sub> is phenyl or lower alkyl; said siloxamines being especially useful as cross-linking agents in room temperature vulcanizable siloxane compositions.

3,519,602

## EPOXY RESIN COMPOSITIONS COMPRISING AN EPOXY RESIN AND N-SECONDARY-ALKYL POLYALKYLENE DIAMINE

Anthony J. Castro, Oak Park, Layton F. Klaney, Evanson, and Wayne R. Coy, Cicero, Ill., assignors, by mesne assignments, to Armour Industrial Chemical Company, a corporation of Delaware

No Drawing. Filed Sept. 13, 1967, Ser. No. 667,340  
Int. Cl. C08g 30/14

U.S. Cl. 260—47

9 Claims

Epoxy resin compositions comprising an epoxy resin and an N-secondary-alkyl polyalkylene diamine to form resin compositions useful for coatings, castings and the like.

3,519,603

## CURABLE MIXTURES OF DIEPOXY COMPOUNDS, DISECONDARY AMINES, AND POLYAMINES CONTAINING AT LEAST 3 ACTIVE HYDROGEN ATOMS LINKED TO NITROGEN

Friedrich Lohse, Allschwil, Rolf Schmid, Mueschenstein, and Hans Batzer, Aesch, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

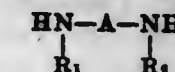
No Drawing. Filed May 28, 1968, Ser. No. 732,560  
Claims priority, application Switzerland, June 8, 1967, 8,128/67; Aug. 9, 1967, 11,217/67

Int. Cl. C08g 30/08, 30/14

U.S. Cl. 260—47

19 Claims

A curable epoxy resin mixture suitable for use as casting, impregnating or laminating resin, as binder, coating or sealing composition, characterized in that it contains (I) a diepoxy compound containing two 1,2-epoxyethyl residues, (II) a di-secondary diamine of the formula



in an amount of 0.3 to 0.9, preferably 0.5 to 0.8, equivalent of active hydrogen atoms linked with nitrogen for every equivalent of epoxide groups of the diepoxy compound (I), and in this formula R<sub>1</sub> and R<sub>2</sub> each represents an unsubstituted or alkylated saturated carbocycle or a ring system containing at least 5 cyclic carbon atoms, and A represents an unsubstituted or alkylated polymethylene residue which may be interrupted by ether oxygen atoms and which contains in the linear chain directly connecting the two secondary nitrogen atoms at least 4 and preferably at least 6 carbon atoms, and (III) a polyamine, which contains at least 3 active hydrogen atoms linked with nitrogen, in an amount of 0.2 to 0.8, preferably 0.4 to 0.6, equivalent of active hydrogen atoms linked with nitrogen for every epoxide equivalent of the diepoxy compound (I).

3,519,604

## COMPOSITION COMPRISING AN EPOXY RESIN, A POLYCARBOXYLIC ACID ANHYDRIDE AND AN AMINOPYRIDINE

Juerg Maurer, Riehen, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Nov. 19, 1968, Ser. No. 777,184  
Claims priority, application Switzerland, Dec. 8, 1967, 17,250/67

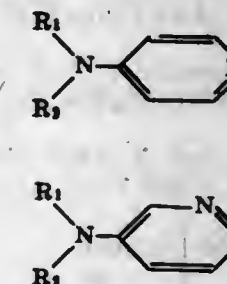
Int. Cl. C08g 30/14

U.S. Cl. 260—47

9 Claims

Storable mixtures, which cure rapidly at elevated temperature and are suitable for the manufacture of shaped structures, impregnations, coatings and adhesive bonds, especially when used in form of sinter powders, characterized in that they contain

- a polyepoxy compound whose molecule contains on an average more than one epoxide group,
- a polycarboxylic acid anhydride as curing agent and
- as curing accelerator a monoaminopyridine of the formula



in which, independently of each other, R<sub>1</sub> and R<sub>2</sub> represent a hydrogen atom or an aliphatic, cycloaliphatic, cycloaliphatic, araliphatic or aromatic residue each, or R<sub>1</sub>+R<sub>2</sub> represent a divalent aliphatic, cycloaliphatic or araliphatic residue.



3,519,605

**POLYORTHOCARBONATE POLYMERS AND COPOLYMERS AND METHOD OF PREPARING SAME**

Tohru Takekoshi, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
No Drawing. Filed Mar. 4, 1968, Ser. No. 709,913  
Int. Cl. C08g 17/13, 33/10, 17/14

U.S. Cl. 260—61 10 Claims  
High molecular weight linear polyorthocarbonates are produced by reacting a dihalodiaroxymethane with dihydroxy organic compounds in the presence of a hydrogen halide acceptor. Clear flexible films can be cast from solutions of these polyorthocarbonates, which films are useful as insulation for copper wires, as dielectric films in capacitor devices, etc.

3,519,606

**POLYSULFIDE CATALYSTS**

Anthony B. Concistori, Chatham, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Continuation of application Ser. No. 701,476, Jan. 29, 1968, which is a continuation of application Ser. No. 466,838, June 24, 1965. This application Feb. 24, 1969, Ser. No. 805,961  
Int. Cl. C08g 23/00

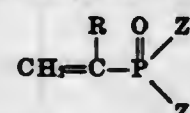
U.S. Cl. 260—79 8 Claims  
This specification discloses novel catalysts for the preparation of sulfide polymers. The polymers have utility in the manufacture of textiles. For example, ethylene sulfide is polymerized in the presence of a catalytic amount of a reaction product of zinc chloride and butyl mercaptan.

3,519,607

**POLYMERIZATION OF VINYL PHOSPHORYL COMPOUNDS**

Frank J. Welch, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York  
No Drawing. Filed June 29, 1962, Ser. No. 206,151  
Int. Cl. C08f 3/00

U.S. Cl. 260—80 11 Claims  
A vinyl phosphoryl compound of the formula:



wherein R is hydrogen or the methyl radical and Z is —OR', —SR', —N(R')<sub>2</sub> or —R', wherein R' is a saturated or olefinically unsaturated aliphatic or monocyclic aromatic radical, is polymerized to a solid moldable product by contacting the monomer at a temperature of from —80° C. to +100° C. with a catalyst of the formula



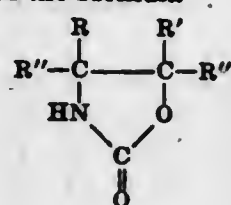
wherein R'' is as defined above by R' and X is halogen or R''.

3,519,608

**UNSATURATED -ACYLOXYALKYL-2-OXAZOLIDINONES, POLYMERS THEREOF AND METHODS OF MAKING THE MONOMERS AND POLYMERS**

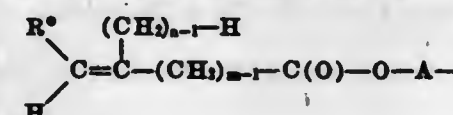
Everett J. Kelley, Moorestown, N.J., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware  
No Drawing. Filed Jan. 7, 1965, Ser. No. 424,135  
Int. Cl. C08f 7/00, 15/18

U.S. Cl. 260—86.1 12 Claims  
1. A compound of the formula



wherein

R is selected from the group consisting of H and (C<sub>1</sub>-C<sub>4</sub>)-alkyl groups,  
R' is selected from the group consisting of H and (C<sub>1</sub>-C<sub>2</sub>)-alkyl groups, and one of the substituents R'' is H and the other is a member of the formula



wherein

n is an integer having a value of 1 to 2,  
m is an integer having a value of 1 to 3,  
R'' is H except that it is selected from the group consisting of H and methyl when m is 2, and  
A is an alkylene group having 1 to 4 carbon atoms.

3,519,609

**METHOD FOR MAKING POLYOLEFIN WAXES BY THERMAL DEGRADATION OF HIGHER MOLECULAR WEIGHT POLYOLEFINS IN THE PRESENCE OF ORGANIC ACIDS AND ANHYDRIDES**  
Richard L. McConnell and Doyle A. Weemes, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Filed June 7, 1967, Ser. No. 644,086  
Int. Cl. C08f 15/40

U.S. Cl. 260—88.2 14 Claims  
A process for the production of low viscosity polyolefin waxes by the thermal degradation of high molecular weight polyolefins in the presence of an organic anhydride catalyst. The organic anhydride catalyst can be supplied directly to the polymer to be degraded or can be formed in situ during the degradation by adding to the polymer an organic acid which is converted to an anhydride at the degradation temperatures used in the process. The use of such anhydride catalysts allows a reduction of the degradation temperatures and/or contact times used in the reaction. Reaction temperatures of 200 to 400° C., and preferably 225 to 350° C. are used in the process. Saturated aliphatic or aromatic anhydrides such as acetic anhydride, succinic anhydride, phthalic anhydride, pyromellitic dianhydride, and corresponding acids; such as trimellitic acid and phthalic acid are preferred catalysts.

3,519,610

**POLYACRYLATE CURING AGENTS**

Elwood E. Huntzinger, Springfield, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware  
No Drawing. Filed Nov. 18, 1966, Ser. No. 595,329  
Int. Cl. C08f 3/64

U.S. Cl. 260—89.5 6 Claims  
Polyacrylate elastomeric compositions are prepared by using as a curing agent a salt obtained by combining triethylenediamine or its methyl form with an acidic organic compound, such as a phenolic compound. The salt is used in about 3 to 12 parts per 100 parts of resin; and the vulcanization conditions range from 290° F. to 425° F. for 3 to 30 minutes. The system has good bin stability and the vulcanizate has good compression set value without resorting to post cure tempering.

3,519,611

**AROMATIC POLYMERS CONTAINING PYRAZOLE UNITS AND PROCESS THEREFOR**

Allan S. Hay, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
No Drawing. Filed Mar. 2, 1967, Ser. No. 619,954  
Int. Cl. C08f 9/00

U.S. Cl. 260—94.1 7 Claims  
N-arylsydones have been found to react with poly-(diacetylenic) polymers to yield polymers containing N-aryl-

pyrazole units in the backbone of the chain. These polymers are more readily set forth as containing units depicted by the following formula:



wherein R is a divalent hydrocarbon radical, R' is an aryl group or a substituted aryl group, n is an integer having a value of from 1 to 600 inclusive a whole number having a value of from 0 to 60, inclusive, the sum of m+n has a value of 10 to 600 inclusive and preferably from 100 to 600 inclusive. These pyrazole-containing polymers find utility as insulating films.

3,519,612

**POLYMERIZATION OF BUTADIENE USING A CATALYTIC MIXTURE OF A LITHIUM ALUMINUM HYDRIDE/ALUMINUM TRICHLORIDE REACTION PRODUCT PLUS A COBALT SALT OF A CARBOXYLIC ACID**

Morris Gippin, Fairlawn Village, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio  
No Drawing. Continuation-in-part of application Ser. No. 394,060, Sept. 2, 1964. This application June 19, 1968, Ser. No. 738,134

U.S. Cl. 260—94.3 4 Claims  
Butadiene-1,3 is polymerized in the presence of a catalyst comprising

- |  |   |
|--|---|
| (A) A separately preformed reaction product of:            | Mols per mol of lithium aluminum hydride A(1) |
| (1) Lithium aluminum hydride                               | 1.0   |
| with   |   |
| (2) Aluminum trichloride                                   | 0.5–5.0                                       |
| plus   |   |
| (B) A hydrocarbon-soluble cobalt salt of a carboxylic acid | .001–1.0                                      |

The products are characterized by a simultaneous concurrence of the following desirable properties: high content of cis-1,4 structure; sufficiently low molecular weight (less than 3.0 dilute solution viscosity) so as to be readily workable on conventional rubber working machinery; and zero, or substantially zero, gel content.

3,519,613

**POLYMERIZATION OF ETHYLENE USING A CATALYST COMPOSED OF AN INORGANIC VANADIUM COMPOUND AND A HALOGENATED ORGANO-ALUMINUM COMPOUND**

Kobei Nakaguchi, Osaka, Shobachi Kawasaki, Niihama-shi, Takezo Sano, Ibaraki-shi, Keifu Ueda and Tomozumi Nishikida, Niihama-shi, Kenichi Maemoto, Ibaraki-shi, Yoshikazu Fujii, Takatsuki-shi, and Koichi Harada, Ibaraki-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan  
No Drawing. Filed Mar. 28, 1966, Ser. No. 537,637  
Claims priority, application Japan, Mar. 31, 1965, 40/18,823

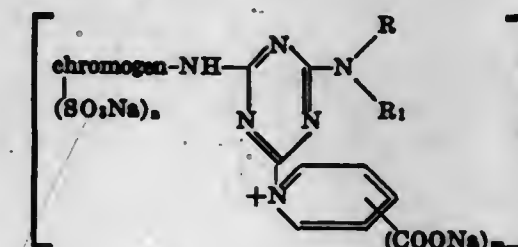
U.S. Cl. 260—94.9 2 Claims  
A method for the homopolymerization of ethylene and for the copolymerization of ethylene with other olefinic comonomers, using a catalyst consisting of a vanadium

phosphate, the mean valency of the vanadium atom of said phosphate being not less than 4 and less than 5, and a halogenated organo-aluminum compound represented by the formula, R<sub>n</sub>AlX<sub>3-n</sub>, wherein R is a hydrocarbon radical having 1 to 8 carbon atoms, X is a halogen atom and n is a number higher than 0 and lower than 3.

3,519,614

**REACTIVE AZO DYES CONTAINING TRIAZINE GROUPS QUATERNIZED BY NICOTINIC ACID**  
Sandro Ponzini, Saronno, Italy, assignor to Aziende Colori Nazionali Affini ACNA S.p.A., Milan, Italy  
No Drawing. Filed Aug. 3, 1966, Ser. No. 569,803  
Claims priority, application Italy, Aug. 9, 1965, 17,891/65

U.S. Cl. 260—146 9 Claims  
Reactive triazine dyestuffs having the formula:

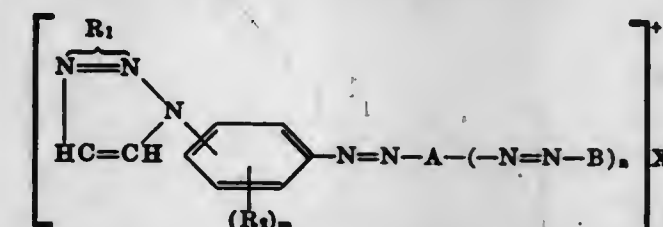


wherein the chromogen is a dyestuff residue selected from the group consisting of azo-, metallized azo-, anthraquinone and phthalocyanine dyestuff residues, said chromogen being attached to the —NH— bridging group through a carbon atom of an aromatic nucleus of said chromogen selected from the group consisting of benzene and naphthalene, R and R<sub>1</sub> are each selected from the group consisting of hydrogen, phenyl and phenyl substituted with SO<sub>2</sub>H and COOH, n is an integer from 1 to 4 and m is 1 or 2, are particularly effective for dyeing cellulose fibers. The dyestuffs may be absorbed and fixed onto the cellulose fibers by known hot or cold dyeing techniques.

3,519,615

**QUATERNIZED AZO DYESTUFFS CONTAINING TRIAZOLIUM PHENYL GROUPS**  
Gerhard Wolfrum, Opladen, and Heinrich Gold, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Filed July 12, 1966, Ser. No. 564,531  
Claims priority, application Germany, July 17, 1965, F 46,643

U.S. Cl. 260—155 10 Claims  
Diaz components such as 1-(aminophenyl)-triazoles-(1,2,3) and their nonionic substitution products and quaternary salts are diazotized and coupled to produce azo dyestuffs which are adapted for use in dyeing fibers and fabrics of polyacrylonitrile, copolymers of acrylonitrile and dicyanoethylene, cellulosic fibers, silk, and leather, which dyestuffs correspond to the formula:



wherein A and B stand for a residue of a coupling component, R<sub>1</sub> stands for an alkyl radical with 1–4 carbon atoms or for benzyl, R<sub>2</sub> stands for a nonionic substituent, m is 0–3, n is 0 or 1, and X is an anion.



3,519,616

**WATER-SOLUBLE MONOAZO DYESTUFFS**

August Bauer, Frankfurt am Main, Gerhard Langbein, Hofheim, Taunus, and Fritz Meininger, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

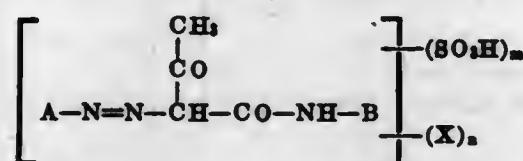
No Drawing. Filed May 1, 1967, Ser. No. 634,833  
Claims priority, application Germany, May 3, 1966, F 49,094

Int. Cl. C09b 29/32

U.S. Cl. 260—193

6 Claims

Water-soluble monoazo dyestuffs which, in the form of the free acid, correspond to the general formula



in which A represents a phenyl radical being substituted in ortho or para position to the azo group by an alkoxy, aralkoxy, or aryloxy group, or being substituted in para position to the azo group by an acylamino group, or a radical of the naphthalene series, B represents an aromatic or heterocyclic radical, m represents an integer from 1 to 3, n represents 1 or 2 and X represents one of the groupings of the formula



or



bound to A and/or B, and in which Y represents a radical which can be split off by alkaline agents, and which are suitable for the dyeing or printing of textile materials of cellulose, wool, silk or polyamide fibers.

3,519,617

**RED PHENYL-AZO-NAPHTHOL DYESTUFFS FOR EDIBLE COMPOSITIONS**

Gustav E. Rast, Hamburg, and Russell I. Steiner, Williamsville, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed May 18, 1967, Ser. No. 639,264

Int. Cl. C07c 107/08; A231 1/27

U.S. Cl. 260—200

9 Claims

Monoazo compounds of this invention, which may be termed 1-([2-alkoxy-5-alkyl-4-sulfophenyl]azo)-2-naphthol-6-sulfonic acids and physiologically acceptable salts thereof are prepared by conventional procedures, e.g. coupling diazotized 5-alkoxy-2-alkylsulfanilic acid, in alkaline media, into 2-naphthol-6-sodium sulfonate. The monoazo compounds of the invention are useful as dyestuffs for various substrates and especially for edible substrates, such as foodstuffs or pharmaceutical compositions.

3,519,618

**STARCH DERIVATIVE**

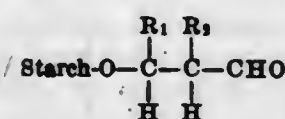
Stanley M. Parmerter, Wheaton, Ill., assignor to CPC International Inc., a corporation of Delaware  
No Drawing. Filed Jan. 31, 1968, Ser. No. 701,819

Int. Cl. C08b 19/04

U.S. Cl. 260—233.3

12 Claims

Covers a modified starch composition. Particularly covers a product prepared by reacting granular starch and an unsaturated aldehyde to produce a substantially noncross-linked granular starch derivative having the following general structural formula:



where R<sub>1</sub> and R<sub>2</sub> are selected from the group consisting of hydrogen, lower alkyl radicals and halogen. Product is useful as a binder for non-woven fabrics and for other purposes. Also covers a method of preparing the above defined composition.

3,519,619

**16-ALKYLIDENE PREGNANES AND PROCESS FOR THEIR MANUFACTURE**

Emanuel B. Herschberg, West Orange, Eugene P. Oliveto, Glen Ridge, and Richard C. Rauser, Union, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of applications Ser. No. 861,207, and Ser. No. 861,208, both filed Dec. 22, 1959. This application Jan. 20, 1967, Ser. No. 610,474

Int. Cl. C07c 173/00

U.S. Cl. 260—239.55

21 Claims

Novel 3-oxygenated-16-alkylidene-17 $\alpha$ -hydroxy-20-keto-pregnanes and esters thereof, useful mainly as intermediates in the preparation of 16-alkylidene-progesterones and 16-alkylidene-corticoids having a valuable pharmacological properties, are prepared via a novel process whereby a 3-oxygenated-16-alkyl-20-keto-16-dehydropregnane is treated with an expoxidation reagent, preferably hydrogen peroxide in an alkaline medium, and the novel 3-oxygenated-16 $\beta$ -alkyl-16 $\alpha$ ,17 $\alpha$ -oxido-20-keto-pregnane thereby produced or a derivative thereof is treated with a strong, non-oxidizing acid in a non-aqueous solvent, preferably hydrogen bromide in acetic acid.

3,519,620

**2-VINYL-1,4-DIHYDROQUINAZOLINE DERIVATIVES**

Joachim Augstein, William C. Austin, Alastair M. Monro, and Derek H. Morgan, Kent, England, assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 3, 1967, Ser. No. 620,248  
Claims priority, application Great Britain, Mar. 10, 1966, 10,503/66

Int. Cl. C07d 51/48

U.S. Cl. 260—240

5 Claims

Certain novel 2-vinyl-1,4-dihydroquinazoline compounds useful as anti-hypertensive agents are prepared by the novel process of reacting an appropriately substituted 2-methyl-1,4-dihydroquinazoline with at least an equimolar amount of a desired aldehyde in an inert solvent at a temperature of from about 30° C. to about 200° C. for a period of up to 48 hours in the presence of a catalytic amount of a weak base.

3,519,621

**5H-DIBENZO[a,d]CYCLOHEPTENE DERIVATIVES**

Leslie G. Humber, Dollard des Ormeaux, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 454,731, May 10, 1965. This application Oct. 16, 1967, Ser. No. 675,321

Int. Cl. C07c 87/28; C07d 51/76

U.S. Cl. 260—240

9 Claims

There are disclosed herein the compounds 2-(5-hydroxy-10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-ylmethyl)-benzylidimethylamine and -pyrazine, 2-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-ylidene-methyl)-benzylidimethylamine and -pyrazine, and 2-(5-hydroxy-5H-dibenzo[a,d]cyclohepten-5-ylmethyl)-benzylidimethylamine. The compounds possess trichomoni-

cidal and anti-inflammatory activities, and methods for their preparation and use are also given.

3,519,622

**PHENOTHIAZINE DERIVATIVES**

Blaine M. Sutton, Philadelphia, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 413,974, Nov. 25, 1964. This application May 20, 1966, Ser. No. 551,562

Int. Cl. C07d 93/14

U.S. Cl. 260—243

14 Claims

This disclosure is concerned with phenothiazines useful as anti-inflammatory agents.

3,519,623

**7-AMINOPHTHALOYLPHENOTHIAZINES**

Max A. Weaver, James M. Straley, and David J. Wallace, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 26, 1968, Ser. No. 779,246

Int. Cl. C07d 93/12

U.S. Cl. 260—243

5 Claims

Water-insoluble phthaloylphenothiazine compounds containing an amino, alkylamino, cyclohexylamino, arylamino, or acylamino group at the 7-position and the 5-sulfoxide and 5,5-dioxide derivative thereof. The compounds are useful as dyes for hydrophobic textile materials such as cellulose acetate, polyamide, and polyester textile materials.

3,519,624

**ANTIMICROBIAL PREPARATIONS CONTAINING N-ACYL-3,4-DIHYDRO-OXAZINES-(1,3)**

Helmut Huber-Emden, Basel, Paul Schaefer, Riehen, Arthur Maeder, Therwil, and Hans-Rudolf Hitz, Muttens, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

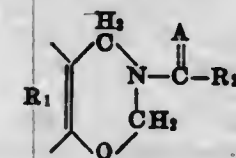
No Drawing. Filed July 6, 1967, Ser. No. 651,397  
Claims priority, application Switzerland, July 20, 1966, 10,525/66

Int. Cl. C07d 87/14

U.S. Cl. 260—244

6 Claims

The present invention provides novel N-acyl-3,4-dihydro-oxazines-(1,3). These new compounds are suitable as active ingredients in antimicrobial preparations. Some of the new compounds may be polymerized and both the monomeric compounds and the polymers made from them possess antimicrobial, especially fungicidal and/or bactericidal and bacteriostatic properties. The new compounds correspond to the formula



where A represents a sulphur or an oxygen atom, R<sub>1</sub> a radical containing a single carbocyclic-aromatic six-membered ring which is condensed with the dihydrooxazine ring in the manner indicated by the valency lines, and further substituent, and R<sub>2</sub> represents an aliphatic or a monocyclic benzene radical R<sub>1</sub> contains at least one aromatic radical bound through a carbon atom with the group



3,519,625

**ETHERIFIED METHYLOLATED MELAMINES AND PROCESS FOR FINISHING CELLULOSIC TEXTILE MATERIAL THEREWITH**

Michael Thomas Beachem, Somerset, and Frederic Houghton Megson, Martinsville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 13, 1967, Ser. No. 622,400

Int. Cl. C07d 55/22

U.S. Cl. 260—249.6

5 Claims

This invention relates to new and etherified methylolated melamines and their use on cellulosic textile materials dyed with direct dyes. The new etherified melamines impart crease-resistance to such materials and the light-fastness of the direct dyes is improved.

3,519,626

**AMINO-METHYLOLATED MELAMINES AND PROCESSES FOR FINISHING CELLULOSE TEXTILE**

Michael Thomas Beachem, Somerset, and Frederic Houghton Megson, Martinsville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 13, 1967, Ser. No. 622,415

Int. Cl. C07d 55/22

U.S. Cl. 260—249.6

6 Claims

This invention relates to new amino-methylolated melamines and to their use on cellulosic textile materials that have been dyed with direct dyes. The new amino-methylolated melamines impart crease-resistance to such materials and dyed materials so finished have improved light-fastness.

3,519,627

**CARBOXYL-CONTAINING ETHERS OF AMINO-TRIAZINE/ALDEHYDE CONDENSATES**

Carlton E. Coats, Burnsville, Minn., and John David Nordstrom, Westland, Mich., assignors to Ashland Oil & Refining Company, Houston, Tex., a corporation of Kentucky

No Drawing. Filed Apr. 9, 1968, Ser. No. 719,854

Int. Cl. C07d 55/32

U.S. Cl. 260—249.6

5 Claims

Carboxyl groups are introduced into amino-triazine/aldehyde condensates by (1) transesterifying an alkoxy-alkyl amino-triazine with a mono- to di-hydroxy aliphatic carboxylic acid in the presence of an acid catalyst or (2) by etherifying an alkylol amino-triazine with a mixture of aliphatic monoalcohol and a mono- or di-hydroxy aliphatic carboxylic acid in the presence of acid catalyst. The carboxyl-containing ether products have improved water solubility, are useful as cross-linking agents for hydroxyl-, carboxyl- and amide-containing polymers and may be applied electrolytically to conductive articles by placing the article at the anode in an electrolytic cell containing an aqueous solution of the carboxyl-modified condensate.

3,519,628

**ARALKYL DIAZABICYCLO(4,4,0)DECANES**

Gilbert Regnier, Sceaux, Roger Canevari, La Haye-les-Roses, and Jean-Claude Le Douarec, Suresnes, France, assignors to Science Union et Cie, Societe Francaise de Recherche Medicale, Suresnes, France, a French society

No Drawing. Filed Dec. 19, 1966, Ser. No. 602,535

Int. Cl. C07d 51/70

U.S. Cl. 260—268

9 Claims

1,4-diazabicyclo(4,4,0) decane compounds substituted in position 4, by phenyl-methyl, phenyl-ethyl, or phenyl-propyl radicals, wherein

the phenyl ring may be substituted by halogen atoms, halogenomethyl, lower-alkyl, lower alkoxy, methylenedioxy or ethylenedioxy groups;



the mono, di or tri-methylene side chain may be substituted on the carbon atom adjacent to the phenyl radical by one or two phenyl or cyclohexyl radical, or by one hydroxyl radical.

These compounds possess parasympatholytic, anticholinergic, musculotropic-spasmodic and antiserotonin properties.

3,519,629

### PIPERAZINOMETHYL-2,3-DIHYDRO-5-(PYRIDYL)-1-BENZOTHIOPINS

Richard J. Mohrbacher, Fort Washington, Pa., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Application Aug. 16, 1968, Ser. No. 753,067, which is a division of application Ser. No. 636,570, Apr. 28, 1967, which in turn is a continuation-in-part of application Ser. No. 462,411, June 8, 1965. Divided and this application May 22, 1969, Ser. No. 842,067

Int. Cl. C07d 51/70

U.S. Cl. 260-268

6 Claims

The compounds are of the class of 2,3-dihydrobenzothiopyrins, useful for their pharmacological properties as hypotensive agents.

3,519,630

### ANTIBACTERIAL AND ANTIFUNGAL TREATMENT WITH SULFONES

Ivan C. Popoff, Ambler, Bernard Buchholz, Blue Bell, and Harold J. Miller, Newtown Square, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

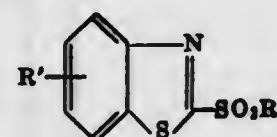
No Drawing. Continuation-in-part of application Ser. No. 636,026, May 4, 1967. This application Feb. 6, 1969, Ser. No. 797,255

Int. Cl. A01n 9/12, 9/22

U.S. Cl. 424-270

15 Claims

Process of controlling bacteria and fungi with compounds of the structure:



where R is an alkyl group containing from 1 to 12 carbon atoms and R' is hydrogen, nitro, amino, halogen, perfluoroalkyl, or mono- and dialkylamino, R' being located in the 5 or 6 position.

3,519,631

### QUATERNARY DERIVATIVES OF 1,2,3,4-TETRAHYDRO-9-AMINO-ACRIDINE

Walter Ost, Klaus Thomas, and Dietrich Jerchel, Ingelheim am Rhine, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhine, Germany, a corporation of Germany

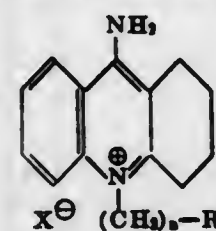
No Drawing. Filed Aug. 16, 1966, Ser. No. 572,664. Claims priority, application Germany, Aug. 18, 1965, B 83,329, B 83,330

Int. Cl. C07d 37/24

U.S. Cl. 260-279

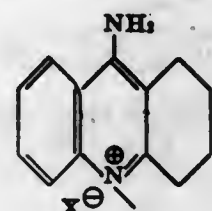
15 Claims

Bacteriocidal and fungicidal quaternary 1,2,3,4-tetrahydro-9-amino-acridine derivatives of the formula



wherein

n is an integer from 8 to 16, inclusive, X is the biologically acceptable anion of an inorganic or organic acid, such as mineral acids, acetic acid, propionic acid, caproic acid, tartaric acid, methanesulfonic acid, fumaric acid, maleic acid, citric acid or p-toluenesulfonic acid, and R is hydrogen or



where X has the same meanings as defined above.

3,519,632

### 3-NITROSTRYCHNINE DERIVATIVES FOR THE DENATURATION OF ALCOHOL

Enzo Tedeschi, Tel Aviv, Israel, assignor to Plantex Ltd., Nathanya, Israel, an Israeli company

No Drawing. Filed Nov. 29, 1966, Ser. No. 597,560. Claims priority, application Israel, Jan. 14, 1966, 24,976

Int. Cl. C07d 43/34

U.S. Cl. 260-286

5 Claims

Compounds of 3-nitrostrychnine derivatives useful as ethanol denaturants are disclosed.

3,519,633

### CERTAIN SUBSTITUTED 5,11-DIHYDRO-10,10-DIOXO-DIBENZ[C,F][1,2]THIAZEPIN-5-YLOXY-AMINES

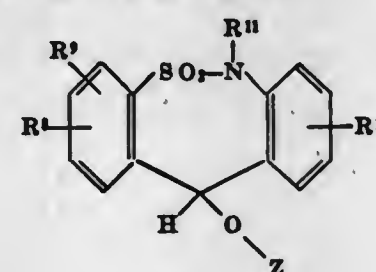
Abraham Weber, Paris, and Jacques Jean Frossard, Champigny, France, assignors to Mead Johnson & Company, Evansville, Ind., a corporation of Indiana

No Drawing. Filed Aug. 2, 1967, Ser. No. 657,785. Int. Cl. C07d 67/00

U.S. Cl. 260-292

7 Claims

Novel compounds of Formula I having antihistaminic and other pharmacological activity.



Formula I

3,519,634

### 8-SUBSTITUTED 2,6-DICHLORO-4-THIOPYRIDINE-3,5-DICARBONITRILES

Günther Mohr, Klemens Schührer and Sigmund Lust, Darmstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany

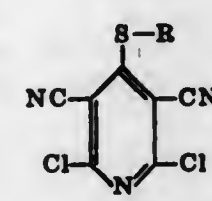
No Drawing. Filed Apr. 3, 1968, Ser. No. 718,346. Claims priority, application Germany, Apr. 5, 1967, M 73,474

Int. Cl. C07d 31/50

U.S. Cl. 260-294.8

25 Claims

A pesticidal composition comprising a compound of the formula



wherein

R represents alkyl of up to 18 carbon atoms optionally mono- or polysubstituted by fluorine, chlorine and/or R<sub>1</sub>.

A benzyl or phenylethyl residue optionally mono- or polysubstituted in the nucleus by CN, OR<sub>2</sub>, NO<sub>2</sub>, halogen, COOR<sub>2</sub> and/or R<sub>2</sub>.

Cyclopentyl, or cyclohexyl;

R<sub>1</sub> represents CN, COOR<sub>2</sub>, or lower alkoxy or alkylthio of up to 4 carbon atoms; and

R<sub>2</sub> represents lower alkyl of up to 4 carbon atoms.

3,519,635

### PHOTOCHROMIC COMPOSITIONS OF A THERMOPLASTIC POLYMER AND A POLYMERIC MATERIAL

Lewis Smith Meriwether, Stamford, Conn., and Edith Clara Breitner, Roslyn, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

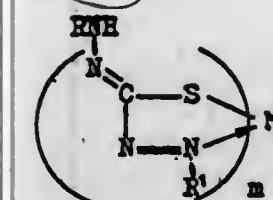
No Drawing. Continuation of application Ser. No. 323,580, Nov. 14, 1963. This application Apr. 18, 1968, Ser. No. 722,151

Int. Cl. G02b 1/04

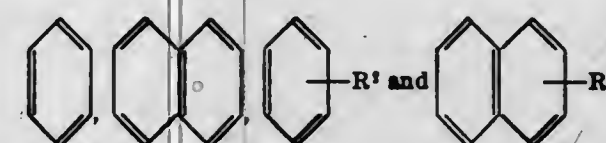
U.S. Cl. 252-300

10 Claims

Compositions of matter comprising a polymeric material having incorporated therein a compound having the formula



wherein M is Pd<sup>II</sup>, Pt<sup>II</sup>, Ni<sup>II</sup>, Ag<sup>I</sup>, Zn<sup>II</sup>, Cd<sup>II</sup>, Pb<sup>II</sup>, Bi<sup>III</sup>, or Ti<sup>IV</sup>, m is a whole positive integer of 1-3, inclusive, and R and R' are, individually



and R<sup>2</sup> is an alkyl (C<sub>1</sub>-C<sub>4</sub>), a nitro, a halo, an alkoxy (C<sub>1</sub>-C<sub>4</sub>), an aryloxy (C<sub>6</sub>-C<sub>10</sub>), a hydroxy, a carboxy, a carboxyalkyl (C<sub>2</sub>-C<sub>4</sub>), an alkoxycarbonyl (C<sub>2</sub>-C<sub>6</sub>), an aryl (C<sub>6</sub>-C<sub>10</sub>), a sulfamoyl, a sulfo, an arylamino (C<sub>6</sub>-C<sub>10</sub>), an alkylamino (C<sub>1</sub>-C<sub>4</sub>), an amino, an acyl (C<sub>2</sub>-C<sub>11</sub>), an acylamino (C<sub>1</sub>-C<sub>11</sub>), a tetralyl, a perfluoroalkylthio (C<sub>1</sub>-C<sub>4</sub>) or an alkylthio (C<sub>1</sub>-C<sub>4</sub>) radical, are disclosed.

3,519,636

### CATALYTIC MERCAPTOBENZOTHAZOLE PROCESS WITH PHOSPHOROUS SULFIDE CATALYST

Hanno Maria Merin, Somerville, N.J., George Constantine Goulardis, Brooklyn, N.Y., and Hans Erich Grethlein, Martinsville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 10, 1967, Ser. No. 674,092

Int. Cl. C07d 91/48

U.S. Cl. 260-306

6 Claims

This invention relates to a novel process for making 2-mercaptobenzothiazole. More particularly, this invention relates to a novel catalytic process for making 2-mercaptobenzothiazole by reacting aniline, carbon disulfide and sulfur in the presence of a catalyst which comprises phosphorous sulfides or mixtures of phosphorous sulfides and certain thiazole compounds.

3,519,637

### 1-(4-THIAZOLYMETHYL)NITROIMIDAZOLE DERIVATIVES

Max Hoffer, Nutley, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 6, 1966, Ser. No. 599,406

Int. Cl. C07d 91/34

U.S. Cl. 260-306.8

8 Claims

Novel 1-(4-thiazolymethyl)nitroimidazoles are disclosed, along with processes for their preparation by reacting a 1-(3-haloacetyl)nitroimidazole with a thiourea. The compounds are useful in the treatment of infections due to pathogenic protozoa.

3,519,638

### 4,5-DIPHENYLIMIDAZOLE DERIVATIVE

Iwao Kawakami, 609 Kugayama-helm, 492-7 2-chome, Kugayama, Suganami-ku, Tokyo, Japan

Filed Sept. 19, 1967, Ser. No. 673,244

Claims priority, application Japan, Sept. 3, 1965, 40/53,904

Int. Cl. C07d 49/36

U.S. Cl. 260-309

1 Claim

4,5-diphenylimidazole is reacted with an easily soluble propylene oxide or a derivative of butylene oxide or a 1-halogenol-2-hydroxy compound in the presence of a tertiary amine to produce dl-1-(4'-diphenylimidazolyl)-2-propanol or dl-1-(4',5'-diphenylimidazolyl)-2-ethyl-2-propanol. These compounds are used as the fundamental material in ointments and fluids for dermatitis and in cosmetics.

3,519,639

### IMIDAZOLYL PHOSPHATES AND PHOSPHOROTHIOATES

Paul B. Budde and Henry Tolkmith, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 604,177, Dec. 23, 1966. This application May 24, 1968, Ser. No. 731,745

Int. Cl. C07d 49/36

U.S. Cl. 260-309

5 Claims

Disclosed are (a) imidazolyl phosphates and phosphorothioates wherein the phosphorus atom additionally bears two substituted phenoxy groups or one substituted phenoxy group and a lower alkylamino group or substituted phenyl group and (b) diimidazolyl phosphates and phosphorothioates wherein the phosphorus atom additionally bears a substituted phenoxy group in which, in each instance, the substituents are from 1 to 3 independent bomo, chloro, cyano, nitro, loweralkoxy, or loweralkyl groups. These compounds are useful as bactericides and fungicides.

3,519,640

### 4-SUBSTITUTED-1,2-DIPHENYL-3,5-DIOXO-PYRAZOLIDINES

Václav Musil, Bohumila Brunová, Oldřich Němeček, and Jitka Muratová, Prague, Czechoslovakia, assignors to Spofa, United Pharmaceutical Works, Prague, Czechoslovakia

No Drawing. Filed Dec. 21, 1966, Ser. No. 603,425

Claims priority, application Czechoslovakia, Dec. 23, 1965, 7,748/65

Int. Cl. C07d 49/08

U.S. Cl. 260-310

20 Claims

Novel 1,2-diphenyl-3,5-dioxo-pyrazolidines substituted in the 4-position by one or two substituted 3-oxo-alkyl groups having anti-inflammatory, analgesic anti-rheumatic, fibrinolytic and uricosurial properties and methods for the production of such pyrazolidines, including the alkylation of 1,2-diphenyl-3,5-dioxo-pyrazolidines with quaternary compounds of Mannich bases.



3,519,641

**CONTINUOUS PRODUCTION OF COPPER PHTHALOCYANINES FROM PHTHALIC ANHYDRIDE AND UREA**

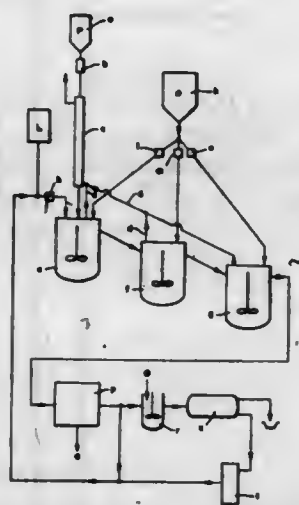
Robert Nitzschmann and Hubert Kindler, Ludwigshafen (Rhine), and Gerhard Wellenreuther, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed June 2, 1967, Ser. No. 643,249  
Claims priority, application Germany, June 3, 1966, 1,569,650

Int. Cl. C09b 47/06

U.S. Cl. 260—314.5

8 Claims



A new continuous process for the production of copper phthalocyanines. The starting materials, for example phthalic anhydrides or phthalimides and urea, are continuously added to a series of reaction vessels connected with each other. Reaction time and temperature are kept at optimum levels.

3,519,642

**CELLULOSE-CONTAINING TEXTILES COLORED WITH REACTIVE DYESTUFFS**

Karlfried Wedemeyer, Cologne-Stammheim, Detlef Delfs, Opladen, and Winfried Kruckenberg, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 402,348, Oct. 7, 1964, which is a continuation-in-part of application Ser. No. 785,327, Jan. 7, 1959.

This application July 30, 1968, Ser. No. 755,491  
Claims priority, application Germany, Jan. 28, 1958, F 24,914; Sept. 26, 1968, F 26,669

Int. Cl. C09b 47/04

U.S. Cl. 260—314.5

5 Claims

This disclosure is concerned with derivatives of azo, azomethine, anthraquinone, triphenylmethane, oxazine and azoporphyrine dyestuffs.

3,519,643

**SULFONYLUREA DERIVATIVES**

Erhard Schenker, Basel, and Klaus Hasspacher, Riehen, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

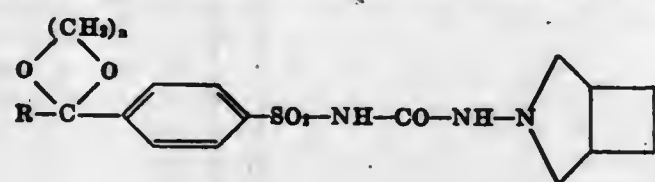
No Drawing. Filed May 2, 1967, Ser. No. 635,351  
Claims priority, application Switzerland, May 4, 1966, 6,482/66; Jan. 24, 1967, 1,035/67

Int. Cl. C07d 27/30

U.S. Cl. 260—326.3

4 Claims

The present invention provides compounds of formula:



in which R is alkyl of 1 to 3 carbon atoms and n is 2 or 3, and the pharmaceutically acceptable alkali metal, alkaline earth metal and ammonium salts and salts with organic bases thereof. These compounds exhibit a pronounced blood sugar lowering effect, and, upon administration of low doses, they furthermore lower the content of free fatty acids in the blood. The production of these compounds is furthermore described.

3,519,644

**AZABICYCLOALKANE DERIVATIVES**

Erhard Schenker, Basel, and Klaus Hasspacher, Riehen, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

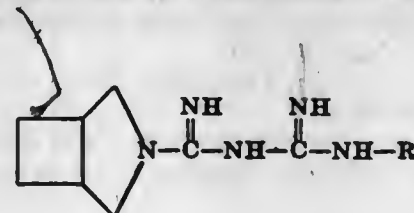
No Drawing. Filed Apr. 11, 1967, Ser. No. 629,895  
Claims priority, application Switzerland, Apr. 13, 1966, 5,343/66; Dec. 28, 1966, 18,627/66

Int. Cl. C07d 27/04

U.S. Cl. 260—326.86

3 Claims

The present invention provides compounds of formula:



in which R is hydrogen or lower alkyl, and the pharmaceutically acceptable acid addition salts thereof, which exhibit a pronounced blood sugar lowering effect. The production of these compounds is furthermore described.

3,519,645

**PROCESS FOR THE PREPARATION OF PROPANE-SULTONE**

François Contat, Ecully, and Ghislain Schwachhofer, Miribel, France, assignors to Progil, Paris, France, a corporation of France

Filed Jan. 15, 1968, Ser. No. 697,642

Claims priority, application France, Jan. 27, 1967, 48,231

Int. Cl. C07d 89/06

U.S. Cl. 260—327

7 Claims

This invention relates to a process for the production of propane-sultone by dehydration of 3-hydroxy-propane-sulfonic acid in the presence of a dilution agent while continuously drawing off from the reaction mixture the solution of propane-sultone in the dilution agent from which the propane-sultone is recovered. The dilution agent may be an ether-oxide, ester, toluene, xylene or monochlorobenzene.

3,519,646

**MANUFACTURE OF PROPANE-SULTONE**

François Contat, Ecully, and Ghislain Schwachhofer, Miribel, France, assignors to Progil, Paris, France, a corporation of France

No Drawing. Filed Jan. 15, 1968, Ser. No. 697,906

Claims priority, application France, Jan. 27, 1967, 48,230

Int. Cl. C07d 89/06

U.S. Cl. 260—327

6 Claims

This invention relates to the manufacture of propane-sultone by the dehydration of 3-hydroxy-propane-sulfonic acid in the presence of monochlorobenzene at a temperature of 130–134° C. for a period of approximately ten hours. An azeotrope of dehydration water and monochlorobenzene is distilled off during this period and the resulting solution is distilled to recover propane-sultone.

3,519,647

**2,3,4,5-TETRAHYDRO-1,5-BENZOTHAZEPINES**

John Krapcho, Somerset, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

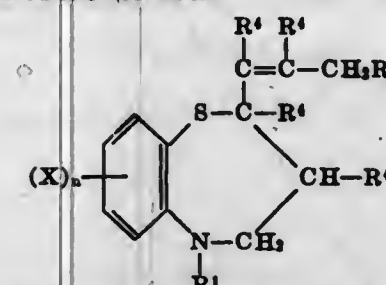
No Drawing. Original application Oct. 12, 1966, Ser. No. 586,040, now Patent No. 3,455,902, dated July 15, 1969. Divided and this application Oct. 29, 1968, Ser. No. 771,661

Int. Cl. A61k 27/00; C07d 99/00

U.S. Cl. 260—327

2 Claims

Compounds of the formula



stereoisomers and salts thereof, wherein R is selected from the group consisting of hydrogen and (X')<sub>n</sub>-substituted aryl; R' is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, lower alkynyl and the radical —AB wherein A is lower alkylene and B is a basic nitrogen-containing radical selected from the group consisting of amino, lower alkyl amino, di(lower alkyl)amino, hydroxy-lower alkyl amino, di(hydroxy-lower alkyl)amino, phenyl-lower alkyl amino and saturated N-containing heterocyclics having 5 to 7 atoms in the ring selected from the group consisting of piperidyl, lower alkyl piperidyl, hydroxy piperidyl, lower alkoxy piperidyl, morpholino, lower alkyl morpholino, lower alkoxy morpholino, thiamorpholino, lower alkyl thiamorpholino, di(lower alkyl) thiamorpholino, lower alkoxy thiamorpholino, piperazyl, lower alkyl piperazyl, di(lower alkyl)piperazyl, lower alkoxy piperazyl, hydroxy-lower alkyl piperazyl, alkanoyl-oxy-lower alkyl piperazyl, di(lower alkyl)amino-lower alkyl piperazyl, di(lower alkyl)amino-lower alkoxy-lower alkyl piperazyl, arylpiperazino, homopiperazino, lower alkyl homopiperazino, lower alkoxy homopiperazino and phenyl-lower alkyl homopiperazino, wherein the alkanoyl group consists of radicals containing up to 14 carbon atoms, and the aryl group is selected from the group consisting of phenyl, 3,4-methylenedioxyphenyl, 3,4-ethylenedioxyphenyl, furyl, thienyl, naphthyl, and pyridyl; R<sup>4</sup> is selected from the group consisting of hydrogen and lower alkyl, at least three of R<sup>4</sup> being hydrogen; X and X' are each selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, amino, di(lower alkyl)amino, halo lower alkylthio, hydroxy, cyano, nitro and trifluoromethyl; and n is an integer from one to three. The compounds of this invention possess central nervous system modifying and antibacterial activity.

3,519,648

**4,9-DIHYDROTHIENO(2,3-B)BENZO(E) THIEPINE DERIVATIVES**

Miroslav Protiva and Miroslav Rajner, Prague, Czechoslovakia, assignors to SPOFA, Sdruzení Podniku Pro Zdravotnickou výrobu, Prague, Czechoslovakia

No Drawing. Continuation of application Ser. No. 410,726, Nov. 12, 1964. This application Nov. 4, 1968, Ser. No. 774,584

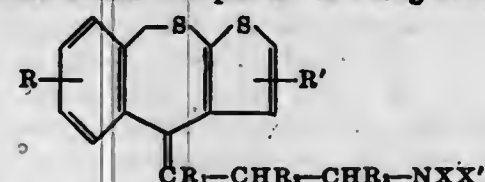
Claims priority, application Czechoslovakia, Aug. 31, 1963, 4,850/63

Int. Cl. C07d 27/04, 29/34, 63/18

U.S. Cl. 260—329

6 Claims

An antihistaminic compound of the general formula:



wherein R is selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, lower alkylmercapto and trifluoromethyl, wherein R' is selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, lower alkylmercapto and trifluoromethyl, wherein R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> are each selected from the group consisting of hydrogen and lower alkyl in which case NXX' is selected from the group consisting of lower alkyl amino radicals and saturated heterocyclic amino radicals, the latter having 4 to 5 carbon atoms, and wherein if two of the substituents R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> are hydrogen, the third of said substituents together with X may be an alkylene chain of 2–4 carbon atoms in which case X' is lower alkyl of 1–4 carbon atoms.

3,519,649

**THENYL ESTERS OF CYCLOPROPANE CARBOXYLIC ACID**

Kenzo Ueda, Saitama-ken, Toshio Mizutani, Ikeda-shi, Nobushige Itaya, Minoo-shi, Keimei Fujimoto, Kyoto, and Yoshitoki Okuno, Nishinomiyashi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Oct. 23, 1967, Ser. No. 677,039  
Claims priority, application Japan, Oct. 28, 1966, 41/71,225; Nov. 9, 1966, 41/73,962

Int. Cl. A01n 9/12; C07d 63/12

U.S. Cl. 260—332.2

8 Claims

Novel thenyl esters of cyclopropanecarboxylic acids or chrysanthemic acids having insecticidal activities which are quick acting and harmless to mammals. These novel esters are prepared by esterifying cyclopropanecarboxylic acids having in the ring a methyl, 2-methyl-1-propenyl, 2-methoxycarbonyl-1-propenyl or phenyl group with thenyl alcohols having in the thiopene ring a halogen atom or an alkyl, benzyl, thenyl, furfuryl, alkenyl, alkadienyl or alkylene group. This esterification is effected by the reaction of said acids, or halides or anhydrides thereof, with said alcohols, or by the reaction of halides of said alcohols with said acids.

3,519,650

**PURIFICATION OF TRIOXANE**

Werner Fleck, Gross-Aueheim, and Theodor Lüssling, Hanau am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

Filed Sept. 5, 1967, Ser. No. 665,451

Int. Cl. C07d 19/00

U.S. Cl. 260—340

10 Claims

Method of purifying trioxane comprising dissolving the trioxane in a water immiscible organic solvent, washing such solution with water and subsequently washing such solution with an aqueous alkaline solution, then distilling off the solvent from the washed solution, and fractionally distilling the trioxane remaining as a residue in the presence of a tertiary amine which is stable and nonvolatile under the conditions of the fractional distillation.

3,519,651

**3,5-SECO-A-NORPREGNAN-3-OIC ACID-3, 11-LACTONES**

Milan Radoje Uskokovic, Upper Montclair, and Thomas Henry Williams, Passaic, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application Oct. 20, 1965, Ser. No. 499,094. Divided and this application June 13, 1968, Ser. No. 736,586

Int. Cl. C07d 9/00; A61k 17/00

U.S. Cl. 260—343.2

3 Claims

This invention is directed to 3,5-seco-A-norpregnan-3-oic acid-3,11-lactone derivatives which are useful as inter-



mediates in the production of 9 $\beta$ ,10 $\alpha$ -known steroids of the pregnane series: These latter compounds can be utilized as progestational and salt-retaining agents.

3,519,652

## BIS-CHROMONYL COMPOUNDS

Colin Fitzmaurice and Thomas Brian Lee, Holmes Chapel, England, assignors to Fisons Pharmaceuticals Limited, Loughborough, Leicestershire, England

No Drawing. Filed July 3, 1967, Ser. No. 650,627

Claims priority, application Great Britain, July 5, 1966, 30,149/66; July 14, 1966, 31,667/66

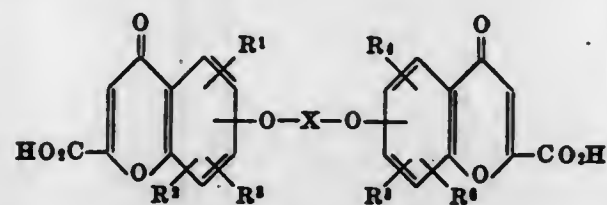
The portion of the term of the patent subsequent to Dec. 31, 1985, has been disclaimed

Int. Cl. C07d 7/34

U.S. Cl. 260—345.2

23 Claims

New compounds of the formula



and functional derivatives thereof, in which at least one of R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> is a substituent other than a hydrogen atom, halogen atom or alkyl or substituted alkyl group, and the remainders of R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> are the same or are different and each is hydrogen or a substituent other than hydrogen, and X is a straight or branched polymethylene chain which may be interrupted by one or more carbocyclic or heterocyclic rings, oxygen atoms or carbonyl groups, possess special activities as inhibitors of the effects of certain types of antigen-antibody reaction.

3,519,653

## EPOXY RESIN INTERMEDIATES DERIVED FROM BARK

Wilhelm N. Martin, 880 14th Ave., Grand'Mere, Quebec, Canada

No Drawing. Continuation-in-part of application Ser. No. 561,712, June 30, 1966. This application Apr. 16, 1969, Ser. No. 816,793

Int. Cl. C07d 1/02

U.S. Cl. 260—348

6 Claims

The invention relates to the preparation of epoxy resin intermediates by adding an alkali metal hydroxide to a mixture of dihydroxy phenols obtained from coniferous tree bark to convert the phenols into the alkali metal salts thereof. The salts are dried to a moisture content of 0.86% to 5%, and suspended in a quantity of epichlorohydrin in excess of the stoichiometric amount required for reaction thereof with the alkali metal present. The resulting mixture is heated to cause reaction of the salts and epichlorohydrin. The glycidyl ether constituting the resin intermediate is recovered from the reaction mixture.

3,519,654

13 $\beta$ -LOWER ALKYL- $\Delta^4$ -GONADIENE-3-ONES

Daniel Berth, Montrouge, André Pierdet, Nolsy-le-Sec, Lucien Nedelec, Clichy-sous-Bois, and Jean-Claude Gasc, Bondy, France, assignors to Roussel UCLAF, Paris, France, a corporation of France

No Drawing. Continuation-in-part of application Ser. No. 586,948, Oct. 17, 1966. This application May 13, 1969, Ser. No. 824,321

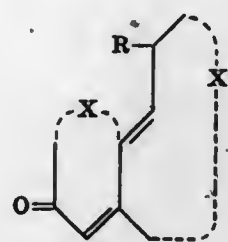
Claims priority, application France, Oct. 22, 1965, 35,958; Mar. 1, 1966, 51,506; Apr. 19, 1966, 58,177; Apr. 20, 1966, 58,340; June 1, 1966, 63,697; July 12, 1966, 69,128

Int. Cl. C07c 173/00

U.S. Cl. 260—349

28 Claims

Novel 13 $\beta$ -lower alkyl-11-substituted steroids of the formula



wherein R is selected from the group consisting of lower alkoxy, which may be substituted such as with halogens, hydroxy and cyano, aralkoxy, —SH, lower alkylthio, aralkylthio and azido, X is a residue of the A ring of the steroid molecule which may be substituted and X' is the residue of the B, C and D rings of the steroid molecule which may be substituted which possess interesting physiological properties. Their endocrine and/or metabolic activities are generally superior to the corresponding 11 $\beta$ -hydroxy steroids. They particularly possess an important hypocholesterolemic activity as well as an estrogenic activity and an inhibiting activity on hypophyseal gonadotrophins.

3,519,655

## LITHIUM RHEINANTHRONE AND LITHIUM RHEINANTHRONE COMPLEX SALT

Herbert Alan Ryan, Bedford Park, London, and Charles Aubrey Friedmann, Church Row, London, England, assignors to Westminster Laboratories Limited, London, England, a corporation of Great Britain

Filed May 24, 1963, Ser. No. 282,963

Int. Cl. C07c 65/20

U.S. Cl. 260—351

2 Claims

Lithium salts of rheinanthrone are useful as laxatives.

3,519,656

## ANTHRAQUINONE DYESTUFFS

Hans Rudolf Schwander, Riehen, Switzerland, assignor to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 462,410, June 8, 1965. This application Mar. 7, 1967, Ser. No. 621,125

Int. Cl. C09b 1/42, 1/52

U.S. Cl. 260—372

20 Claims

1,4-diamino-6- and/or 7-unsubstituted or halogen-substituted anthraquinone dyes the amino groups of which are substituted in 1- and 4-position by benzoylamino-methyl-phenyl and tetrahydronaphthyl radicals and/or in 2- or 2- and 3-position by benzoylamino-methyl-phenoxyl radicals which substituents are free from sulphonic acid groups or are substituted by two of the latter groups; these dyestuffs are useful for the dyeing and printing of fibres containing polypeptide groups, e.g. wool, leather, silk, superpolyamide and superpolyurethane fibres from an acid aqueous bath, the dyes drawing very evenly on

these fibres, in particular on wool, and affording dyeing of good fastness especially to washing, milling and alkaline media, or, unsulphonated, as disperse dyes.

3,519,657

## PRODUCTION OF ACIDS FROM AMIDES

George A. Olah, Wellesley, Mass., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,790

Int. Cl. C07c 53/22, 63/26, 143/02

U.S. Cl. 260—389

6 Claims

Organic carboxamides and sulfonamides are converted to the corresponding acids by reacting these amides at moderate temperature with a stable ionizable nitrosonium salt such as NOBF<sub>4</sub> in an organic medium. The acid products are useful principally as chemical intermediates, for example, for making soaps and detergents.

3,519,658

## CHLORO-PREGNANE COMPOUNDS AND PROCESS OF MAKING THE SAME

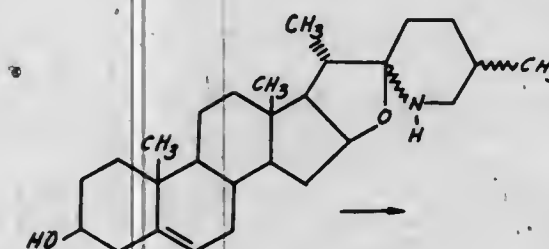
Günter Adam and Klaus Schreiber, Gatersleben, Germany, assignors to Deutsche Akademie der Wissenschaften zu Berlin, Berlin-Adlershof, Germany

Filed Oct. 3, 1967, Ser. No. 672,528

Int. Cl. C07c 169/20, 169/32

U.S. Cl. 260—397.4

17 Claims



$\Delta^4$ -3-keto-pregnanes and  $\Delta^1,4$ -3-keto-pregnadienes are obtained from steroid-alkaloids of the spirosolane type by reducing a  $\Delta^5$ -spirosolane alkaloid, upon opening of the E-ring, to a stereoisomeric 22,26-imino-cholest-5-ene-3 $\beta$ ,16 $\beta$ -diol; oxidizing the product obtained to the  $\Delta^4$ -3-one-16 $\beta$ -hydroxy compound; then halogenating the product to the N-halogeno-derivative; thereupon breaking down the halogenated derivative to the corresponding 20-halogen substituted  $\Delta^4$ -3-keto-pregnane. This pregnane may then be dehydrogenated further to the corresponding  $\Delta^1,4$ -pregnadiene-3-one.

The final compounds are the 16 $\beta$ -hydroxy or 16 $\beta$ -acetoxy derivatives as shown in IV and V of the attached drawing.

3,519,659

6 $\alpha$ ,9 $\alpha$ -DIFLUORO-16 $\alpha$ -METHYL-PREDNISOLONE-21-ALS

Julius Schmidlin and Ludwig Ehmann, Basel, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 4, 1967, Ser. No. 687,445

Claims priority, application Switzerland, Dec. 9, 1966, 17,634/66

Int. Cl. C07c 169/32

U.S. Cl. 260—397.45

7 Claims

The derivatives of 6 $\alpha$ ,9 $\alpha$ -difluoro-16 $\alpha$ -methyl-prednisolone, having an aldehyde group in 21-position instead of the hydroxyl group, and functional derivatives thereof, such as hydrates, acetals and esters of the hydrates, display an anti-inflammatory and thymolytic activity and have also antileucaemic activity. These new compounds are prepared by conventional methods.

3,519,660  
ALDEHYDES OF THE PREGNANE SERIES AND DERIVATIVES THEREOF

Julius Schmidlin and Ludwig Ehmann, Basel, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 4, 1967, Ser. No. 687,481

Claims priority, application Switzerland, Dec. 9, 1966, 17,634/66

Int. Cl. C07c 169/34

U.S. Cl. 260—397.45

13 Claims

The derivatives of the 6 $\alpha$ -fluoro and 6 $\alpha$ ,9 $\alpha$ -difluoro-16 $\alpha$ -methyl-prednisolone having an aldehyde in 21-position instead of the hydroxyl group, and functional derivatives thereof, such as hydrates, acetals and esters of the hydrates, and in which the 17-hydroxy group is esterified, display an anti-inflammatory and thymolytic activity and have also antileucaemic activity. These new compounds are prepared by conventional methods.

3,519,661

## N,N-DISUBSTITUTED AMIDES

Robert R. Mod, Frank C. Magne, and Evald L. Skau, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

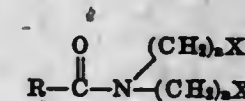
No Drawing. Original application Aug. 26, 1964, Ser. No. 392,354, now Patent No. 3,309,333, dated Mar. 14, 1967. Divided and this application Dec. 16, 1966, Ser. No. 632,464

Int. Cl. C07c 103/12, 103/14

U.S. Cl. 260—404

2 Claims

N,N-disubstituted amides represented by the formula



wherein



is an acyl group of from 8 to 22 carbon atoms, n is an integer of from 1 to 4, inclusive, and X can be —OR', CN, —O(CH<sub>2</sub>)<sub>m</sub>CN, or



wherein R' is an alkyl group containing from 1 to 8 carbon atoms and m is an integer of 1 or 2. are provided. These amides are useful as primary plasticizers for hydrophobic and for hydrophilic resins.

3,519,662

## FAT SEPARATION PROCESS

Morris E. Gruver, Jr., Rochester, N.Y., and Lee R. Lyon, Kansas City, Mo., assignors to Sybron Corporation, Rochester, N.Y., a corporation of New York and Lycoil, Inc., North Kansas City, Mo., a corporation of Missouri

Continuation-in-part of applications Ser. No. 545,588, Apr. 27, 1966, and Ser. No. 586,214, Oct. 12, 1966.

This application Mar. 21, 1969, Ser. No. 809,111

Int. Cl. C11b 1/16; C07g 7/00; R04b 15/02

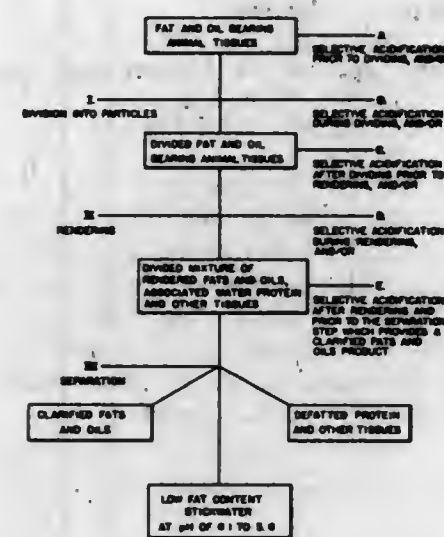
U.S. Cl. 260—412.7

10 Claims

The invention is an improvement in the process of continuous rendering and separation of fats and oils from animal tissue wherein the animal tissues are acidified



prior to separation into clarified fat products, stickwater, protein and associated tissue so as to provide a stickwater



effluent having a critical pH between 4.1 and 5.8 and a fat and oil content of less than about 0.4% by weight.

### 3,519,663 COMPLEX COMPOUNDS AND METHODS OF MAKING SAME

Stephen O'Brien, George Albert Gamlen, and David Thomas Thompson, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
No Drawing. Filed Aug. 15, 1966, Ser. No. 572,221  
Claims priority, application Great Britain, Aug. 13, 1965, 34,740/65

Int. Cl. C07j 15/00, 11/00; C07c 5/02  
U.S. Cl. 260—429 12 Claims  
Dinuclear bridged transition metal complexes in which the transition metals are different and are selected from Groups VI-A, VII-A, VIII and I-B of the Periodic Table and in which the bridging ligands are univalent and do not incorporate chelating ligands.

### 3,519,664 REACTION PRODUCTS OF MIXTURES OF CHLORIDES OF CERTAIN METALS WITH BORATE ESTERS

Robert C. Wade, Ipswich, Mass., assignor to Ventron Corporation, Beverly, Mass., a corporation of Massachusetts  
No Drawing. Continuation-in-part of application Ser. No. 670,418, Sept. 25, 1967. This application Nov. 18, 1968, Ser. No. 776,884

Int. Cl. C07f 5/06, 7/28, 15/02  
U.S. Cl. 260—429.5 12 Claims  
Products made by reacting a mixture of at least two chlorides of metals selected from Ti(IV), Zr(IV), Hf(IV), Sn(IV), Si(IV), Al(III), Fe(III), Ga(III), In(III), Mo(V), Nb(V), Ta(V) and W(VI) with at least one borate ester such as trimethyl borate, triethyl borate, tripropyl borate, tributyl borate, trihexyl borate, trihexylene glycol diborate, and tri(m,p,cresyl) borate, trimethoxy glyoxine in a molar ratio of at least 0.33 mole of the selected borate for each sum of the molar proportions of the chlorides of the selected metal totaling one mole in a diluent, such as the selected borate, methylene chloride, chloroform, and carbon tetrachloride, at a temperature between room temperature and about 200° C. until the reaction mixture ceases to give

off organic chloride thereby forming a liquor comprising the diluent and a compound of complex chemical structure comprising the selected metals, boron, carbon, hydrogen, chlorine, and oxygen. The complex compound is isolated by removing volatile material from the reaction mixture by evaporation.

### 3,519,665 DIRECT SYNTHESIS OF DIALKYL TIN DICHLORIDE

Kenneth R. Molt, Cincinnati, and Ingenium Hechenbleikner, Kenwood, Ohio, assignors to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio  
No Drawing. Filed Jan. 25, 1968, Ser. No. 700,369  
Int. Cl. C07f 7/22

U.S. Cl. 260—429.7 13 Claims  
Dialkyltin dichlorides are prepared by reacting tin with a 1 to 4 carbon atom alkyl chloride in the presence of phosphonium iodide, separating the dialkyl-tin dichloride from the other tin reaction products and recycling the catalyst and other reaction products to a reaction chamber together with more alkyl chloride to form more dialkyltin dichloride. Excellent yields with virtually no waste of tin are obtained by such recycling. The dialkyltin dichloride is preferably separated from closely boiling by-products by crystallization and the byproducts returned to the reaction chamber. Less preferably there can be employed quaternary ammonium iodides in place of the phosphonium iodide.

### 3,519,666 TRIOrganotin DERIVATIVES OF CYCLIC COMPOUNDS

John P. Pellegrini, Jr., Pittsburgh, and Ilgvars J. Spilners, Monroeville, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware  
No Drawing. Filed Feb. 9, 1968, Ser. No. 704,248  
Int. Cl. C07f 7/22

U.S. Cl. 260—429.7 6 Claims  
Novel triorganotin derivatives of cyclic olefins and hydrocarbyl-substituted cyclic olefins are useful as insecticides. The compounds are prepared by the addition of a triorganotin hydride to a cyclic olefin. Preferred compounds are obtained by the addition of a triaryltin hydride to cyclopentadiene, cyclohexadiene, cyclooctadiene, indene, acenaphthylene and their C<sub>1</sub> to C<sub>4</sub> alkyl-substituted derivatives. Examples include triphenyltin cyclopentene, triphenyltin methylcyclopentene, triphenyltin cyclohexene, triphenyltin cyclooctene, triphenyltin indane and triphenyltin acenaphthene.

### 3,519,667 PROCESS FOR PREPARING MONO-METHYL OR ETHYL TIN TRICHLORIDE

Kenneth R. Molt and Ingenium Hechenbleikner, Cincinnati, Ohio, assignors to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio  
No Drawing. Filed Mar. 29, 1968, Ser. No. 717,444  
Int. Cl. C07f 7/22

U.S. Cl. 260—429.7 10 Claims  
Monoalkyltin trichlorides are prepared by reacting SnCl<sub>4</sub> with a 1 to 2 carbon atom alkyl chloride in the presence of a phosphonium halide, preferably phosphonium chloride. In the preferred process the monoalkyltin trichloride is separated from the reaction mixture and the catalyst and other reaction products are recycled to a reaction chamber along with more alkyl chloride to form more alkyltin trichloride. Excellent yields are obtained with virtually no waste of stannous chloride by such recycling.

### 3,519,668 PROCESS OF REACTING AROMATIC GROUP VI-B METAL TRICARBONYLS WITH A LIGAND

Mark Crosby Whiting, Oxford, England, assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia  
No Drawing. Original application Jan. 22, 1960, Ser. No. 4,018, now Patent No. 3,361,780, dated Jan. 2, 1968. Divided and this application Sept. 13, 1967, Ser. No. 695,532  
Claims priority, application Great Britain, Jan. 29, 1959, 3,301/59

Int. Cl. C07f 11/00  
U.S. Cl. 260—438.5 5 Claims  
Aromatic Group VI-B metal tricarbonyl compounds are readily formed from an aromatic compound and the metal carbonyl in polar solvents. Electron-repelling aromatic substituents facilitate the reaction. The aromatic moiety becomes electron deficient and nucleophilic displacement of ring substituents occurs more readily. The aromatic metal carbonyls are thermally decomposed to yield the aromatic compound, the metal carbonyl, and the pyrophoric chromium. Alternatively, the aromatic moiety may be replaced by another p-electron donor.

### 3,519,669 PROCESS FOR SEPARATING ALUMINUM TRIETHYL FROM OTHER METAL ETHYL COMPOUNDS

Karl Ziegler, 1 Kaiser-Wilhelm-Platz, Mulheim (Ruhr), Germany, and Herbert Lehmkuhl, Mulheim (Ruhr), Germany; said Lehmkuhl assignor to said Ziegler  
No Drawing. Continuation of application Ser. No. 40,134, July 1, 1960. This application June 17, 1963, Ser. No. 288,559  
Claims priority, application Germany, July 4, 1959, Z 7,406

Int. Cl. C07f 3/00, 7/00, 5/06  
U.S. Cl. 260—448 4 Claims  
A process of separating aluminum triethyl from its admixture with a metal ethyl compound (C<sub>2</sub>H<sub>5</sub>)<sub>n</sub>M, wherein M is a metal selected from the group consisting of metals of groups II-V of the Periodic System other than aluminum and n is an integer equal to the valence of said metal M, which comprises contacting said admixture with a member selected from the group consisting of alkali metal cyanides, alkali metal fluorides, and complexes thereof with aluminum triethyl, to form a complex compound of said aluminum triethyl with said alkali metal group member, said metal ethyl compound being sparingly soluble in the complex, and recovering the metal ethyl compound which separates from the aluminum triethyl complex.

### 3,519,670 BOROSILICONE MATERIALS

Mark Markovitz, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
No Drawing. Filed Dec. 20, 1966, Ser. No. 603,122  
Int. Cl. C07f 5/02, 7/02

U.S. Cl. 260—448.2 4 Claims  
New liquid reaction products of alkoxy functional organosilicone material and boric acid material are used to cure epoxy resins producing clear materials having low dissipation factor, good corona resistance and other desirable properties.

### 3,519,671 SILICON MODIFIED BORATE COMPOSITIONS

Mark Markovitz, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
No Drawing. Filed Dec. 20, 1966, Ser. No. 603,124  
Int. Cl. C07f 5/02, 7/02

U.S. Cl. 260—448.2 5 Claims  
Reaction products of boric acid material with silanols and alcohol or phenolic material are used to cure epoxy

resins to form hard, transparent, glassy materials which are characterized by low high temperature dissipation factor and other desirable properties.

### ERRATUM

For Class 260—455 see:  
Patent No. 3,519,709

### 3,519,672 POLYHALOALKYLPOLYTHIOALKYL ESTERS AND ETHERS

Joseph E. Moore, Richmond, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 414,876, Nov. 30, 1964. This application Oct. 20, 1966, Ser. No. 588,009  
Int. Cl. C07c 149/12, 154/00; A01n 9/12  
U.S. Cl. 260—455 8 Claims  
Esters and ethers of the formula

### ROXS<sub>m</sub>R'

wherein R' represents a polyhaloalkyl group having 1 to 2 carbon atoms and 3 to 5 halogens of atomic number 17 to 35, at least one of said halogens being bonded to the alpha carbon atom, X is alkylene of 1 to 4 carbon atoms and m is an integer varying from 2 to 3, and R is an organic radical which forms an ester or ether with the remainder of the molecule. Typical R' groups are hydrocarbyl, phosphoro, carbonyl, oxycarbonyl, sulfate and sulfonate groups. These esters and ethers are useful as fungicides.

### 3,519,673 PROCESS FOR MANUFACTURING β-ALKOXY THIOCARBOXYLIC ACID ESTERS

Herbert Eck and Joseph Heckmaier, Burghausen, Upper Bavaria, and Helmut Prigge, Munich, Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Bavaria, Germany, a corporation of Germany  
No Drawing. Filed Mar. 22, 1968, Ser. No. 715,191  
Claims priority, application Germany, Mar. 23, 1967 W 43,629

Int. Cl. C07c 153/07; C08f 45/46  
U.S. Cl. 260—455 6 Claims  
The process reacts hemithioacetals or hemithioketals in the presence of a strongly acid catalyst, at temperatures between -80° C. and +200° C., with ketenes to produce the corresponding β-alkoxythiocarboxylic acid esters.

### 3,519,674 HYDRODIMERIZATION OF ACRYLIC ACID DERIVATIVES

Yael Arad, Moshe Levy, and Haim Rosen, Tel-Aviv, and David Vofsi, Rehovoth, Israel, assignors to UCB (Union Chimique-Chimische Bedrijven) S.A., Chaussée de Charleroi, Saint-Gilles-Lez-Bruxelles, Belgium  
No Drawing. Filed July 21, 1967, Ser. No. 655,008  
Claims priority, application Israel, Aug. 16, 1966, 26,343; Dec. 19, 1966, 27,089

Int. Cl. 121/20, 121/26  
U.S. Cl. 260—465.8 11 Claims  
Functional derivatives of acrylic acid are hydrodimerized to the corresponding adipic acid derivatives using alkali metal amalgam within a reaction medium comprising either aqueous or anhydrous ammonia, the latter containing a dissolved ammonium or amine salt.



3,519,675

1,2-DIPHENYL-3,4-DIHYDRONAPHTHALENES  
AND 2,3-DIPHENYLLINDENES

Daniel Lednicher, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

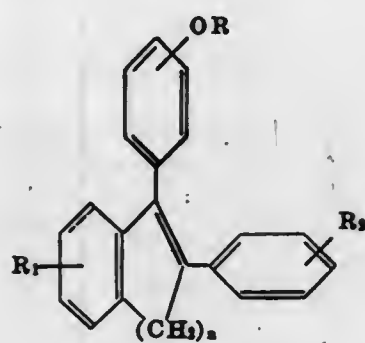
No Drawing. Original application June 1, 1964, Ser. No. 371,828, now Patent No. 3,320,271. Divided and this application Oct. 10, 1966, Ser. No. 585,244

Int. Cl. C07c 69/76

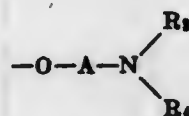
U.S. Cl. 260-473

5 Claims

This invention is a group of new organic compounds of the formula:



wherein R is  $-C_nH_{2n}-COOR_3$ , wherein  $C_nH_{2n}$  represents alkylene from 1 to 12 carbon atoms, inclusive, and  $R_3$  is selected from the class consisting of hydrogen and lower-alkyl;  $R_1$  and  $R_2$  are each selected from the class consisting of hydrogen, lower-alkyl, lower-alkenyl, lower-alkoxy, lower-alkenyloxy, halogen, trifluoromethyl, lower-alkylmercapto, and



wherein A is an alkylene group containing from 2 to 6 carbon atoms, inclusive, and  $R_3$  and  $R_4$  are selected from the class consisting of lower-alkyl and lower-alkyl linked together to form, with the attached nitrogen atom, a 5 to 7 ring atom saturated heterocyclic radical; and n is an integer from 1 to 2, inclusive. These novel compounds and their salts possess activity as antifertility, estrogenic, antiestrogenic, antispermatogenic, fungicidal, and blood cholesterol lowering agents, and are useful for those purposes.

3,519,676

PRODUCTION OF DIESTERS OF ORGANIC  
DICARBOXYLIC ACIDS

Jacques Marius Duroux and Pierre Louis Faye, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Dec. 21, 1966, Ser. No. 603,438

Claims priority, application France, Jan. 4, 1966, 44,787

Int. Cl. C07c 69/80, 69/82

U.S. Cl. 260-475

8 Claims

Diester of organic carboxylic acids and monohydric alkanols of 1 to 4 carbon atoms, especially dimethyl terephthalate, are prepared by heating the acid and the alkanol with an organic disulphonic acid catalyst such as m-benzenedisulphonic acid, and continuously removing alkanol, diester and water formed. The diesters are useful in the production of polyesters e.g. polyethylene-terephthalate.

3,519,677  
ANTHRASTEROIDS AND PROCESS FOR  
THEIR MANUFACTURE

Oskar Jeger, Zollikon, Bernhard Nann, Otten, and Kurt Schaffner, Zurich, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 21, 1965, Ser. No. 515,455

Claims priority, application Switzerland, Jan. 21, 1965, 882/65; Sept. 28, 1965, 13,374/65

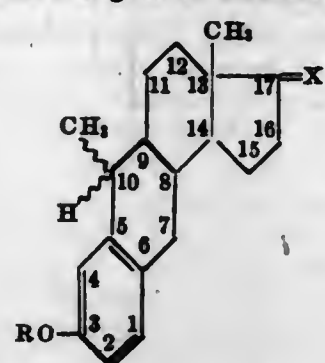
Int. Cl. C07c 49/44, 39/12, 69/00

U.S. Cl. 260-479

7 Claims

Anthrasteroids of the general formula

(I)



where RO represents a free, esterified or etherified hydroxyl group and X stands for any substituent occurring in position 17 of normal steroids—and a process for their manufacture. The aforementioned compounds have an oestrogenic, hypocholesterolaemic and hypophysis-inhibiting action and may be used, for example, for treating arteriosclerosis or deficiency symptoms of the menopause.

3,519,678

HALO-SUBSTITUTED 2-ACETOXY  
BENZANILIDES

Keith John Farrington, Gympsea Bay, New South Wales, Australia, assignor to Parke, Davis &amp; Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Mar. 31, 1966, Ser. No. 538,956

Claims priority, application Australia, Apr. 1, 1965, 57,125/65

Int. Cl. C07c 103/30

U.S. Cl. 260-479

7 Claims

2-acyloxybenzanilides, substituted in the 3- and 5-positions by bromine or iodine, and also, either in the 4'-position by chlorine, bromine, or iodine or in the 3'-position by trifluoromethyl, and their production by (a) reacting a correspondingly substituted salicylanilide with a reactive derivative of an alkanolic acid, or (b) reacting a 3,5-dihalo-2-acyloxybenzoyl halide with a suitably substituted aniline compound. The compounds are useful as antiparasitic agents that are active against the trematode *Fasciola hepatica* and a variety of nematodes, for example, *Haemonchus contortus*.

3,519,679

SULFONATE SALTS OF 4-DIMETHYLAMINO-  
3,5-XYLYL METHYLCARBAMATE

Jephtha W. Van Valkenburg, Jr., Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 31, 1967, Ser. No. 657,061

Int. Cl. C07f 11/00; A01n 9/14

U.S. Cl. 260-479

8 Claims

Novel salts of 4-dimethylamino-3,5-xylyl methylcarbamate with acids containing oxygen in the anionic moiety thereof and having a pK (negative log of dissociation constant) not greater than 2.12. The novel salts are useful as pesticides primarily for the control of insects. The neutral salts and the acid salts with acids having a pK<sub>a</sub> greater than 2.12 are more stable to ultraviolet radiation than the free base. Certain of the salts are less phytotoxic than the free base and more potent as systemic insecticides than the free base.

3,519,680

## NOVEL RESINOUS COMPOSITION

Marco Wismer, Gibsonia, Joseph F. Foote, Sarver, and Paul R. Mosso, Natrona Heights, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Original application Mar. 19, 1965, Ser. No. 441,289, now Patent No. 3,368,985. Divided and this application Oct. 9, 1967, Ser. No. 673,941

Int. Cl. C07c 125/04, 125/06

U.S. Cl. 260-482

12 Claims

This invention relates to novel hydroxyl-terminated resins containing a carbamate group, at least one nitrogen atom in addition to the carbamate nitrogen and having an average minimum molecular weight of about 144. Moreover, this invention relates to novel polyurethane resins and particularly novel polyurethane foams prepared from novel hydroxyl-terminated carbamates.

3,519,681

3,7-DIMETHYL-3,7-DIHYDROXY-OCT-1-YNE  
AND ESTERS THEREOF

Gabriel Saucy, Essex Falls, N.J., assignor, by mesne assignments, to Givaudan Corporation, Clifton, N.J., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 301,969, Aug. 14, 1963. This application Dec. 8, 1966, Ser. No. 600,019

Claims priority, application Switzerland, Aug. 22, 1962, 9,981/62

Int. Cl. C07c 69/16, 69/78

U.S. Cl. 260-488

3 Claims

Novel 3,7-dimethyl-octyn-(1)-diol-(3,7) and esters thereof which are useful as odorants in the preparation of perfumes and other scented compositions.

3,519,682

SULPHONIC ACID DERIVATIVES OF OLIGOMERS  
OF PERFLUOROOLEFINS

Harold Crosbie Fielding, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 11, 1967, Ser. No. 652,418

Claims priority, application Great Britain, July 29, 1966, 34,232/66

Int. Cl. C07c 143/16

U.S. Cl. 260-513

10 Claims

Preparation of novel sulphonic acid derivatives of oligomers of tetrafluoropethylene and of hexafluoropropene, in which sulphonic acid groups are attached through their sulphur atoms to carbon atoms in the oligomer residue, particularly the sulphonic acid derivative  $C_6F_{10}HSO_3H$  of tetrafluoroethylene pentamer  $(C_2F_4)_5$ , and its salts, by heating an oligomer with an aqueous solution of an alkali metal sulphite or bisulphite to give the alkali metal sulphate from which the sulphonic acid derivative of the oligomer is obtained by acidification with sulphuric acid, and its salts by standard methods thereafter. Preferred reaction conditions for the pentamer  $(C_2F_4)_5$  are a temperature of 100° C. to 200° C., autogenous pressure, sodium sulphite as the alkali metal sulphite, and a reaction time of 20-50 hours. The sulphonic acid derivatives and their salts are highly surface-active in aqueous solution and are particularly useful as dispersing agents in aqueous emulsion polymerisations of tetrafluoroethylene. The sulphonic acid  $C_6F_{10}HSO_3H$  is also an intermediate for the preparation of the compounds possessing surface-active and oleophobic properties, for example it can be converted into the sulphonyl chloride  $C_6F_{10}HSO_2Cl$  which can then be reacted with amines to give sulphonamides having surface-active properties in themselves and the ability to undergo quaternisation and other reactions to yield other surfactants.

3,519,683

PROCESS FOR PREPARING 5-AMINO-5-DEOXY-D-  
GLUCOSE-1-SULFONIC ACID

Shigeharu Inouye, Kanagawa-ken, and Tetsichiro Ito, Tokyo, Japan, assignors to Meiji Seika Kaisha Ltd., Tokyo, Japan

No Drawing. Filed Mar. 25, 1968, Ser. No. 715,987

Claims priority, application Japan, Mar. 31, 1967, 42/19,967

Int. Cl. C07c 143/10

U.S. Cl. 260-513

6 Claims

5-amino-5-deoxy-D-glucose-1-sulfonic acid is prepared by (1) oxidizing 1,2-isopropylidene-3-benzyl-6-trityl- $\alpha$ -D-glucofuranose to 1,2-isopropylidene-3-benzyl-6-trityl-5-keto- $\alpha$ -D-glucofuranose, then (2) reducing the 5-ketone, as such, or after conversion to the 5-oxime, to yield 1,2-isopropylidene-3-benzyl-6-trityl-5-amino-5-deoxy- $\alpha$ -D-glucofuranose, then (3) debenzylating and detritylating the last-named compound with metallic lithium in liquid ammonia to form 1,2-isopropylidene-5-amino-5-deoxy- $\alpha$ -D-glucofuranose, and (4) sulfonating the latter with sulfurous acid to yield the desired product. The latter is useful in treating dysentery, etc.

3,519,684

PREPARATION OF AROMATIC DISUBSTITUTED  
CARBOXYLIC ACIDS

Enrique Roberto Witt, P.O. Box 2768, Corpus Christi, Tex. 78403; Kwang Yuen Zee-Cheng, 633 E. 72nd St., Kansas City, Mo. 64131; and James Patrick Cave, P.O. Box 2768, Corpus Christi, Tex. 78403

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,600

Int. Cl. C07c 63/02

U.S. Cl. 260-524

4 Claims

In producing an aromatic dicarboxylic acid, e.g. terephthalic acid, by oxidizing an alkyl disubstituted aromatic compound, e.g. p-xylene, with molecular oxygen in the presence of a cobalt catalyst in a hydrocarbon oxidation reaction zone, the cobalt catalyst is activated with peracetic acid in a separate zone at a relatively low temperature, i.e. 0° C. to 40° C. The resulting activated catalyst solution is then introduced into the hydrocarbon oxidation reaction zone. Efficiency of utilization of the activating agent is greatly improved as compared with introducing it directly into the hydrocarbon oxidation zone at hydrocarbon oxidation reaction temperature.

3,519,685

PROCESS RELATING TO ALKYLPHOSPHONOUS  
DIHALIDES

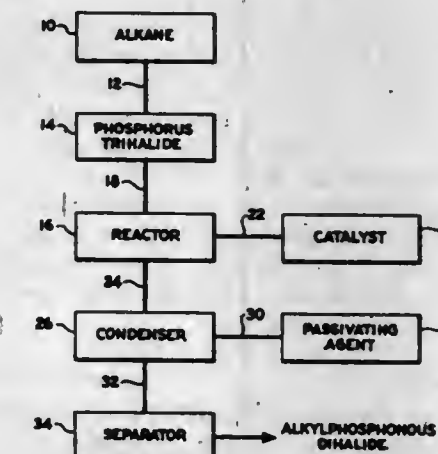
Charles F. Baranuckas and Edward E. Harris, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Continuation of application Ser. No. 347,932, Feb. 27, 1964. This application May 14, 1968, Ser. No. 729,128

Int. Cl. C07f 9/52

U.S. Cl. 260-543

6 Claims



A process for separating an alkylphosphonous dihalide from a mixture of such compound and phosphorus tri-



halide by addition of an organic passivating agent, such as an alcohol, a polyhydric alcohol or other hydric compound to the mixture, to react with a substantial proportion of the phosphorus trihalide, and then recovering the alkylphosphorous dihalide by a suitable process, such as distillation.

3,519,686

# 1-(4-CHLOROPHENYL)-MERCAPTO-2-PROPYLAMINE AND THE SALTS THEREOF

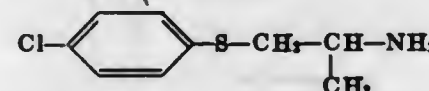
Mohan Damodaran Nair, Goregaon, India, assignor to Ciba Limited, Basel, Switzerland, a Swiss company  
No Drawing. Filed May 23, 1967, Ser. No. 640,494  
Claims priority, application Switzerland, June 3, 1966, 8,084/66

Int. Cl. C07c 149/42

U.S. Cl. 260—570.5

4 Claims

The 1-(4-chloro-phenyl)-mercapto-2-propylamine of the formula



(I)

and salts thereof show anti-depressive properties.

## 3,519,687 CONTROLLED MOLECULAR WEIGHT AZIRIDINE POLYMERS

James G. Schneider, Angleton, and Clarence R. Dick and George E. Ham, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed June 20, 1966, Ser. No. 558,555  
Int. Cl. C07c 85/00, 87/20, 87/28

U.S. Cl. 260—570.4

11 Claims

A process for preparing aziridine polymers from an aziridine and a primary or secondary amine or an amine having both primary and secondary amine functionality, wherein the average molecular weight of the polymers thus obtained may be calculated from the mole ratio of aziridine to amine reacted comprises digesting the aziridine and amine in the presence of an acid catalyst at a temperature between about 0° and 200° C., either in the presence or absence of water. The resulting polymers have molecular weights between about 300 and about 3,000. A variety of amines and both C-substituted and N-substituted aziridines are included in the specific examples. The preferred aziridine is ethylenimine and the preferred amine is ethylenediamine.

When no water is present, novel polymers having a minimum hydroxyl content are prepared.

3,519,688

# PROCESS FOR THE MANUFACTURE OF UNSATURATED ALDEHYDES FROM OLEFINS

James Louis Callahan, Bedford, Berthold Gertisser, Cleveland Heights, and Joseph J. Szabo, Chagrin Falls, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio  
No Drawing. Continuation of application Ser. No. 510,417, Sept. 30, 1965, which is a division of application Ser. No. 190,038, Apr. 25, 1962, now Patent No. 3,248,340. This application Sept. 29, 1967, Ser. No. 672,424

Int. Cl. C07c 45/04

U.S. Cl. 260—604

6 Claims

A process for the manufacture of oxygenated hydrocarbons from olefinic hydrocarbon employing an improved oxidation catalyst consisting essentially of oxides of bismuth, molybdenum and optionally phosphorus, promoted by added oxides of boron and bismuth.

## 3,519,689 PROCESS FOR THE PREPARATION OF POLYTHIOETHER DIOLS

Bernard Andouze, Orthez, and Yves Labat, Gelos, France, assignors to Societe Nationale des Petroles d'Aquitaine

No Drawing. Filed May 8, 1967, Ser. No. 636,652  
Claims priority, application France, May 9, 1966, 60,811

Int. Cl. C07c 149/36

U.S. Cl. 260—609

5 Claims

This invention relates to a process for manufacturing polythioether diols of the general formula



in which  $m$  varies over a wide range, the process consisting of combining formaldehyde with  $\text{HS}(\text{CH}_2\text{S})_n\text{H}$ , wherein  $n=m-1$ .

3,519,690

# PROCESS FOR THE SEPARATION OF ORGANIC HYDROPEROXIDES

George G. Joris, Madison, Robert Fuhrmann, Morris Plains, and David Jerolamson, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed Jan. 30, 1967, Ser. No. 612,323

Int. Cl. C07c 73/06, 73/08

U.S. Cl. 260—610

8 Claims

This specification discloses a process for the separation of liquid organic hydroperoxides, including aliphatic and aromatic hydroperoxides, from their liquid mixtures by thermal diffusion. Additionally, mixtures obtained from the oxidation of aromatic hydrocarbons having two or more alkyl substituents, which produces monohydroperoxides and polyhydroperoxides, can be subjected to thermal diffusion to separate the monohydroperoxides from the polyhydroperoxides.

3,519,691

# O-HEMIACETALS OF FORMALDEHYDE AND CATALYTIC PROCESS OF MANUFACTURE

Hans von Portatius, Marl, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany, a corporation of Germany  
No Drawing. Filed July 13, 1965, Ser. No. 471,759  
Claims priority, application Germany, July 24, 1964, 1,241,432

Int. Cl. C07c 41/00

U.S. Cl. 260—611

11 Claims

Several novel O-hemiacetals useful as convenient sources of formaldehyde, etc., and a novel improved method of making O-hemiacetals of formaldehyde comprising (a) adding gaseous formaldehyde to: (b) a liquid comprising an organic compound containing one hydroxyl group; and (c) reacting (a) and (b) with vigorous and sufficient agitation to insure uniform distribution of said formaldehyde and cooling at a temperature between -100 and 150° C., the rate of adding said formaldehyde being sufficiently slow so that the concentration of free formaldehyde in the solution does not exceed 8%, the improvement comprising conducting the reaction in the presence of a catalytic quantity of a catalyst selected from the group consisting of acids, phosphines, arsines, stibines, nitrogenous compounds and mixtures thereof.

3,519,692

# PREPARATION OF META-RICH CRESOLS

Martin Hess, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware  
Filed Feb. 6, 1967, Ser. No. 614,316

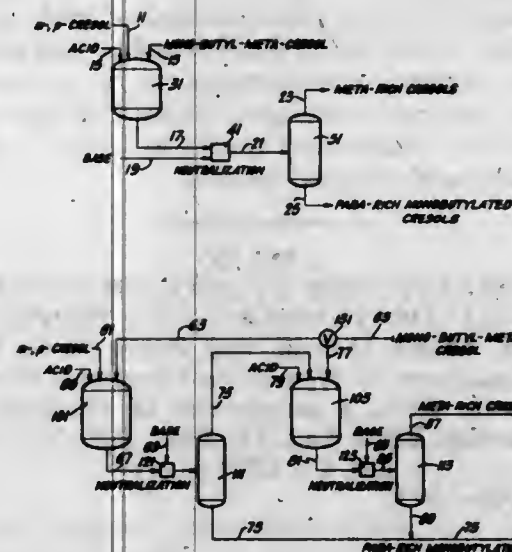
Int. Cl. C07c 39/02

U.S. Cl. 260—621

4 Claims

Mono-butyl-para-cresol and cresol mixtures that have a high proportion of meta-cresol are produced by the trans-

alkylation of a commercially available mixture of meta-para-cresol isomers to which mixture there has been added mono-butyl-meta-cresol. The trans-alkylation yields mono-butyl-para-cresol at the expense of the para-cresol present in the initial commercial cresol mixture; consequently, the proportion of meta-cresol in the product cresol mixture rises. The process is also applicable to



produce meta-para-cresol mixtures having a high meta-cresol content and mono-butyl-para-cresol from para-cresol. Cresol mixtures high in meta-cresol content are especially useful in resin preparations and the mono-butyl-para-cresol produced is useful as a preservative and readily butylated to give the valuable antioxidant 2,6-di-*t*-butyl-4-methylphenol.

3,519,693

# NITRATION PROCESS FOR PHENOLIC COMPOUNDS

Ernest Albert Harvey, Franklin, Va., and James Frederick Russ, North Brunswick, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Filed Nov. 24, 1965, Ser. No. 509,629

Int. Cl. C07c 79/26

U.S. Cl. 260—622

5 Claims

A phenolic compound, selected from phenol and *m*-cresol is nitrated to produce a high yield of para-nitrated phenolic compound by a process comprising (1) providing a mixed acid solution having defined concentrations of  $\text{HNO}_3$ ,  $\text{HNO}_2$ , and  $\text{H}_2\text{SO}_4$ , (2) adding the phenolic compound to said solution in a manner to avoid formation of an oil-phase therein while maintaining the temperature of the solution at from -20° to +25° C., the amount of phenolic compound added not exceeding 5 moles per liter of the acid solution and the concentration of  $\text{HNO}_2$  in said solution always being 1 mole per liter in excess of the phenolic compound added, and (3) recovering the para-nitrated phenolic compound product from the reaction mixture.

3,519,694

# STABILIZATION OF METHYL CHLOROFORM

Milton J. Blankenship, Midland, and Ralph McCarthy, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,456

Int. Cl. C07c 17/40

U.S. Cl. 260—652.5

9 Claims

The reaction of methyl chloroform with aluminum is substantially retarded or prevented by the presence in the methyl chloroform of a small amount of a substituted

alkanecarboxylic acid or ester thereof having at least one ether linkage in the molecule. Substituents with ether linkages include alkoxyalkoxy radicals of up to 5 carbon atoms and alkoxy and aryloxy radicals of up to 10 carbon atoms.

3,519,695

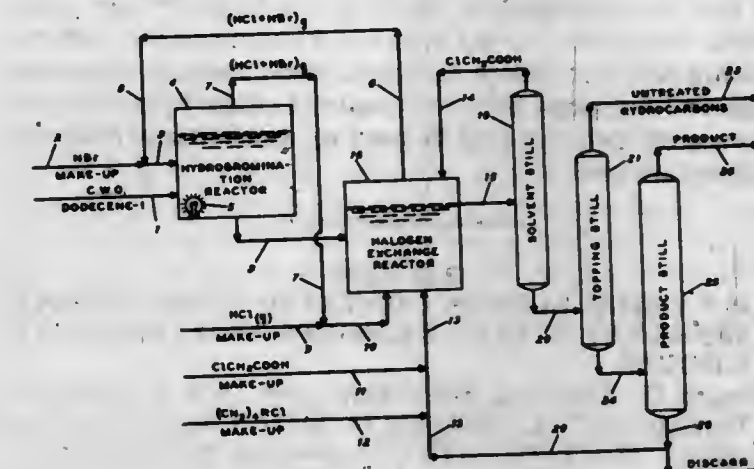
# PRIMARY ALKYL CHLORIDES FROM $\alpha$ -OLEFINS

Shigeto Suzuki, San Francisco, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware  
Filed Jan. 29, 1965, Ser. No. 428,985

Int. Cl. C07c 17/08, 17/20

U.S. Cl. 260—658

6 Claims



Primary alkyl chlorides are produced from 1-alkenes in a continuous process which includes a catalyzed displacement of hydrogen bromide by hydrogen chloride and the selective free radical catalyzed addition of hydrogen bromide present in a mixture of hydrogen bromide and hydrogen chloride to the 1-alkene. The displacement is carried out in an organic acid solvent and is catalyzed by lithium or quaternary ammonium chlorides or bromides. Anhydrous conditions are required.

3,519,696

# PROCESS FOR PREPARING COPOLYMERS OF TRIOXANE

Harald Cherdron, Wiesbaden, and Edgar Flecher and Hans-Dieter Hermann, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany  
No Drawing. Filed Dec. 8, 1967, Ser. No. 689,003  
Claims priority, application Germany, Dec. 30, 1966, F 51,120

Int. Cl. C08g 1/16

U.S. Cl. 260—823

4 Claims

Copolymers of trioxane with cyclic ethers or cyclic acetals are prepared by cationic polymerization of the monomer mixture at a temperature exceeding the melting point of the trioxane in containers made of thermoplastic materials.

3,519,697

# FLAME RETARDANT EPOXY RESINS

Kenneth R. Price and Fred J. Martin, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York  
No Drawing. Filed Apr. 15, 1968, Ser. No. 721,169

Int. Cl. C08g 51/62

U.S. Cl. 260—830

9 Claims

The flame retardancy of epoxy resins can be improved by incorporating a triaryl stibine. Such compositions are suitable for the preparation of cured resinous products which are to be used in applications requiring good electrical insulation characteristics and flame retardant properties.



3,519,698

**THICKENABLE UNSATURATED POLYESTER RESIN SYSTEM**

Melvin E. Baum, Monroeville, Pa., assignor to Koppers Company, Inc., a corporation of Delaware  
Filed Nov. 1, 1967, Ser. No. 679,735  
Int. Cl. C08g 39/06

U.S. Cl. 260—350

2 Claims

An unsaturated polyester resin system capable of being chemically thickened comprises: (1) an unsaturated polyester which has been modified by the substitution of bis(hydroxymethyl) phosphinic acid for at least a portion of the dihydric alcohol in the polyester; (2) an ethylenically unsaturated monomer; and (3) furfuryl alcohol. The system is chemically thickened by: (a) the polymerization of the furfuryl alcohol which is catalyzed by the phosphinic acid; and (b) the apparent bonding of the furfuryl alcohol polymer chains to the polyester through the phosphinic acid groups. Small amounts of either formaldehyde or urea or both can also be used to copolymerize with the furfuryl alcohol.

3,519,699

**POLYAMIDE BLENDS CONTAINING DICARBOXY DIPHENYL SULFONE GROUPS AND PIPERIDYL GROUPS**

Edward W. Pietrusza, Morristown, and Jack R. Pedersen, Parsippany, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed Jan. 25, 1968, Ser. No. 700,349  
Int. Cl. C08g 41/04

U.S. Cl. 260—357

7 Claims

This specification discloses novel moisture resistant polymer blends of nylon 6 or nylon 66 and a sulfone polyamide derived from the reaction of 4,4'-dichlorocarbonyldiphenylsulfone and a diamine containing at least one piperidyl group. The blends are particularly suitable for the preparation of moisture resistant fibers.

3,519,700

**SELF-EXTINGUISHING POLYESTER RESIN HAVING GOOD CHEMICAL RESISTANCE**

Melvin E. Baum, Monroeville, Pa., assignor to Koppers Company, Inc., a corporation of Delaware  
Filed Nov. 24, 1967, Ser. No. 685,697  
Int. Cl. C08f 21/02

U.S. Cl. 260—369

4 Claims

A self-extinguishing polyester resin having good chemical resistance comprises an  $\alpha,\beta$ -ethylenically unsaturated copolymerizable monomer and an unsaturated polyester produced by condensing approximately equimolar proportions of 65–90 mole percent of an unsaturated dicarboxylic acid compound such as maleic acid, maleic anhydride and fumaric acid and 10–35 mole percent of tetrabromophthalic acid or its anhydride with 12–50 mole percent of a butylene oxide adduct of bis-phenol A and 50–88 mole percent of either ethylene glycol or 1,3-butane diol.

3,519,701

**POLYVINYL ESTERS AND DERIVATIVES THEREFROM**

Louis A. Pilato, Bound Brook, and Eric R. Wagner, Basking Ridge, N.J., assignors to Union Carbide Corporation, a corporation of New York  
No Drawing. Filed July 11, 1966, Ser. No. 564,048  
Int. Cl. C08f 29/30, 29/50

U.S. Cl. 260—374

18 Claims

Polyvinyl alcohols with controlled degrees of hydrolysis ranging from 1 to 99% can be prepared by contacting a nonaqueous dispersion of polymerized vinyl ester dispersed in an inert hydrocarbon diluent by means of a polymeric organic interfacial agent such as alpha-olefin/vinyl ester copolymers etc. with an aliphatic alcohol and an alcoholysis catalyst.

3,519,702

**EPOXIDE ACRYLATE GRAFTS OF THERMOPLASTIC POLYMERS**

George H. Wear, Mogadore, and Jack T. Perrin, Cuyahoga Falls, Ohio (both % The General Tire & Rubber Company, P.O. Box 951, Akron, Ohio 44309)  
No Drawing. Continuation-in-part of application Ser. No. 353,296, Mar. 19, 1964. This application July 9, 1968, Ser. No. 743,331  
Int. Cl. C08f 15/26, 19/10

U.S. Cl. 260—384

11 Claims

This invention comprises a method of graft polymerizing an ester of an epoxyalcohol and a carboxylic acid containing aliphatic unsaturation to a solvent-swollen vinyl-type polymer containing labile hydrogen or halogen atoms in a suspension system at from 25 to 75° C. and the polymers obtained thereby.

3,519,703

**FLUOROELASTOMER COMPOSITIONS WITH IMPROVED LOW TEMPERATURE PROPERTIES**

Bernard A. Merkl, Detroit, and Paul Davis, Gibraltar, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan  
No Drawing. Filed Aug. 18, 1966, Ser. No. 573,188  
Int. Cl. C08f 29/16

U.S. Cl. 260—397

3 Claims

Fluorine containing elastomeric compositions of improved properties are prepared by covalcanizing a fluorine containing elastomer and minor amounts of a hydrocarbon rubber.

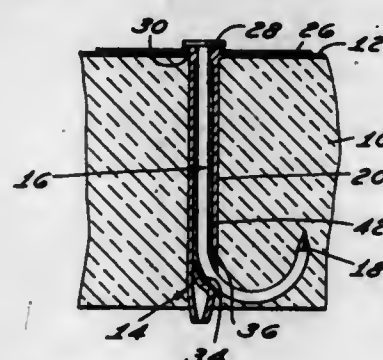
3,519,704

**METHOD OF SEALING ANCHOR NAIL FASTENERS**

Robert J. Maginnis, Stone Mountain, Ga., assignor to Simplex Nail & Manufacturing Corporation, Americus, Ga., a corporation of Michigan  
Continuation-in-part of application Ser. No. 658,266, Aug. 3, 1967. This application Apr. 29, 1969, Ser. No. 822,855  
Int. Cl. B29d 31/00

U.S. Cl. 264—69

9 Claims



Generally, this disclosure relates to a method of sealing anchor nail fasteners, such as disclosed in my U.S. Letters Patent 3,177,753. The method includes combining a sealant having a liquid vehicle with the tubes, heating and agitating the tubes until the sealant becomes granular, adding water and continuing to heat and agitate until the sealant is dry, and the tubes are sealed.

3,519,705

**METHOD OF MOLDING AND FILLING PLASTIC CONTAINERS**

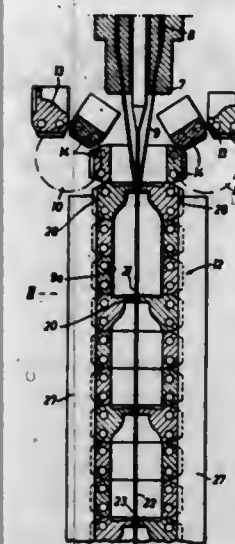
Heinrich Paumenbecker, Bergstrasse 2, Heidebergen, near Bonn, Germany  
Filed Dec. 1, 1966, Ser. No. 598,351  
Claims priority, application Germany, Dec. 7, 1965, P 38,287  
Int. Cl. B29c 17/07; B29h 7/02; B65b 1/02

U.S. Cl. 264—99

3 Claims

This invention is directed to a system including means for extruding a parison, capturing the parison between a

plurality of pairs of mold bodies, and advancing the mold bodies along a plurality of tubes which sequentially inflate the parison to form containers, purge the containers, fill the containers with a desired medium, and seal the filled



containers. The tubes have discharge openings which are positioned at predetermined points along the path of travel of the parison, and the advancement of the mold bodies selectively opens/closes the tubes relative to the interiors of the containers.

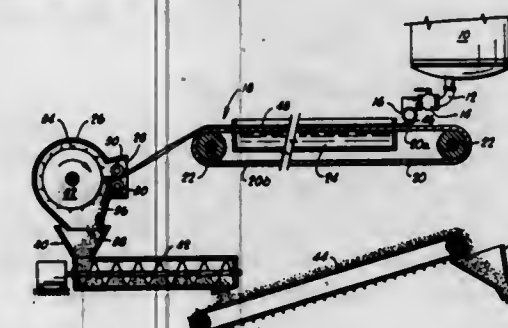
3,519,706

**METHOD OF FORMING HOT MELT ADHESIVE PELLETS**

Athan A. Pantalos, 7600 S. Merrill, Chicago, Ill. 60600  
Filed June 25, 1968, Ser. No. 739,822  
Int. Cl. B02c 18/06

U.S. Cl. 264—143

5 Claims



A method of forming pellets of hot melt adhesive which includes the steps of continuously forming a plurality of elongated strips of molten hot melt adhesive, moving the strips longitudinally while concurrently forming the strips, cooling the strips during their longitudinal movement, twisting each of the strips about its longitudinal axis through an angle of about 180° during its longitudinal movement, and periodically severing the leading end portion of each of the strips during its longitudinal movement to form solid pellets.

3,519,707

**METHOD OF MAKING ELECTRICAL CONNECTORS**

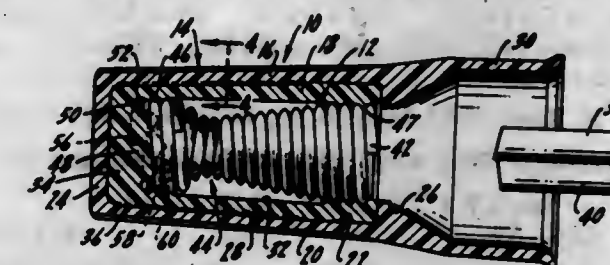
Donald E. Krup, Elgin, Ill., assignor to Ideal Industries, Inc., Sycamore, Ill., a corporation of Delaware  
Filed May 9, 1968, Ser. No. 727,841  
Int. Cl. H02g 15/08; B29c 19/00

U.S. Cl. 264—249

6 Claims

The method and apparatus for connecting together a plurality of wire ends. A helical spring is driven on the wires through the wedging action of a connector body projection. A depression on the projection and a cone within the depression provide improved features. The

helical spring is formed with an improved diamond-shaped cross section having its radial axis inclined inwardly, and the sides of the spring turns cooperate together to prevent telescoping action. The spring is formed with a long taper for maximum wire engagement, and the outer margin of the spring is in threadable engagement



ment with the body. A modified spring has a tang on its inner end which embeds in the projection to provide driving torque. The body cavity is formed with threads for guiding this spring onto the projection, and these threads are shallow to permit stripping of the body from the mold pin. Internal body threads at the open end are formed by induction heating after the spring is inserted within the cavity.

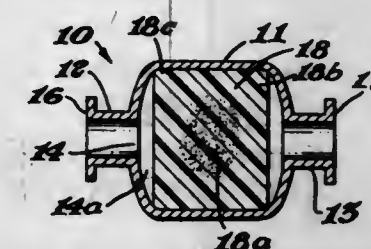
3,519,708

**METHOD OF FORMING SELECTIVELY PERMEABLE BODIES FROM FLEXIBLE POLYURETHANE FOAM**

Wallace T. McMichael, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
Filed Nov. 21, 1966, Ser. No. 595,934  
Int. Cl. B29d 3/02

U.S. Cl. 264—321

3 Claims



Flexible open-celled polyurethane foam is impregnated with a hardenable epoxy resin and a portion of the foam collapsed to form a solid portion and the hardenable epoxy resin cured to produce selectively permeable bodies.

3,519,709

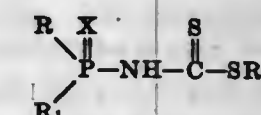
**PHOSPHORUS CONTAINING DITHIOCARBAMATES**

Roger Williams Addor, Pennington, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Filed Mar. 28, 1967, Ser. No. 626,403  
Int. Cl. A01n 9/36; C07c 155/08; C07f 9/24

U.S. Cl. 260—455

6 Claims

Dithiocarbamate esters represented by the formula:



wherein R and R<sub>1</sub> are each (lower)alkyl, (lower)alkoxy or phenyl; X is sulfur or oxygen; and R<sub>2</sub> is (lower)alkyl, benzyl, halo-substituted benzyl, allyl, (lower)alkylallyl, or (lower)carbalkoxy (lower)alkyl substituent, are provided. They are prepared by subjecting either a mixture of a phosphinyl or phosphinothioyl isothiocyanate and an alkali metal hydrosulfide to the action of an alkylating agent or initially reacting the latter hydrosulfide-isothiocyanate mixture to obtain a dithiocarbamate salt, and



thereafter converting the salt so formed to a thioester by reaction with an alkylating reagent. They are useful as insecticides.

3,519,710

# DIRECT ACTIVE MODIFIED LIVE VIRUS VACCINE IMMUNIZATION AGAINST TRANSMISSIBLE GASTROENTERITIS IN SWINE PIGLETS AT BIRTH

Edmund P. Bass, 9963 Hascall St., Omaha, Nebr. 68124  
No Drawing. Filed Aug. 10, 1967, Ser. No. 666,225

Int. Cl. C12k 7/00; A61k 23/10

U.S. Cl. 424—89

6 Claims

A vaccine and methods of preparing and administering the vaccine whereby swine, especially piglets, are provided directly with active protection against transmissible gastroenteritis. The vaccine can be administered orally, or by parenteral route and is prepared from virus propagated in cell culture.

3,519,711

# COMPOSITION AND METHOD OF TREATING PRURITIC CONDITIONS OF THE SKIN

Robert E. Svirgale, 11 Woods Lane,  
Roslyn, N.Y. 11576

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,940

Int. Cl. A61k 27/00

U.S. Cl. 424—148

2 Claims

An antipruritic composition in the form of an aqueous solution containing phenol, boric acid, and magnesium sulfate, and a method for ameliorating a pruritic skin condition therewith.

3,519,712

# THERAPEUTIC COMPOSITIONS COMPRISING N-METHYLGLUCAMINE AND COUMERMycin OR SALTS THEREOF

Harold Leon Newmark, Maplewood, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 4, 1965, Ser. No. 492,927

Int. Cl. A61k 21/00

U.S. Cl. 424—180

15 Claims

Compositions comprising from about 0.5 to about 100 moles of N-methylglucamine per mole of coumermycin or its salts and which result in higher blood levels at relatively low dosages are disclosed.

3,519,713

# INSECT CHEMOSTERILIZATION EMPLOYING 2,2'-IMINO-DIETHYL-BENZENE SUBSTITUTED BORONATES

George F. Ludvik, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

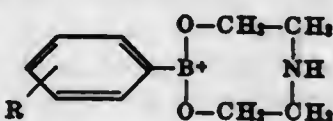
No Drawing. Filed Nov. 21, 1966, Ser. No. 597,504

Int. Cl. A01n 9/00, 23/00

U.S. Cl. 424—185

11 Claims

Insects are controlled by applying to the insects a sterilizing amount of a compound of the formula



wherein R is alkyl of not more than 4 carbons.

3,519,714

# SYNTHESIS OF GONA-1,3,5(10)-TRIENES

Gordon Alan Hughes, Haverford, Pa., and Herchel Smith, 500 Chestnut Lane, Wayne, Pa. 19087; said Hughes assignor to said Smith.

Continuation-in-part of application Ser. No. 228,384, Oct. 4, 1962, which is a continuation of applications Ser. No. 57,904, Sept. 23, 1960, Ser. No. 91,341, Feb. 24, 1961, Ser. No. 137,535, Sept. 12, 1961, Ser. No. 195,000, May 15, 1962, and Ser. No. 196,557, May 16, 1962. This application Mar. 15, 1966, Ser. No. 534,353

Int. Cl. A61k 17/06

U.S. Cl. 424—238

22 Claims

The total synthesis of novel 13-polycarbon-alkyl compounds having a cycloaliphatic-phenanthrene nucleus in which the B and the C rings are at least partly hydrogenated, and in particular novel 13-polycarbon-alkyl gonanes having an aromatic A-ring is described. These compounds have qualitatively varying hormonal effects and in particular estrogenic and anti-lipemic effects. Moreover, they are useful intermediates for the preparation of compounds having estrogenic, anti-lipemic, progestational, anabolic, and androgenic activities.

3,519,715

# 2 $\alpha$ ,3 $\alpha$ -EPITHIOANDROSTANE DERIVATIVES AND PROCESS FOR PREPARING THEM

Wataru Nagata, Nishikomiyashi, Fumikazu Mukawa, Minoo-shi, Taichiro Komono, Osaka-shi, and Sadao Hayashi, Ashiya-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Filed Apr. 22, 1968, Ser. No. 723,256  
Claims priority, application Great Britain, Apr. 26, 1967, 19,248/67

Int. Cl. C07c 173/00

U.S. Cl. 424—241

16 Claims

2 $\alpha$ ,3 $\alpha$ -epithio-17-oxygenated-5 $\alpha$ -androsterane derivatives, substituted by an alkyl group at either positions 7 $\alpha$ -, 7 $\beta$ - or 8 $\beta$ - having enhanced ratio of anabolic and antiestrogenic/androgenic activities, a process for preparing them and pharmaceuticals containing the compounds of the present invention.

3,519,716

# TREATMENT OF HYPERURICEMIA IN MAMMALS USING MERCAPTO-SUBSTITUTED PYRAZOLO(3,4-d)PYRIMIDINES

George H. Hitchings, Yonkers, and Elvira A. Falco, New Rochelle, N.Y., assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 524,830, Feb. 3, 1966. This application Apr. 12, 1968, Ser. No. 721,090

Claims priority, application Great Britain, May 23, 1962, 19,863/62; Aug. 23, 1962, 32,519/62

Int. Cl. A61k 27/00

U.S. Cl. 424—251

6 Claims

The method of treatment and prophylaxis for hyperuricemia, which comprises administering to a mammal an antihyperuricemia therapeutically effective amount of a mercapto-substituted pyrazolo(3,4-d)pyrimidine.

3,519,717

# NOVEL METHOD FOR LOWERING HIGH BLOOD PRESSURE AND COMPOSITIONS THEREFOR

Samson Symchowicz, Livingston, and Margaret H. Sherlock, Bloomfield, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 448,846, Apr. 16, 1965. This application Jan. 17, 1968, Ser. No. 698,385

Int. Cl. A61k 27/00

U.S. Cl. 424—266

14 Claims

This invention relates to compositions of matter useful as anti-hypertensive agents and to the method of lowering high blood pressure in warm-blooded animals. The active hypotensive agents are substituted picolinic acids and ester and amide derivatives of said acids.

## ERRATUM

For Class 424—270 see:  
Patent No. 3,519,630

## ELECTRICAL

3,519,719

# METHOD OF OPERATING METALLURGICAL FURNACES

Walter Fadler, Vienna, Austria, assignor to Wiener Schwaachstromwerke Gesellschaft m.b.H., Vienna, Austria

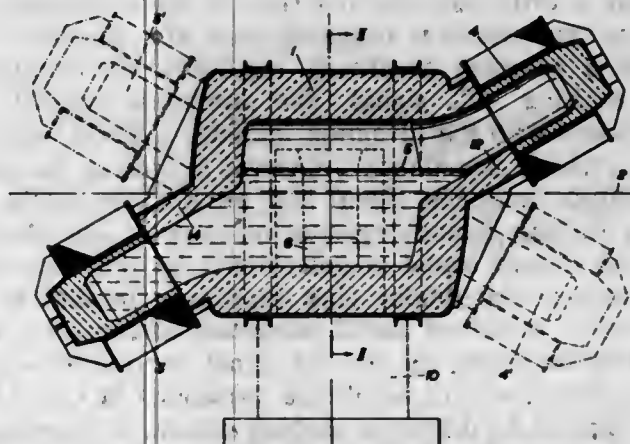
Original application Feb. 20, 1967, Ser. No. 617,396.  
Divided and this application Nov. 21, 1968, Ser. No. 792,184

Claims priority, application Austria, Feb. 22, 1966, A 1,608/66

Int. Cl. H05b 5/00

U.S. Cl. 13—34

1 Claim



A method of operating a barrel-type, metallurgical induction furnace by rotating it so that a selected one of two induction heaters extends upwardly above the melt while the other extends downwardly from below the bottom of the furnace. The downwardly extending induction heater operates to heat the material in the furnace whereas the upper one is switched off. In the event the lowermost heater is to be replaced or allowed to be switched off for a period of time, the barrel-type furnace is rotated to a second position in which the heater positions are reversed.

3,519,720

# ORGAN HAVING VARIABLE TIMBRE WITH TRANSISTORIZED PLAYER CONTROLLED DYNAMIC FILTER

David A. Bunge, Cincinnati, Ohio, assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio

Filed Apr. 24, 1968, Ser. No. 723,685

Int. Cl. G10h 1/02, 5/02

U.S. Cl. 84—112

9 Claims

An electric organ having conventional voicing circuits is also supplied with an auxiliary dynamic voicing filter

3,519,718

# METHODS AND COMPOSITIONS FOR THE TREATMENT OF DEPRESSION WITH 11-AMINOALKYL 9,10-DIHYDRO-9,10 ETHANOANTHRACENE

Herbert Schroter, Fullinsdorf, and Daniel A. Prinz, Oberwil, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 405,273, Oct. 20, 1964. This application Aug. 21, 1968, Ser. No. 754,452

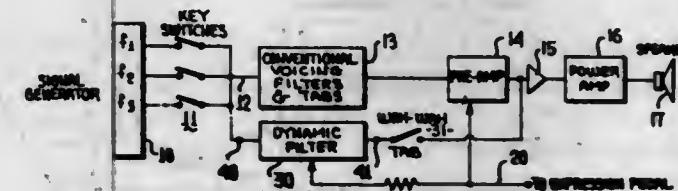
Claims priority, application Switzerland, Oct. 21, 1963, 12,919/63

Int. Cl. A61k 27/00

U.S. Cl. 424—330

16 Claims

Methods and compositions for the treatment of mental depression through the use of 11-aminoalkyl-9,10-dihydro-9,10-ethanoanthracene.



determining the peak frequency of the filter. A diode gate in the feedback loop is controlled by a control voltage established as a function of position of the expression pedal of the organ.

3,519,721

# ELECTROPIANO WITH FLURAL PIEZOELECTRIC PICKUPS ON UNITARY ACOUSTIC RAIL

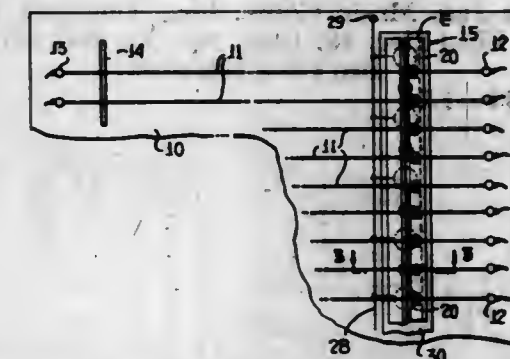
Daniel W. Martin, Cincinnati, and John L. Stein, Hamilton, Ohio, assignors to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio

Filed Mar. 21, 1968, Ser. No. 714,888

Int. Cl. G10c 7/00; G10d 5/00; G10k 11/00

U.S. Cl. 84—114

11 Claims



An electropiano employing as a transducer rail one or relatively few strips of U-shaped aluminum extrusion between the arms of which are located a plurality of piezoelectric transducer elements separated from one arm by resilient damping pads located above metallic shims. The total number of transducer elements is about 25% of the number of tones, the transducers not being individual to the strings, but being acoustically coupled to the strings through the extrusion or strip. The strip is supported between the strings and a layer of resilient damping material which is located directly on the plate



of the electropiano, and is secured only against gross lateral movement relative to the plate so that longitudinal acoustic vibrations along the length of the strip and flexural vibrations of the extrusion can occur. The transducer elements each have one electrode contacting an arm of the extrusion, which then provides a common electrical ground. The other electrode of each transducer contacts a conducting shim superimposed on an electrical insulating and acoustical damping pad. These shims are connected to a common lead, so that all the outputs of a group of transducers may be applied to a common terminal. Damping means are provided just beyond the tuned segments of the strings, to provide tone diminution simulating that of a true piano.

3,519,722

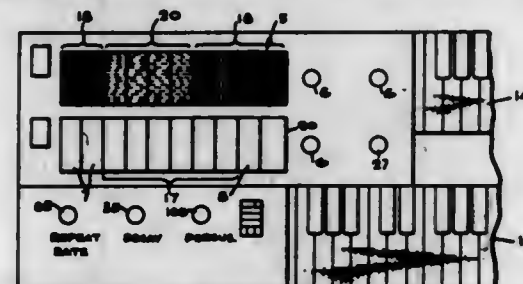
# VARIABLE IMPEDANCE MEMBER FOR ELECTRONIC MUSICAL INSTRUMENT

Solomon Heytaw, Canoga Park, Calif., assignor, by mesne assignments, to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware  
Original application June 7, 1961, Ser. No. 132,250.  
Divided and this application Apr. 5, 1966, Ser. No. 571,147

Int. Cl. G10h 5/00; H03g 9/00

U.S. Cl. 84-1.17

2 Claims



A manually adjustable impedance member is provided for use in an electrical instrument, and which is used as an adjustable balance control interposed between two tone sources and an output circuit. The impedance member is constructed so that for one-half its span attenuation is provided for one of the sources, but not the other; and so that for the other half of its span attenuation is provided for the second source but not the first. In this manner, at the mid-point of the adjustment of the impedance member, the signals from both the tone sources are fed to the output circuit substantially unattenuated.

3,519,723

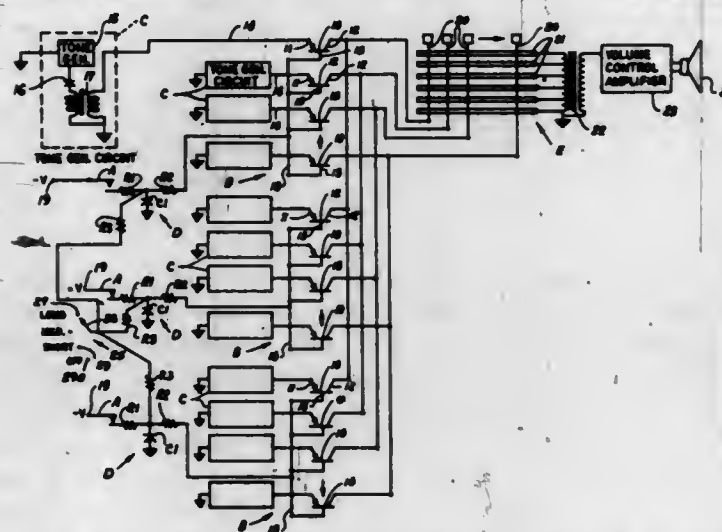
# SUSTAIN TONE DEVICE FOR ELECTRICAL MUSICAL INSTRUMENT

James A. West, Iva, S.C., assignor of fifty percent to Rice-Farr Music House, Inc., Anderson, S.C.  
Filed Dec. 20, 1966, Ser. No. 603,341

Int. Cl. G10h 1/02

U.S. Cl. 84-1.26

8 Claims



An electrical keying circuit which causes the tones produced on an organ to decay at a predetermined rate

after release of a playing key. A time-constant circuit is coupled to the playing keys and a plurality of gating devices causing the tones to decay at a predetermined rate. In one particular embodiment a knock-off circuit is provided for discharging the capacitors associated with the time-delay circuit so that a note can be abruptly terminated when a subsequent key is depressed.

3,519,724

# AMPLITUDE CONTROL CIRCUIT FOR ELECTRICAL INSTRUMENTS

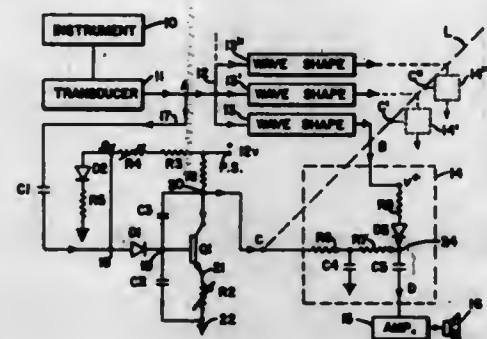
Jack C. Cookerly, 7655 Atoll Ave., North Hollywood, Calif. 91605, and George R. Hall, 13613 Huston, Sherman Oaks, Calif. 91403

Filed Dec. 8, 1967, Ser. No. 689,153

Int. Cl. G10h 1/02

U.S. Cl. 84-1.27

10 Claims



In an electrical musical instrument in which an original tone is transduced into an A.C. signal and the A.C. signal in turn passed through a wave shaping circuit to provide a modified signal, an amplitude control circuit is provided to vary the amplitude of the modified signal in accord with amplitude changes of the original tone. The modified signal is ordinarily derived from a wave shaping circuit of the type which is triggered such that its direct output is of a constant amplitude regardless of variations of the exciting A.C. signal. The amplitude control circuit in accord with the invention includes a diode functioning as a variable impedance connected to receive the constant amplitude modified signal and provide an output signal to a suitable sound reproducing system. The amplitude of the output signal is determined by the effective impedance of the diode. This impedance in turn is determined by a control signal connected to control a reverse bias to the diode, the control signal varying in amplitude in accordance with amplitude variations in the A.C. signal applied to the wave shaping circuit. A transistor circuit is provided with the base of the transistor receiving a rectified form of the A.C. signal and the control signal being derived from the collector terminal of the transistor. The overall result is a control of the ultimately reproduced sound in loudness which corresponds to the loudness of the original tone. The circuit includes means for varying the threshold level at which it operates and also means for varying the dynamic range of the output signal.

3,519,725

# METHOD AND APPARATUS FOR USING DIELECTRIC INSULATING COMPOSITIONS CONTAINING PENTAFLUOROTHIO-SUBSTITUTED POLYFLUOROXYETANES

Gary Lee Gard, Beaverton, Oreg., Cyril Woolf, Morristown, N.J., and Ruth Martha Shaw, Cambridge, Mass., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 7, 1967, Ser. No. 658,621

Int. Cl. H05k 5/00

U.S. Cl. 174-17

11 Claims

This specification discloses the addition of a minor amount of pentafluorothio-substituted polyfluoroxyetanes to known gaseous dielectrics to improve the dielectric or

electrical breakdown strength of these dielectrics. These gaseous mixtures are adaptable to be used in any method or apparatus suitable to the use of gaseous dielectrics.

3,519,726

# TRANSFORMER VAULT FOR UNDERGROUND INSTALLATION

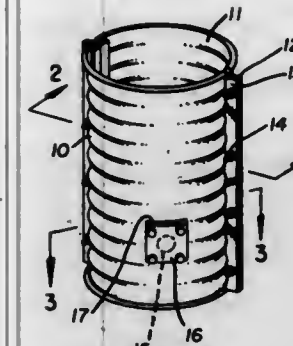
Sam M. Ewing, Youngstown, Ohio, assignor to Youngstown Steel & Alloy Company, Canfield, Ohio, a corporation of Ohio

Filed Nov. 6, 1968, Ser. No. 773,853

Int. Cl. H02g 9/10

U.S. Cl. 174-37

1 Claim



An underground transformer vault for electrical transformers formed of a pair of 180 degree arcuate members having out-turned registering flanges forming a cylindrical vault open at its upper and lower ends and apertured inwardly from its ends to permit the passage therethrough of electrical cables and provided with sealing means about said apertures.

3,519,727

# SAFETY RELEASE MECHANISM FOR OVERHEAD POWERLINES

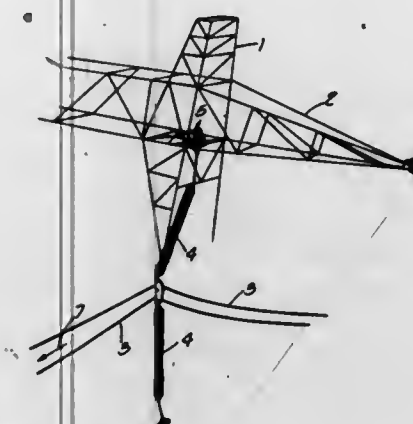
Robert William Rasmussen, Simi, and David H. Johns, Montrose, Calif., assignors to Southern California Edison Company, Los Angeles, Calif., a corporation of California

Filed Nov. 26, 1968, Ser. No. 779,092

Int. Cl. H02g 7/18

U.S. Cl. 174-45

10 Claims



This invention relates to a release mechanism for overhead powerlines which will support the lines under normal conditions but which will release the lines under abnormal longitudinal loads which would cause damage to the suspension towers. The device comprises a slide and a slide support, the slide support being pivotally attached to the transmission tower and the slide being pivotally attached to a transmission line, said slide held against

vertical and transverse forces by said support and against longitudinal forces by a shear pin connecting the slide to the slide support so that when excessive longitudinal forces occur, said pin will break and the slide will become disengaged from the slide support thereby disengaging the transmission line from the tower.

3,519,728

# PROTECTIVE ENCLOSURE FOR CABLES

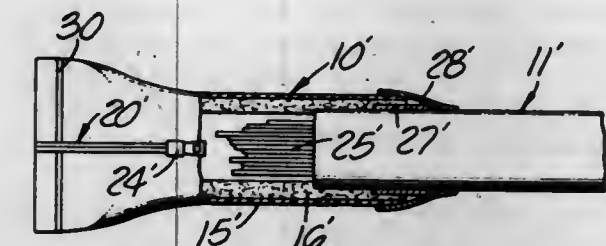
George W. Gillemot, Venice, Calif., assignor to Walter A. Plummer, Sherman Oaks, Calif.

Filed May 16, 1968, Ser. No. 729,770

Int. Cl. H02g 15/04, 15/18

U.S. Cl. 174-76

2 Claims



A protective enclosure for cables and a method of applying the same comprising a tubular boot having a thin walled flexible impervious main body lined with thick porous spongy material. After assembling the enclosure about a length of cable and sealing the ends, the spongy material is charged with a fluid potting compound which solidifies and seals against all contacting surfaces to provide a fluidtight protective enclosure for either the end or a midlength portion of cabling or the like.

3,519,729

# ELECTRICAL JUNCTION

John F. La Van, Oak Park, and Peter F. Hansen, Niles, Ill., assignors to American Standard Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 25, 1967, Ser. No. 670,083

Int. Cl. H02g 15/08

U.S. Cl. 174-88

7 Claims



Means for connecting two components in the nature of coaxial conductors, each comprising an outer sheath and an inner conductor with a dielectric therebetween. The inner conductor of one component is bored to receive the inner conductor of the other component. The sheath of the one component extends beyond the end of its inner conductor and dielectric to define a pocket receiving the sheath of the other component, permitting telescoping engagement of the sheaths. The inner conductor of the other component extends beyond its sheath and dielectric so that it may intromit the bore of the other inner conductor when the sheaths are in telescoped relation. The joints as thus constituted are desirably rendered mechanically reliable and hermetically sealed by swaging or crimping in the region of the joints.



3,519,730

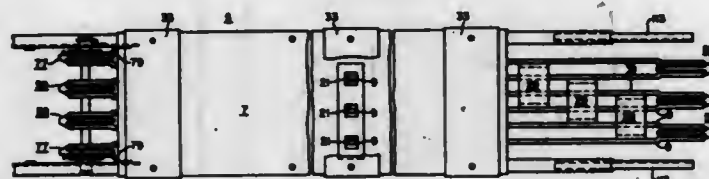
## MULTI-PHASE BUS DUCT

Samuel S. Fouse, Alliquippa, and William W. Hamilton, Jr., Beaver, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 10, 1967, Ser. No. 659,646  
Int. Cl. H02g 5/06

U.S. Cl. 174-38

7 Claims



Improved multi-phase bus duct comprises two sections of bus bars with improved means for connecting the sections together. Each section comprises two bus bars per phase with improved means coupling the bus bars of the sections together.

3,519,731

## CONNECTOR FOR CABLES

Juan Jose Torralva Grunbaum, Avenida del Libertador 1780, Buenos Aires, Argentina

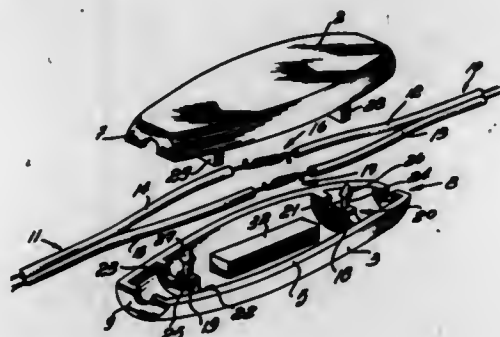
Filed Dec. 20, 1967, Ser. No. 710,692

Claims priority, application Argentina, Dec. 26, 1966, 204,919

Int. Cl. H01r 5/02

U.S. Cl. 174-138

5 Claims



A wiring device for housing the spliced end portions of a pair of two-conductor wires. A pair of elongated dished members define with one another an interior chamber having spaced openings for admission of the respective two-conductor wires. Partition walls are provided on each of the members interiorly of the chamber subdividing the latter into a center and two end compartments in which end compartments the two conductors of the respective incoming wires diverge transversely away from one another. The spliced end portions of the wires are accommodated in the center compartment. Undercut snap-type connecting means are provided on the partition walls for releasably connecting the members with a snap action intermediate respective diverging conductors.

3,519,732

## BUS STRUCTURE COMPRISING A CLAMPING BRACKET AND A COATED ELECTRIC BUS BAR

Bartholomew Close, Prospect Park, Pa., assignor to General Electric Company, a corporation of New York

Filed July 24, 1969, Ser. No. 844,366

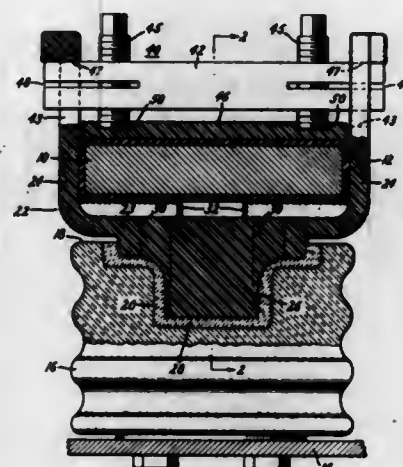
Int. Cl. H01b 17/18

U.S. Cl. 174-156

3 Claims

Means for clamping to a support a bus bar that is covered with an unbroken coating of insulation. The bus

bar is positioned on a U-shaped bracket having arms located at opposite edges of the bus bar. A reaction bar extends through aligned openings in the arms, and screws threaded into the reaction bar force the bus bar against



the bight portion of the U-shaped bracket. A bearing plate between the ends of the screws and the bus bar protects the insulating coating on the bus bar from damage by the screws.

3,519,733

## BUS STRUCTURE COMPRISING AN INSULATING SUPPORT AND A COATED ELECTRIC BUS BAR

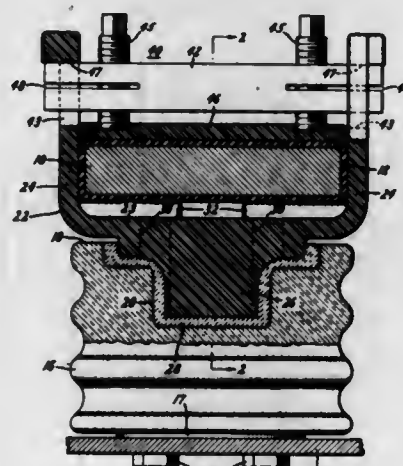
Charles D. Eichelberger, Ridley Park, and Philip C. Netzel, Millmont Park, Pa., assignors to General Electric Company, a corporation of New York

Filed July 24, 1969, Ser. No. 844,365

Int. Cl. H01b 17/18

U.S. Cl. 174-171

3 Claims



Bus structure comprising a bus bar completely coated with insulation, a post-type porcelain insulator supporting the bus bar, and a U-shaped bracket of insulating material mounted atop the insulator and receiving the bus bar between spaced-apart arms at opposite ends of the bracket. Clamping means clamps the bus bar against the bight portion of the U-shaped bracket without perforating its insulating coating. An insulating plug integral with the bracket extends into a cavity in the insulator and is bonded to the insulator to fix the bracket to the insulator. All structure adjacent the bus bar in the region of the insulator is of insulating material.

3,519,734

## CHROMA BLANKING CIRCUIT

James G. S. Chua, Roselle, and Bernard J. Okey, Elmwood Park, Ill., assignors to Admiral Corporation, Chicago, Ill., a corporation of Delaware

Filed Aug. 28, 1967, Ser. No. 663,641

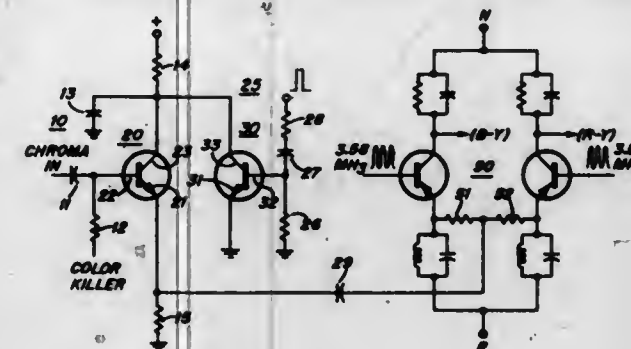
Int. Cl. H04n 9/50

U.S. Cl. 178-5.4

7 Claims

A chroma amplifier terminating in an emitter follower transistor providing a low-impedance driving source for

single ended color demodulators. During chroma blanking, the emitter follower transistor is driven into saturation to preserve the low impedance at the demodulator input.



tion to preserve the low impedance at the demodulator input.

3,519,735

## NON-MATRIXING BLANKING CIRCUIT

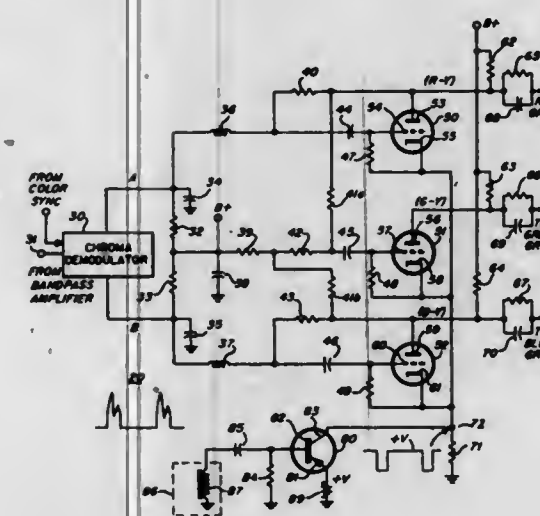
James G. S. Chua, Roselle, and Bernard J. Okey, Elmwood Park, Ill., assignors to Admiral Corporation, Chicago, Ill., a corporation of Delaware

Filed June 15, 1967, Ser. No. 644,387

Int. Cl. H04n 9/18, 9/52

U.S. Cl. 178-5.4

5 Claims



A common transistor blanking and key clamping circuit for separate color difference amplifiers having a common load impedance. A transistor has its output electrode directly connected to the common load impedance, its common electrode connected to a low voltage source, and its input electrode coupled to a source of line frequency retrace pulses. During trace, the transistor is in saturation thus presenting a low impedance across its output terminals and the common load impedance. The retrace pulse cuts off the transistor, thereby applying a negative pulse to the color difference amplifiers.

3,519,736

## APPARATUS FOR PREVENTING RECEIVER RECORDING OF PARTIAL MULTIPLEXED MESSAGE TRANSMISSIONS

Denis P. Dorsey, Levittown, Pa., assignor to RCA Corporation, a corporation of Delaware

Filed May 18, 1967, Ser. No. 639,322

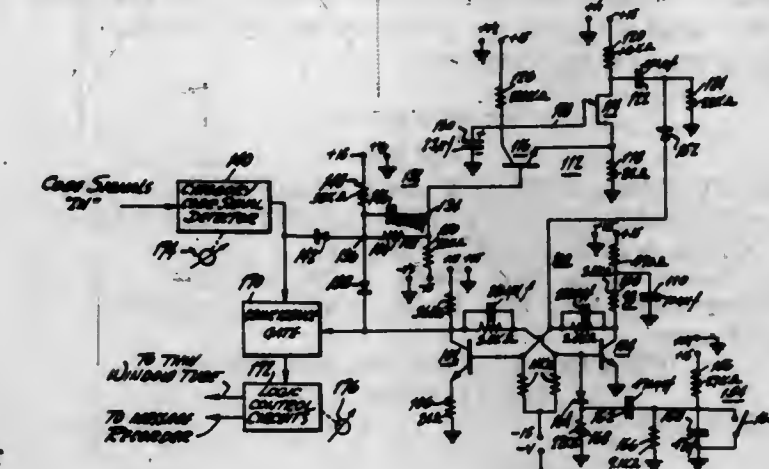
Int. Cl. H04n 7/08, 5/76

U.S. Cl. 178-5.6

11 Claims

Apparatus for preventing receiver recording of multiplexed messages already partially transmitted when recording is directed includes bistable multivibrator and pulse triggering circuits which cooperate to delay energization of the receiver's recording circuits until after the remainder of the message transmissions have ended and before they

are to begin again. The messages to be recorded may be transmitted during the time intervals between successive



horizontal sync pulses within the vertical blanking interval of each field.

3,519,737

## RESONANT BANDPASS FILTER HAVING TWO UNDESIRED FREQUENCY CANCELLATION TRAPS

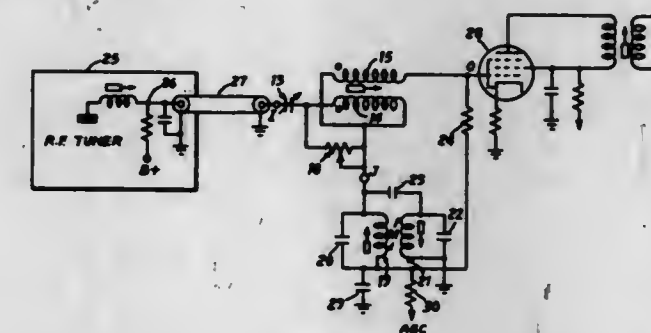
James C. Marsh, Jr., Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware

Filed June 7, 1967, Ser. No. 644,153

Int. Cl. H04n 5/48

U.S. Cl. 178-5.8

7 Claims



In a color television receiver, an intermediate frequency bandpass filter circuit of the bifilar T type is provided with two coupled parallel resonant circuits to provide attenuation at two select frequencies adjacent to the pass band.

3,519,738

## DAMPED SERVO SYSTEM FOR TV TAPE RECORDER TRANSDUCER HEAD

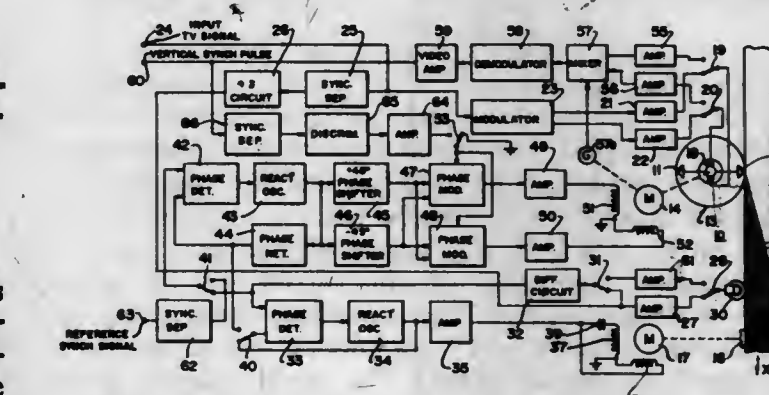
Takaya Morita, Sagami-hara, and Shuya Abe, Tokyo, Japan, assignors to Raytheon Education Company, a corporation of Delaware

Filed May 16, 1966, Ser. No. 550,545

Int. Cl. H04n 5/76; H03c 3/08

U.S. Cl. 178-6.6

20 Claims



An electronic servo system uses electronically generated error signals to eliminate jitter heretofore caused by variations in the head speed on a TV tape recorder.



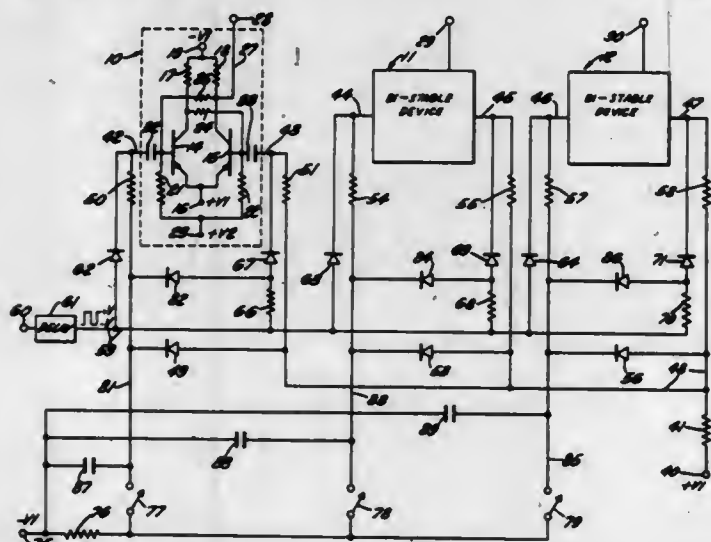
The error signal is a product of a head speed deviation signal and a standard signal which are mixed together to produce a phase modulated signal. This modulated signal is applied to energize the windings of the head motor used to drive a revolving transducer disk in a helical scan TV tape recorder.

**3,519,739**  
**SWITCHING CIRCUIT FOR PROVIDING ONE OR MORE OUTPUT SIGNALS SYNCHRONIZED WITH A REFERENCE SIGNAL**  
Roy Henry Seim, San Diego, Calif., assignor to Cohn Electronics, Inc., San Diego, Calif., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 502,160  
Int. Cl. H04n 5/22

U.S. Cl. 178—6.8

18 Claims



A switching circuit including a plurality of bistable devices for selectively providing one or more output signals synchronized with a reference signal. The bistable devices receive a train of reference pulses, and selectively receive input control signals. Upon the application of a control signal the associated bistable device only changes to a new state upon the occurrence of the next reference signal, and remains in this new state even upon termination of the control signal until a control signal is applied to another bistable device followed by the receipt of another reference signal. Thus, each bistable device is synchronized in operation with reference signals in going from its first to its second, or its second to its first, state.

**3,519,740**  
**SYSTEM FOR RECEIVING SIGNALS IN WHICH THE LOCAL OSCILLATOR FREQUENCY IS MADE EQUAL TO THE CARRIER FREQUENCY OF INCOMING SIGNALS**

Gerhard Gunter Gassmann, Berkheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 8, 1966, Ser. No. 592,774

Claims priority, application Germany, Dec. 3, 1965, St 24,726

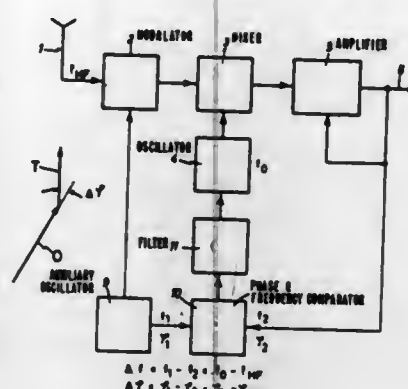
Int. Cl. H04n 5/44

U.S. Cl. 178—7.3

6 Claims

A method for receiving high-frequency signals wherein an incoming signal, modulated on a carrier, is modulated in both amplitude and phase by an auxiliary signal which is applied in a single sideband mode. The modulated signal is mixed with a locally generated oscillator signal at the frequency and phase of said carrier and the mixed signal is then amplified. The amplified signal comprises an intelligence signal and a modulated and mixed auxiliary signal or "model signal." The "model signal" is applied to the aforementioned amplifier to control the degree of amplification thereof and is also compared, in frequency and phase, with the auxiliary signal, to provide a control signal proportional to the difference in frequency and phase between said "model signal" and said auxiliary signal. The control signal is used to control the frequency and phase of said locally generated oscillator signal.

vide a control signal proportional to the difference in frequency and phase between said "model signal" and said auxiliary signal. The control signal is used to control the frequency and phase of said locally generated oscillator signal.



In another embodiment of the invention, where the high-frequency signal is a video signal, the auxiliary signal is applied in a double sideband mode, and only during the period of line flyback.

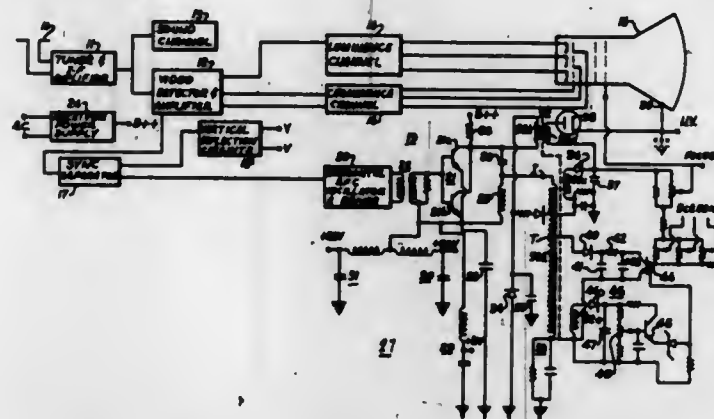
**3,519,741**  
**REGULATED HIGH VOLTAGE POWER SUPPLY**  
Mark Berwyn Knight, North Caldwell, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed June 12, 1967, Ser. No. 645,257

Int. Cl. H04n 3/18

U.S. Cl. 178—7.5

6 Claims



A horizontal deflection system and regulated high voltage supply for a color television receiver employing semiconductor devices. The regulator system provides controllable loading of the flyback pulse. The controllable pulse load comprises a charging rectifier, a filter capacitor and a discharging transistor coupled across the capacitor. Conduction of the transistor is controlled according to the amplitude of flyback pulses applied to the high voltage rectifier.

**3,519,742**  
**PHOTOCHROMIC DISPLAY USING CATHODE RAY TUBE**

Harley L. Bjelland, Palos Verdes Peninsula, Calif., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Feb. 25, 1964, Ser. No. 347,181

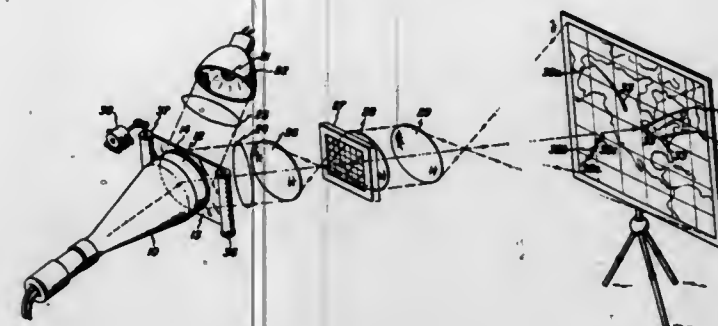
Int. Cl. H04n 5/74

U.S. Cl. 178—7.85

14 Claims

An optical information display system utilizing a photochromic film which is normally transparent and is rendered opaque responsive to ultraviolet light. Exposure to ultraviolet light is provided by a cathode ray tube having a fiber optic face plate and a phosphor coating which emits ultraviolet light. Projection of the induced image

on a display screen is accomplished in one embodiment by passing visible light through the photochromic film onto a dichroic filter. The light which is reflected by the dichroic filter passes back through transparent areas of the



photochromic film and is displayed on a screen. In another embodiment, visible light is projected through the photochromic layer to a display screen on the opposite side of the layer.

**3,519,743**  
**CIRCUIT ARRANGEMENT FOR SIMULTANEOUS SIGNALLING IN BOTH TRANSMISSION DIRECTIONS BETWEEN TWO TERMINAL STATIONS IN TELECOMMUNICATION SYSTEMS**

Eberhard Herter, Stuttgart, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

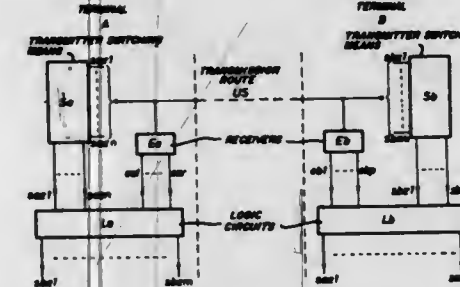
Filed July 12, 1967, Ser. No. 652,909

Claims priority, application Germany, Mar. 11, 1967, St 26,615

Int. Cl. H04l 5/14

U.S. Cl. 178—58

19 Claims



A duplex transmission circuit employing simultaneous signalling in both directions in a two-wire system. The transmitted signal received from the distant station is evaluated by logic circuit means that takes into account the instant signal of the local transmitter. Thus no provisions are required for protecting the local receiver from locally transmitted signals. The application demonstrates particularly suitable arrangements for binary, ternary or A.C. simultaneously signalling in both directions over two-wire lines.

**3,519,744**  
**APPARATUS FOR CONNECTING VISUAL TELEPHONE SETS IN A CONFERENCE ARRANGEMENT**

Irwin Dorros, Fair Haven, and Dudley B. Robinson, Jr., Madison, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed June 16, 1967, Ser. No. 646,525

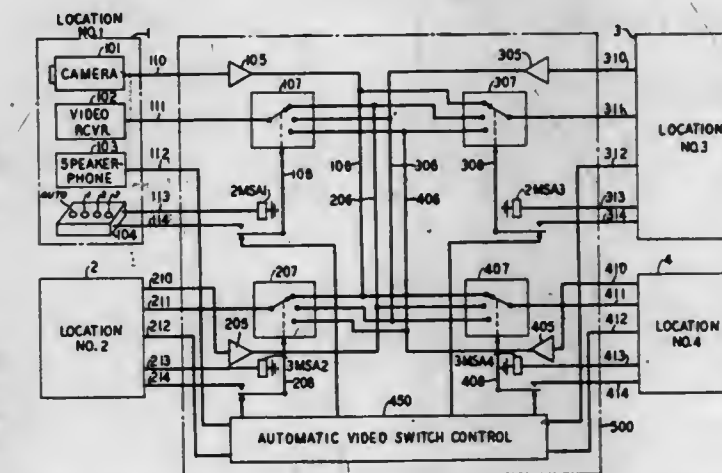
Int. Cl. H04m 11/06

U.S. Cl. 179—2

11 Claims

The video signals from visual telephone sets in several remote locations are distributed to the video receivers in the several visual telephone sets by a plurality of video switches located in a central location. Each video switch

connects its corresponding video receiver through to one of the video signals generated in one of the other remote locations. Each video switch consists of a number of contacts which are activated by two relays which in turn may be controlled in either of two ways. First, the viewer in any one of the locations may permit his two relays to be automatically controlled by apparatus which detects the presence of a speech signal from any one of the remote locations, and in response to this detection, causes his video receiver to be connected through to the video signal generated in the speaker's location providing the viewer is not also the speaker. The relays of the speaker's



video switch are maintained by the speech detecting apparatus in the same state of energization which existed prior to the generation of speech energy. In other words, the speaker's video receiver remains connected to the same video signal even after he begins to speak. Alternatively, the two relays corresponding to any one of the video switches may be connected to be energized by the contacts of two other relays which are directly under the control of the viewer in his remote location. As a result, any viewer may connect his video receiver to the video signal generated in any one of the other remote locations irrespective of which viewer is speaking.

**3,519,745**  
**SELECTED PRE-RECORDED TELEPHONIC MESSAGE TRANSMISSION SYSTEM DIALING PLURAL PRE-SELECTED NUMBERS AND DIALING A NEW NUMBER IF THE CALLED NUMBER IS BUSY OR DOES NOT ANSWER**

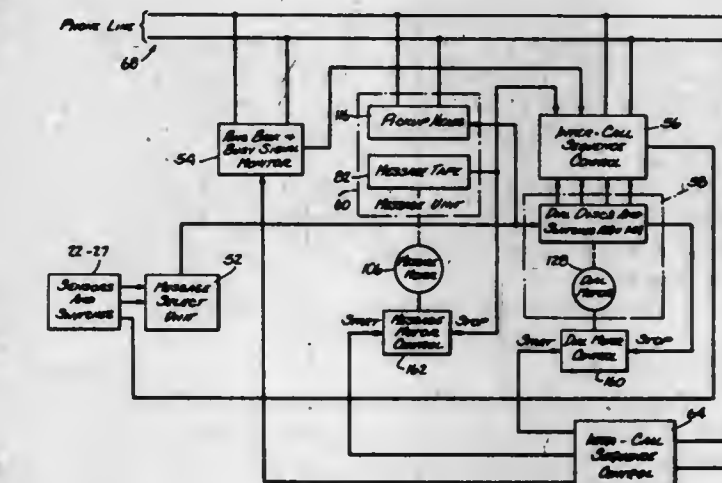
Robert Colman, New York, N.Y., assignor to General Alarm Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 18, 1966, Ser. No. 587,589

Int. Cl. H04m 11/04

U.S. Cl. 179—5

31 Claims



Automatic telephoning systems which include means for generating signals in response to the occurrence of



ringback and busy signals following a dialing operation; and means for controlling the operation of a message broadcast unit and of a call sequence unit in response to the generated signals.

3,519,746

### MEANS AND METHOD TO OBTAIN AN IMPULSE AUTOCORRELATION FUNCTION

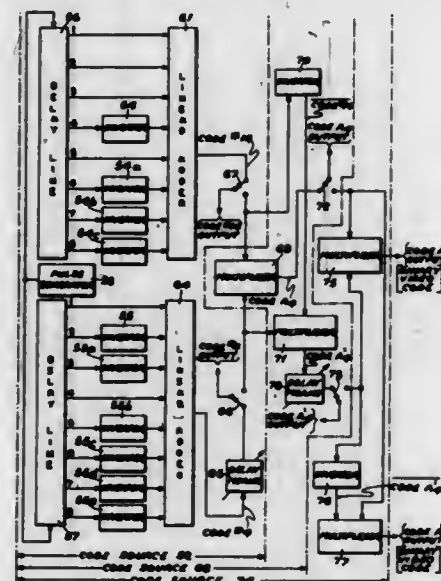
Frank S. Gutleber, Wayne, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware

Filed June 13, 1967, Ser. No. 645,697

Int. Cl. H04j

U.S. Cl. 179-15

19 Claims



A class of pseudo-noise codes including pairs of code mates where the code mates have cooperating autocorrelation functions which upon autocorrelation detection and linear addition of the outputs thereof provides an impulse output at a given time and a zero output at all other times. The number of code mates can be increased by interleaving each of the original code mates and the different time displaced versions thereof to provide a plurality of first codes and interleaving one code mate and the complemented version of the other code mate of each of the original code mates and the different time displaced versions thereof to provide a code mate for each of the first codes. This process may be continued with the newly generated code mates to further increase the number of code mates. The generated code mates are time or frequency multiplexed for transmission to the detector which separates the multiplexed code mates on a time or frequency basis prior to the autocorrelation detection and linear addition.

3,519,747

### SIGNAL INSERTION AND CONFERRING IN A RESONANT TRANSFER INTEGRATED TIME DIVISION SWITCHING AND FREQUENCY DIVISION MULTIPLEXING COMMUNICATION SYSTEM

Carl D. Avers, Rockville, and Paul M. Thrasher, Bethesda, Md., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 15, 1967, Ser. No. 667,966

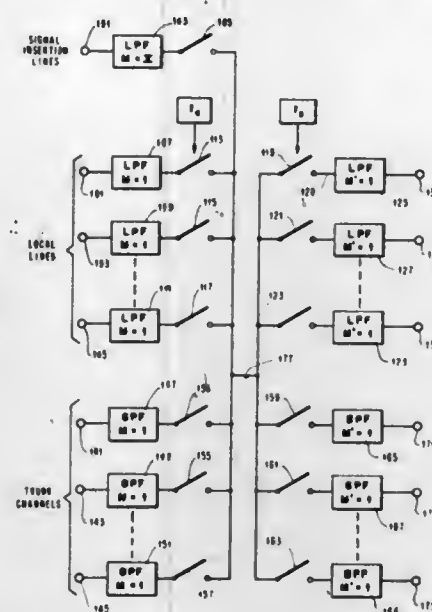
Int. Cl. H04j 3/02

U.S. Cl. 179-15

8 Claims

An integrated time division switching and frequency division multiplexing communication system employing an essentially lossless resonant transfer tone insertion scheme in the distribution system, with the added capability of effecting a conferencing connection by time multiplexing signals from the input lines or channels included in the conference into one conferencing wideband

low pass filter on the output side of the system and, after passing the combined signal into a second wideband



filter, multiplexing to the output lines or channels included in the conference.

3,519,748

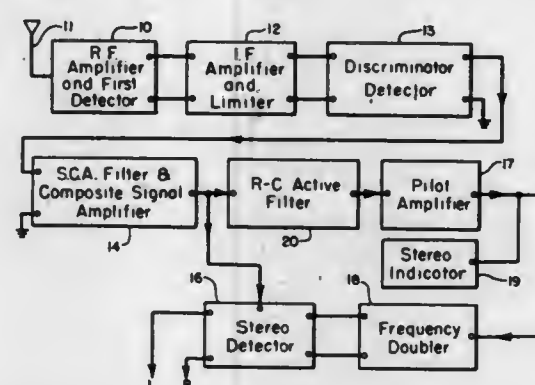
### STEREO RECEIVER SUITABLE FOR INTEGRATED CIRCUIT CONSTRUCTION

Fleming Dias, Chicago, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware  
Continuation-in-part of application Ser. No. 599,468, Dec. 6, 1966. This application Mar. 12, 1969, Ser. No. 806,631

Int. Cl. H04j 1/00

U.S. Cl. 179-15

4 Claims



A receiver for stereophonic program signals wherein demodulation of a received stereophonic subcarrier signal is accomplished by inductorless demodulation circuitry suitable for integrated circuit construction. An active R-C inductorless filter, located between the receiver frequency-modulation detector and stereo demodulator, extracts the pilot signal from the composite signal with a sufficiently high signal-to-noise ratio to permit derivation of a continuous-wave demodulation signal at the subcarrier frequency within the integrated-circuit demodulation stages without the provision of further tuned circuitry therein.

3,519,749

### EMERGENCY WARNING SYSTEM

Alexander S. Kline, Phoenix, Ariz., assignor to BBP Electronics, Inc., a corporation of Kansas

Filed Apr. 26, 1967, Ser. No. 633,771

Int. Cl. H04j 3/12

U.S. Cl. 179-15

9 Claims

An emergency warning system coupled into a commercial telephone network. The system includes a transmitter controlled by signals received over telephone trunk

lines for generating signals which are encoded and transmitted to individual remote receivers. A number of channels are provided for selectively signalling certain of the receivers without interfering with receivers keyed to adjacent channels. The system is rendered fail-safe by pro-

them to the master via the main channel. Modem clock signals are switched to maintain synchronous operation and failure of a modem results in a switchover operation. Provision is made for operation alternatively at higher and lower bit transmission rates, while retaining the same message length. Special connections for predetermined message cells allow communication between intermediate stations.

3,519,751

### MULTIPLEX SIGNAL TRANSFER SYSTEM

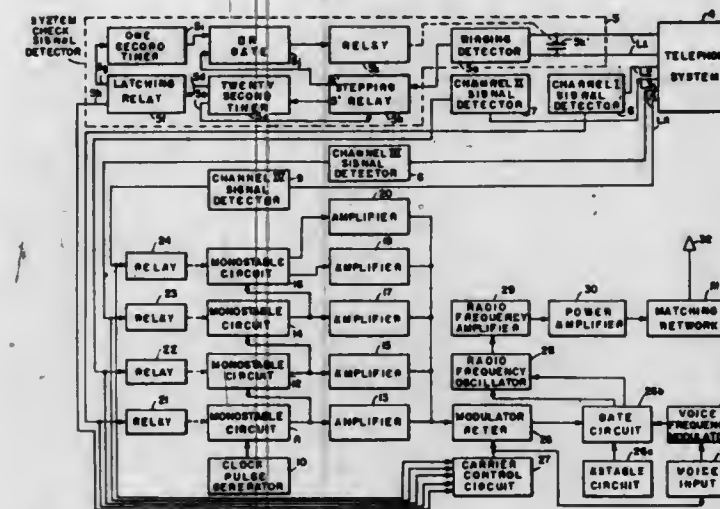
David A. Harms, Glen Ellyn, Ill., and Bernard T. Murphy, New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Oct. 9, 1967, Ser. No. 673,573

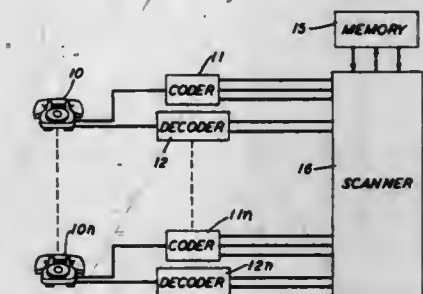
Int. Cl. H04j 3/00; H04q 11/04

U.S. Cl. 179-15

12 Claims



viding for an increased signal to noise ratio while transmitting, by including logic circuitry for checking received signals, and by requiring repetitive signals before energizing an alarm. A digital communication channel and a voice frequency channel are incorporated into the system.



A multiplex signal transfer circuit for a communication system is disclosed in which signals for transmission between lines in communication are coded in binary form. Stored designations of all of the communicating lines are scanned in sequence during a repetitive cycle. Signal transfer is effected by altering a charge stored in each line coding and decoding circuit during each cycle dependent upon the type of outgoing signal detected during the cycle.

3,519,750

### SYNCHRONOUS DIGITAL MULTIPLEX COMMUNICATION SYSTEM INCLUDING SWITCHOVER

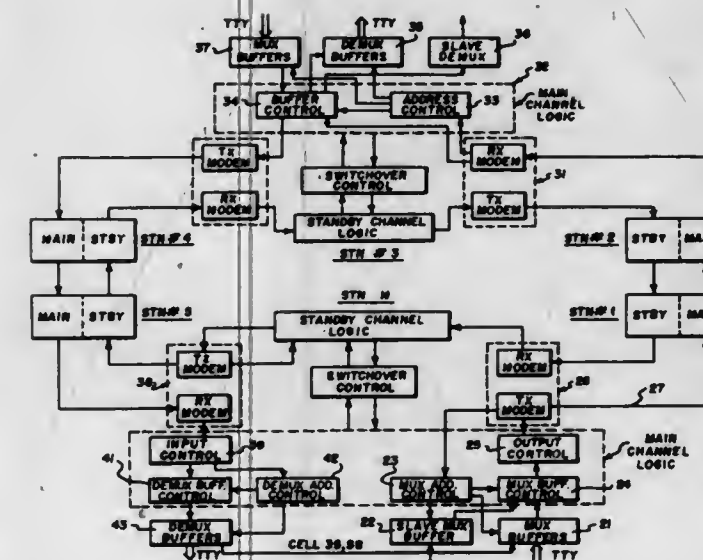
Peter W. Beresin and Frank W. Sieracki, Philadelphia, Pa., assignors to Ultronic Systems Corp., Mount Laurel, N.J., a corporation of Delaware

Filed Aug. 15, 1967, Ser. No. 660,696

Int. Cl. H04j 3/08

U.S. Cl. 179-15

13 Claims



Multiplex messages are transmitted from a master station through a plurality of intermediate stations and back to the master via a main channel. A standby channel provides for transmission in the opposite direction. If a station detects received message failure in the main channel it initiates a switchover operation in which the preceding station switches received messages to the standby channel. The switched messages pass back through the master to the initiating station, and the initiating station returns

3,519,752

### CROSSPOINT SELECTOR FOR REED RELAY MATRIX

Hans Schober, Hopfstad, Germany, assignor to International Standard Electric Corporation, a corporation of Delaware

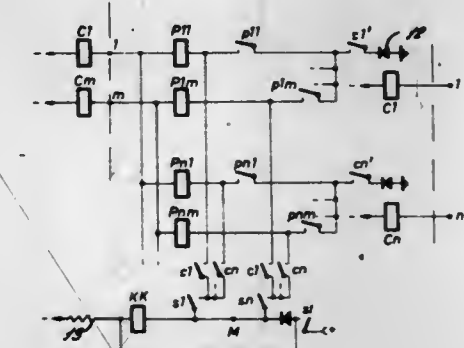
Filed July 2, 1965, Ser. No. 469,084

Claims priority, application Germany, July 18, 1964, 1,210,049

Int. Cl. H04q 3/00

U.S. Cl. 179-18

6 Claims



A guidewire network includes a plurality of cascaded switching stages using glass reed relay crosspoints. Associated with each stage is a checking relay which scans the crosspoints in a selected multiple. When the checking relay finds an idle crosspoint, it is selected.



3,519,753

# ARRANGEMENT FOR CONTROLLING CROSS-POINTS TO COMPLETE CONNECTING PATHS IN TELEPHONE EXCHANGE SYSTEMS

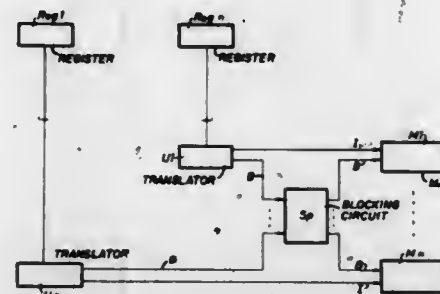
Gerhard Kohler, Stuttgart-Wellmendorf, and Nikolaus Lewen, Tamm, Germany, assignors to International Standard Electric Corporation

Filed June 22, 1966, Ser. No. 559,558

Claims priority, application Germany, June 24, 1965, St 24,022

Int. Cl. H04q 3/42

U.S. Cl. 179-18



Translators are individually associated with each of a plurality of markers. Information items, corresponding to different desired connections, are received simultaneously in several translators. The translators provide setting information items for the markers responsive to the digital signals received directly from the registers associated with the translators. At the same time, only one of the markers can be seized by the translator associated with it and the translator remains in a waiting position until the marker can be seized.

3,519,754

# CONTROL CIRCUIT FOR MULTISTAGE CROSSPOINT NETWORK

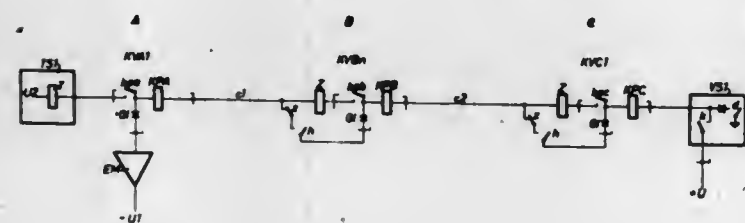
Heinz Schlüter, Kornwestheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 1, 1966, Ser. No. 591,188

Claims priority, application Germany, Nov. 17, 1965, St 24,656

Int. Cl. H04q 3/00

U.S. Cl. 179-18



A switching arrangement is provided for establishing connections through a plurality of switching stages. Circuits at each stage are provided for coupling the winding of each crosspoint relay via a make-contact between seizing wires and via the make-contact of an associated switching multiple marking relay.

# 3,519,755 AUTOMATIC SWITCHING ARRANGEMENT FOR TELEPHONE EXCHANGES PROVIDING REROUTING FACILITY

Robin Devenish Allum, Leamington Spa, Ronald Frank Rous, Kenilworth, and Cecil John Maurer, Brentwood, England, assignors to The General Electric Company Limited, London, England, a British company, and Her Majesty's Postmaster General, of The General Post Office, London, England

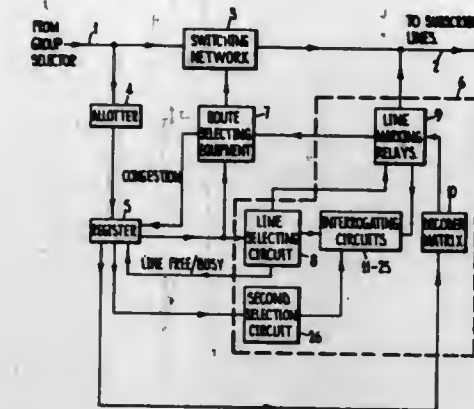
Filed Mar. 28, 1967, Ser. No. 626,467

Claims priority, application Great Britain, Mar. 28, 1966, 13,495/66

Int. Cl. H04q 3/10

U.S. Cl. 179-18

13 Claims



An automatic switching arrangement (e.g. in a telephone exchange) for establishing connection between any one of the input paths of the arrangement and a selected one of any designated small group of the output paths of the arrangement (e.g. a P.B.X. group), wherein, when no route is available through the switching arrangement to a selected output path, a further output path is selected from the designated group.

3,519,756

# MULTIPLEX SIGNAL TRANSFER SYSTEM

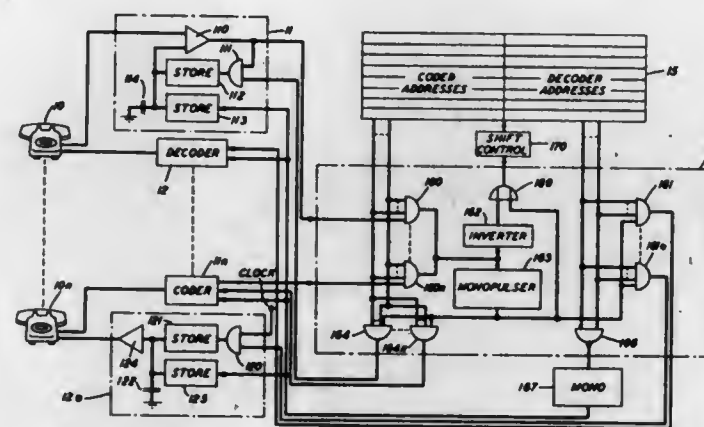
David A. Harms, Wheaton, Ill., assignor to Bell Telephone Laboratories Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Apr. 6, 1967, Ser. No. 628,969

Int. Cl. H04j 3/02

U.S. Cl. 179-18

22 Claims



A multiplex signal transfer circuit for a communication system is disclosed in which signals for transmission between lines in communication are coded in binary form. Stored designations of all of the communicating lines are scanned in sequence during a repetitive cycle. Signal transfer is effected by altering a charge stored in each line coding and decoding circuit during each cycle dependent upon the type of coding circuit output signal detected during the cycle.

3,519,757

# ELECTRONIC KEY TELEPHONE SYSTEM

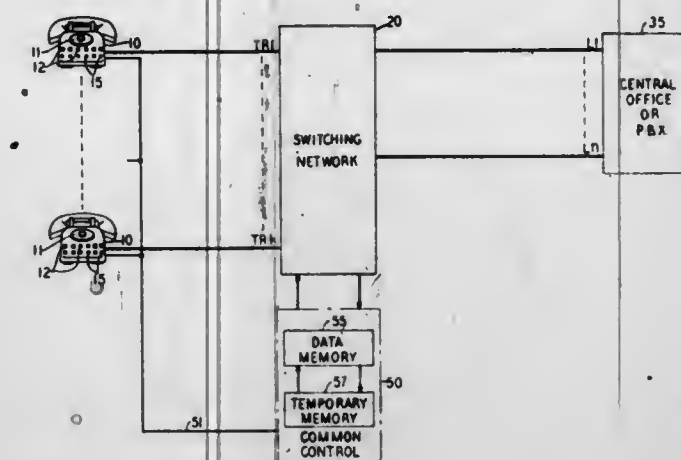
Harold P. Anderson, Lincroft, N.J., Michael A. Flavin, Indianapolis, Ind., and John P. Grandmalson, Matawan, George E. Salts, Colts Neck, and James L. Simon, Middletown, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Feb. 27, 1968, Ser. No. 709,585

Int. Cl. H04q 11/00

U.S. Cl. 179-18

11 Claims



Time division multiplexing techniques and content addressed memory organization are employed in an electronic key telephone system. A content-addressed memory is employed on a scratch pad to maintain the current status of each active line, all other line associated information being stored in a permanent read-only memory used as a station set scanner. Each station set has identity match logic to recognize its identity and perform certain logic during scanning.

3,519,758

# FEED-IN METHOD FOR SIGNALLING FREQUENCIES

Hans Peter Albert Gfeller, Kilchberg, Switzerland, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

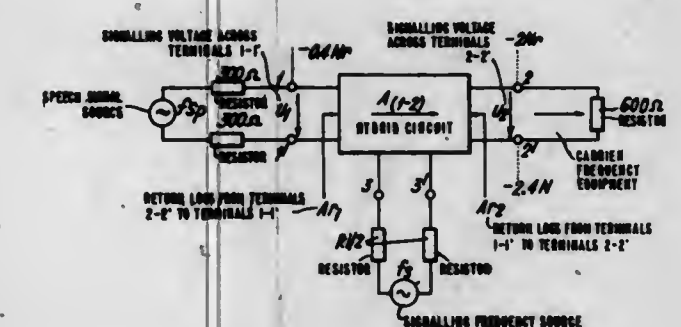
Filed Apr. 27, 1967, Ser. No. 634,173

Claims priority, application Switzerland, Apr. 28, 1966, 6,180/66

Int. Cl. H04q 9/12

U.S. Cl. 179-84

2 Claims



A feed-in method for signalling frequencies intended for carrier frequency equipments using in-band voice frequency signalling to fulfill special requirements, i.e. predetermined attenuation, no series contacts in the speech and signalling paths, contact resistances of a few ohms admissible for parallel contacts. The circuit arrangement for carrying out this method is characterized by using a quite normal hybrid coil in an unusual manner.

3,519,759

# AUTOMATIC DIALING APPARATUS

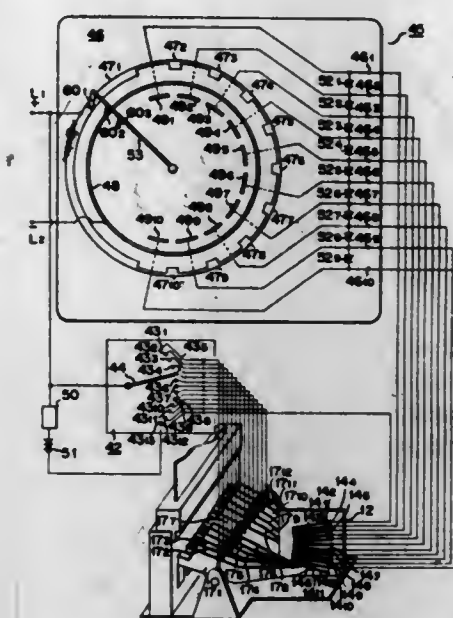
Kenzo Ogawa, Toru Makae, and Yoshihiko Yamasaki, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Sept. 30, 1968, Ser. No. 763,664

Int. Cl. H04m 1/26

U.S. Cl. 179-90

1 Claim



According to the automatic dialing apparatus, there is inserted into a telephone number setter a card provided at one end with a plurality of comb-like teeth storing the district and unit number of the telephone of a called party. The telephone number setter causes a brush to be rotated in accordance with the comb-like formation of the card end to select a prescribed contact on an impulse generator. The impulse generator comprises a first group of dial contacts prepared by arranging on an insulating substrate plurality of electrically connected contact conductors at a substantially equal space in a circular form, an annular conductor concentrically disposed with the first group of dial contacts, a second group of dial contacts concentrically positioned with the annular conductor and arranged in a circular form in such a manner that each of the conductors is placed opposite to the middle point between the adjacent conductors of the first group, a rotor rotatably fitted to the center of an assembly of the first and second groups of dial contacts arranged in a circular form and the annular conductor, electrically connected first, second and third contact strips attached to the rotor and contacting the first and second groups of dial contacts and annular conductor and a plurality of diodes connected between the adjacent conductors of the second group of dial contacts. The digits representing the respective places of the telephone number including the district number or numbers the term "telephone number" as used herein should be construed to comprise both district and unit numbers) are selected synchronizingly with the rotor rotation thereby to supply the telephone line with the required impulses.

3,519,760

# MAGNETIC DUPLICATING APPARATUS USING A MULTIPLE GAP D.C. HEAD

Elbert Troy Hatley, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation of application Ser. No. 606,173, Dec. 30, 1966. This application Sept. 25, 1969, Ser. No. 861,204

Int. Cl. G11b 5/86

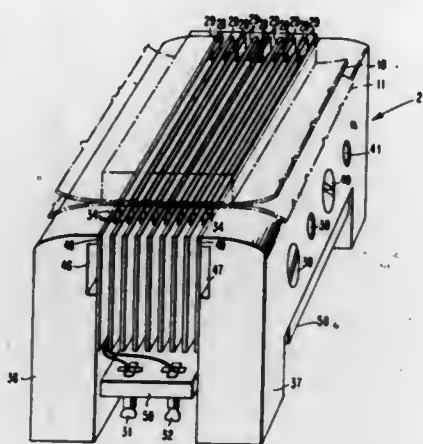
U.S. Cl. 179-100.2

10 Claims

Apparatus for duplicating a magnetic recording previously recorded on a high coercivity master magnetic



tape. The master tape is placed in face to face contact with a copy of lower coercivity in the presence of a magnetic field. The field is provided by a multiple gap D.C. head energized such that adjacent poles are of opposite polarity. Master and copy tapes are drawn

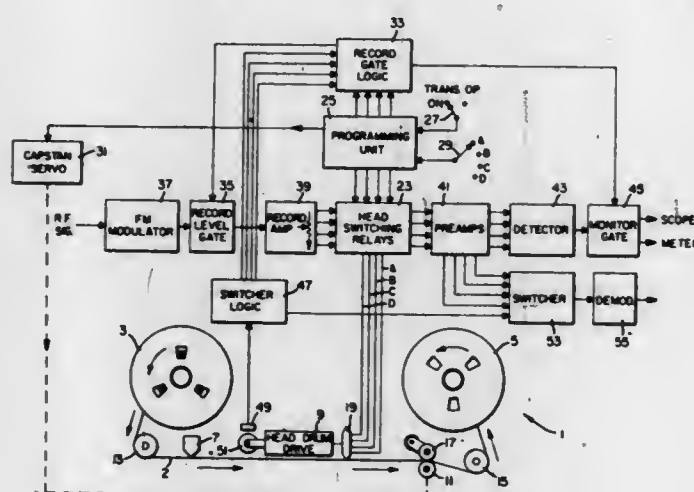


across the D.C. head such that each element of the tapes is subjected to a number of cycles of polarity reversal, duplicating the magnetic recording on the copy tape. As the tapes are withdrawn from the D.C. head, they are immediately separated to prevent degradation of the duplicated copy.

**3,519,761**  
**RECORD EXCITATION OPTIMIZATION METHOD AND APPARATUS FOR ROTARY HEAD MAGNETIC TAPE RECORDERS**  
Allen J. Trost, Santa Clara, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Mar. 7, 1968, Ser. No. 711,365  
Int. Cl. G11b 5/46, 27/36  
U.S. Cl. 179—100.2

8 Claims

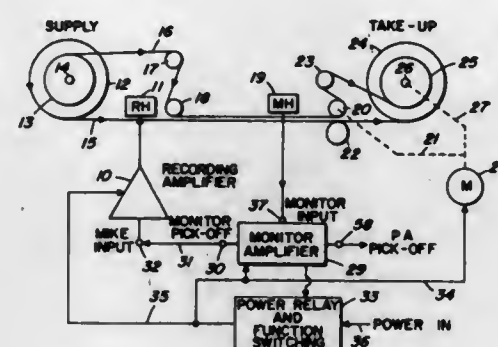


A method and apparatus for optimizing the record excitation levels of the transducers of rotary head recorders. The longitudinal speed of the tape is substantially reduced. The head to be optimized is placed in the record mode and other heads in the playback mode. The longitudinal speed of the tape is selected such that a head in a playback mode and following the record mode head overlaps at least a part of the record track for immediate playback of the recorded signals. The record excitation is adjusted until the optimized condition is indicated by the playback signal.

**3,519,762**  
**TAPE DUPLICATOR WITH MASTER AND COPY TAPES DRIVEN BY SAME SPINDLE AND CAPSTAN MEANS**  
Glen B. Morris, Rural Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Sept. 25, 1967, Ser. No. 670,109  
Int. Cl. G11b 5/86, 15/28; B65h 17/20  
U.S. Cl. 179—100.2

1 Claim



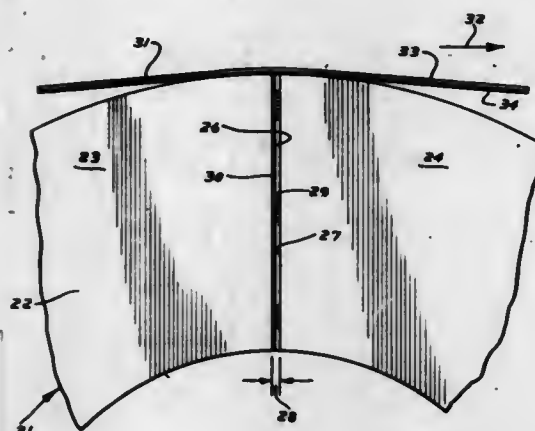
A basic tape recording apparatus may be modified to increase the system versatility. A second recording head is mounted between the normal recording head and the tape drive capstan. A monitoring amplifier including a voice operated relay arrangement is connected to the second head. Power control and switching circuitry is provided and so interwired with the normal power control of the tape recorder that the basic system may operate normally, may be used to directly copy from one tape to another by advancing both tapes by means of the common capstan, may be used as a monitoring device with a provision for automatic shut down in the event of recording malfunction, and may operate as a unique echo generator.

**3,519,763**  
**MAGNETIC RECORDING AND REPRODUCING HEAD WITH GAP SPACERS OF LOW AND INTERMEDIATE PERMEABILITY MATERIAL**  
Tenny Lode, Madison, Wis., assignor to Rosemount Engineering Company, Eden Prairie, Minn., a corporation of Minnesota

Continuation-in-part of application Ser. No. 388,378, Aug. 10, 1964. This application Feb. 12, 1968, Ser. No. 707,015

Int. Cl. G11b 5/12; G10d 15/12  
U.S. Cl. 179—100.2

9 Claims



A magnetic recording and reproducing head wherein the normal air gap is filled with two shims, one having extremely low permeability adjacent the trailing edge of the gap, and the second shim having an intermediate permeability adjacent the leading edge of the gap. The intermediate permeability shim has a permeability selected

to provide an averaging of the magnetic potential sensed at the leading edge of the gap so that the output of the head does not decrease as sharply when the wave length of the signal equals the width of the gap.

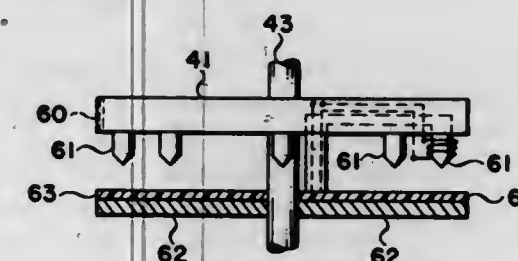
**3,519,764**  
**ROTARY PERPENDICULAR MAGNETIC RECORDING DEVICE**

Mark M. Siera, Los Altos, and Richard G. Davis, Saratoga, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Original application Dec. 6, 1965, Ser. No. 511,713, now Patent No. 3,454,727, dated July 8, 1969. Divided and this application Feb. 17, 1969, Ser. No. 816,856

Int. Cl. G11b 5/22, 5/52  
U.S. Cl. 179—100.2

3 Claims



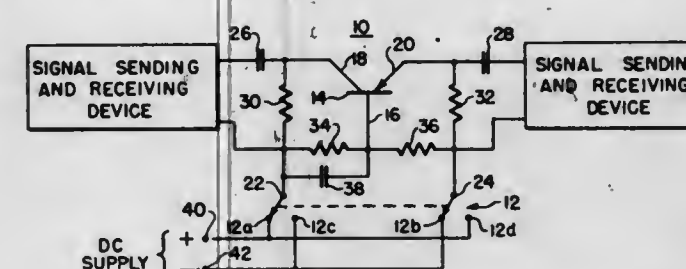
Apparatus for recording and reproducing electrical signals from a magnetic recording medium, in which the information is perpendicularly recorded utilizing a rotating recording head with a plurality of pointed tip poles. The recording medium passes between the poles and the magnetic flux from the poles is confined to a very small area perpendicular the recording medium for high recording density.

**3,519,765**  
**BIDIRECTIONAL AMPLIFIER**  
Alvin J. Huber, Tulsa, Okla., assignor to Seismograph Service Corporation, Tulsa, Okla., a corporation of Delaware

Filed Feb. 2, 1967, Ser. No. 613,522  
Int. Cl. H04f 3/62

U.S. Cl. 179—170

9 Claims



A bidirectional amplifier includes a transistor and a circuit for applying an operating bias to the base electrode. The input is coupled between a supply terminal and one output electrode (collector or emitter), and the output is coupled between the other supply terminal and the other output electrode. A switch reverses the polarity of the supply terminals to reverse the direction of operation, and may also change the operating bias of the base electrode.

**3,519,766**  
**PUSHBUTTON MECHANISM**  
Harold J. Mackway, Haddon Heights, N.J., assignor to RCA Corporation, a corporation of Delaware

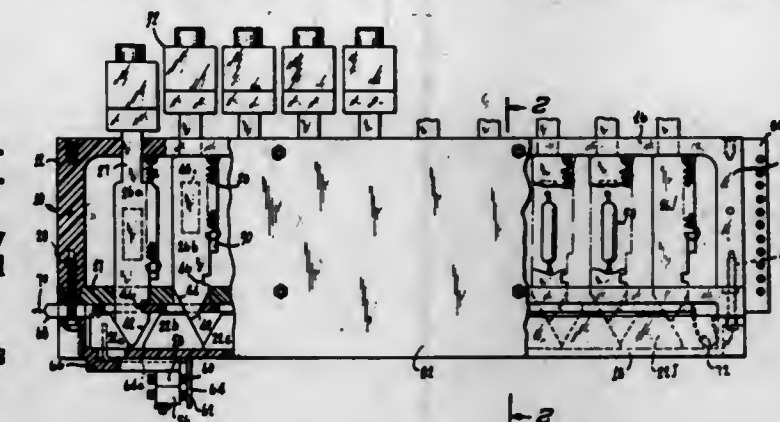
Filed Feb. 23, 1968, Ser. No. 707,800  
Int. Cl. H01h 9/26

U.S. Cl. 200—5

8 Claims

Pushbutton switches of the type in which, in each bank, the depression of one button releases a previously depressed button. A printed circuit board leading to the electrical contacts of one bank of switches acts also as a side

wall for that bank of switches, and an electric and magnetic field shield member serves as its other side wall. Additional features of these switches include simple and inexpensive one-piece plungers, simple means for automatical-



ly illuminating the depressed buttons, simple means for automatically illuminating the depressed buttons, means for automatically electrically indicating whether a push-button in a bank is depressed, and means for resetting, in unison, a plurality of banks of switches.

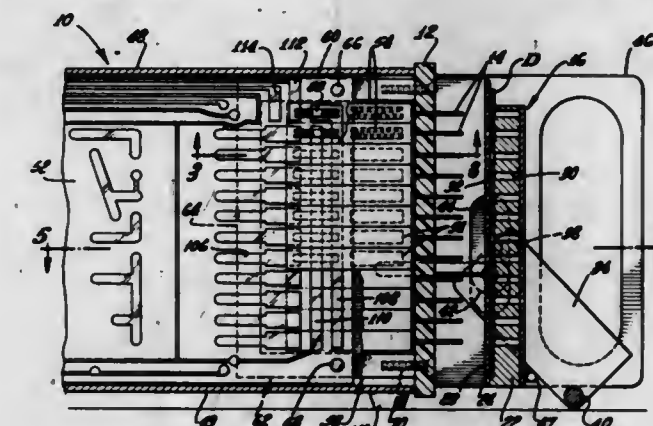
**3,519,767**  
**PUNCH CARD READER INCLUDING A SERIES OF SWITCH ASSEMBLIES MOUNTED ON THE EDGE OF A CIRCUIT BOARD**

David H. Sinker, 1519 S. Beverly Drive, Los Angeles, Calif. 90035

Filed Oct. 20, 1966, Ser. No. 588,014  
Int. Cl. G06k 7/04

U.S. Cl. 200—46

23 Claims



A series of individual switch assemblies are stacked on the edge of a printed circuit board for engagement with sensing pins of a digital reader. Each switch assembly includes a body the legs of which receive the edge of the circuit board. A bowed spring is mounted on the inside of one of the legs and forms a contact wiper. A coiled compression spring is captured between the legs and located so that one end may directly engage the edge of the circuit board, thus determining one state of a two-state switch as well as providing the requisite force for outward bias of the sensing pins engaged thereby.

**3,519,768**  
**PENDULUM RANDOMLY OPERABLE DEVICES AND SYSTEMS CONTROLLED THEREBY**  
Rodolfo Jäger, Zurich, Switzerland, assignor to Hepatex AG., Wattwil, St. Gall, Switzerland

Filed May 8, 1968, Ser. No. 727,503  
Claims priority, application Switzerland, May 11, 1967, 6,666/67

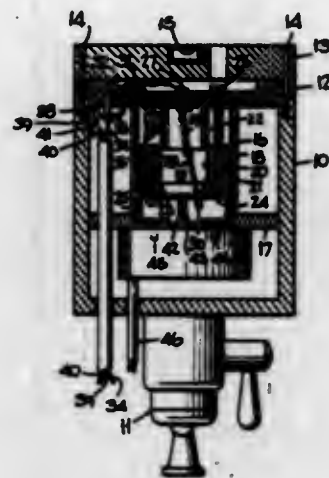
U.S. Cl. 200—52

16 Claims

A pendulum consisting of an upper articulable chain section and a lower rigid section and formed from electrically conductive material is stroked in random fashion



by a rotating impulse arm into oscillation for random engagement with a fixed contact to complete at random moments an electric circuit. Alternative arrangements are described for closing a switch in response to pendulum



movement. A system is described wherein the random switch is used to actuate an electromagnetic clutch or the like for superimposing an aperiodic function on the reciprocation of the yarn guide in a bobbin winder.

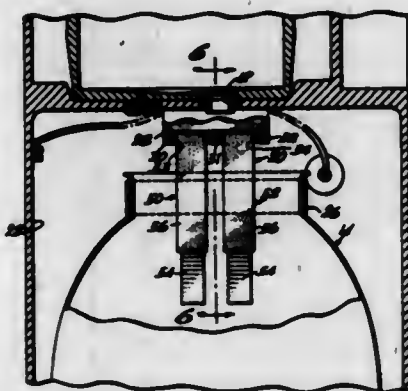
3,519,769

# LIQUID LEVEL SENSING ASSEMBLY WITH DUAL SPRING PROBES

Warren G. Grimes, Lake Drive Ext.,  
Delray Beach, Fla. 33444  
Filed Jan. 14, 1969, Ser. No. 791,100  
Int. Cl. H01h 29/00

U.S. Cl. 200—61.05

9 Claims

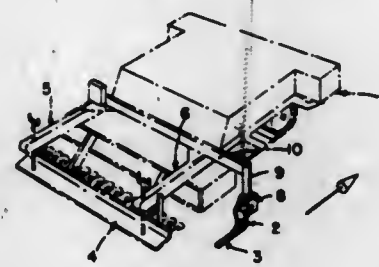


A current-conducting, sensing assembly for sensing the liquid level in a receptacle receiving a potable mixture such as coffee produced in an automatic, aircraft galley, coffee-brewing machine, and in which the sensing assembly comprises a current-conducting pair of alloy probe elements which are relatively thin and flexible and which depend from a support block into the normal path of movement of the receptacle of the machine, to permit flexing or displacement of them out of the path, when the receptacle is removed or slid beneath the probe elements, and in which a substantial portion of each of the probe elements is encased in a plastic sleeve which tapers to merge and blend with the surface of the probe elements near, but not at, their respective distal ends to limit the minimum radius of curvature of the probes in flexing or displacement and to protect them from damage by sharp bends or kinking and rapid fatigue failure so that an electrical current flowing between the distal ends of the pair of probe elements will close a circuit.

3,519,770  
**SWITCHING APPARATUS FOR SERVO SYSTEM**  
George E. Long, Rte. 2, P.O. Box 382, Monroe, Wash. 98272, and Howard G. Anson, 15823 35th NE., Seattle, Wash. 98105  
Filed July 19, 1968, Ser. No. 746,159  
Int. Cl. H01h 3/16

U.S. Cl. 200—61.42

6 Claims



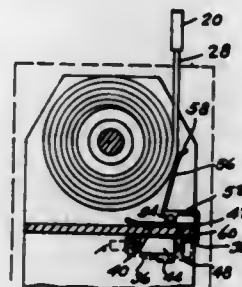
Switching apparatus for servo systems wherein a single operator activates separate switches. The actuator is resiliently mounted on an operating arm and the switches are mounted on an angularly adjustable mounting for controlling the amount of displacement of the operator required to throw the respective switches thereby providing a controllable dead band between the actuation of the switches.

3,519,771

**SAFETY ATTACHMENT FOR SEATBELTS**  
Trevor B. Burns, Phoenix, Ariz., assignor to Safety Control, Inc., Tucson, Ariz., a corporation of Arizona  
Filed Oct. 11, 1968, Ser. No. 766,848  
Int. Cl. H01h 3/16

U.S. Cl. 200—61.58

6 Claims



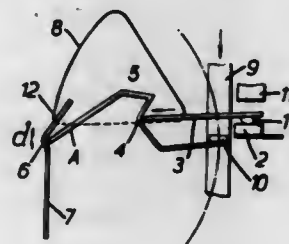
An attachment for use with conventional seatbelts of the automatically retractable type; said attachment comprising: a switch; a lever attachable to the reel of such seatbelt, said lever having an arm resting on said belt and another arm resting on said switch, whereby unreeling said belt operates said switch.

3,519,772

**SNAP-ACTION ELECTRIC SWITCH**  
Edward Barnabas Angold, % Glenridge Hotel, Callow Hill, Virginia Water, England  
Filed Nov. 30, 1967, Ser. No. 686,886  
Claims priority, application Great Britain, Nov. 30, 1966, 53,728/66  
Int. Cl. H01h 13/36

U.S. Cl. 200—67

2 Claims



A snap-action electric switch comprises a rigid moving contact arm which pivots on a pivoted cranked actuating

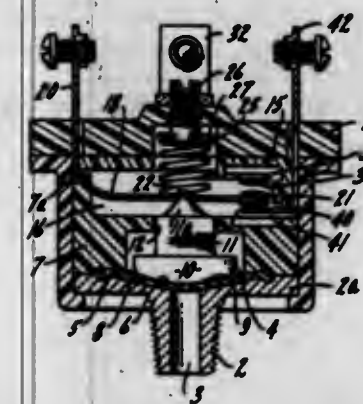
member arranged to be engaged by a switch operating plunger at the end of the cranked member away from its pivot. The contact arm is biased to a particular contact position (e.g., contacts closed position) by a wire spring of generally V-shape which acts to provide an overcentre snap action in operation of the switch and the shaping of the actuating member produces wiping action of the contacts.

3,519,773

**DUAL-THROW SWITCH**  
Boleslaw Klimek, Des Plaines, Ill., assignor to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois  
Continuation-in-part of application Ser. No. 727,856, May 9, 1968. This application Aug. 28, 1968, Ser. No. 755,890  
Int. Cl. H01h 35/40, 1/28

U.S. Cl. 200—83

9 Claims



A dual-throw switch having a spring arm urged toward one contact by air pressure and toward another contact by a yielding member. In one form the contacts are designed to insure continuous engagement of the spring arm with one or the other contact, each contact separating from the arm when the arm has moved beyond the effect of the spring tension in the contact. In another form an insulating abutment serves to separate the contact from the arm.

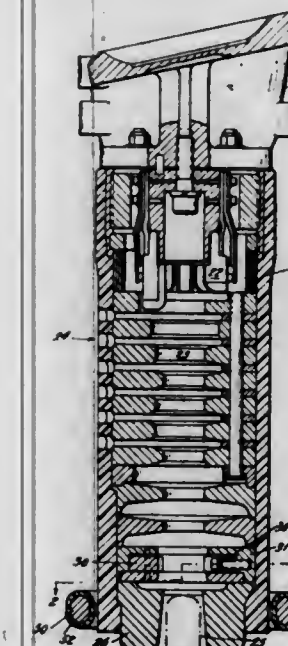
3,519,774

# STATIC SHIELD FOR OIL CIRCUIT BREAKER INTERRUPTERS

Earl B. Rietz, La Canada, Calif., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware  
Filed Jan. 7, 1966, Ser. No. 519,348  
Int. Cl. H01h 33/68

U.S. Cl. 200—150

3 Claims



A conductive metallic ring casting surrounds the bottom of an interrupter chamber which has resistor contacts

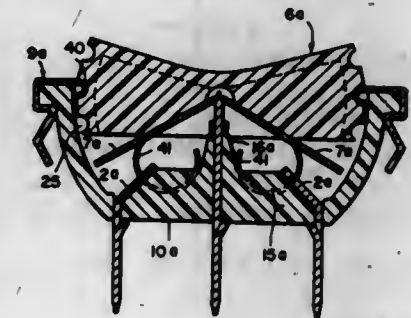
within the bottom thereof. The ring casting has an outwardly extending portion which serves as a support for a resistor connected in parallel with the interrupter contacts, with the bottom casting connected to the resistor contacts within the bottom of the interrupter housing.

3,519,775

**ROCKER SWITCH CENTERED BY CIRCULAR LOOP SPRING MEMBERS COILED IN COMPRESSION**  
Frederick J. Weremey, Milton, Mass., assignor, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware  
Filed Jan. 10, 1968, Ser. No. 696,771  
Int. Cl. N01h 21/24

U.S. Cl. 200—153

3 Claims



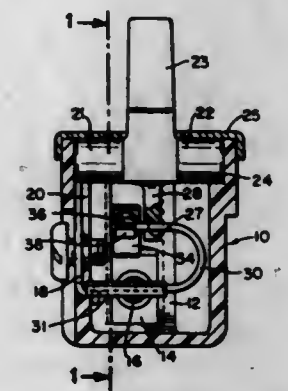
A switch housing has three, spaced stationary contacts seated in the base thereof. The fixed contacts are connected to three terminals extending through the housing bottom, two of which are output terminals, the other being a common supply terminal. An actuating rocker arm is pivotally mounted in the housing. Movable contacts are pivotally mounted on the common stationary contact and are either secured to or biased against the undersurface of the rocker arm, whereby one of the control circuits is completed by pivotal movement of the rocker arm to a selected position with respect to the housing. In certain embodiments the switch includes means for fixedly maintaining it in the off or on positions when the rocker arm is released. Means for snappingly seating the switch in an apertured support are also provided. Spring members integrally connected to said moveable contacts, are in the form of generally circular loops, and bias the moveable contacts against the undersurface of the actuating rocker arm.

3,519,776

**ELECTRICAL SWITCH OF THE TOGGLE TYPE WITH THE TOGGLE ALSO SERVING AS THE MOVABLE CONTACT AND SUPPORTED BY A CONDUCTIVE GROOVE**  
Thomas S. Slater, Port Washington, N.Y., assignor to Slater Electric Inc., Glen Cove, N.Y., a corporation of New York  
Filed Dec. 29, 1967, Ser. No. 694,696  
Int. Cl. H01h 5/14, 5/22

U.S. Cl. 200—154

13 Claims



There is described herein an electrical switch of the toggle type which is, however, intended for use in alternating current circuits in which switches of the leaf spring



type are commonly used. The switch consists essentially of an operating handle, a toggle member which is also the moving contact member, and a fixed contact, all being mounted in a usual type of electrically insulating housing, the device being provided with the usual mounting strap which serves also to hold the operating handle in position in the housing. The toggle member is formed of resilient cylindrical wire and has two non-colinear straight portions. A bearing in the form of an electrically conductive groove extends parallel to the direction of one of said toggle straight portions, and is in supporting contact with said straight portion over a longitudinal distance large compared with the diameter of said wire. The other one of said toggle straight portions is engaged by said operating handle and oscillating movable therewith.

3,519,777

# **DUAL POSITIONING MECHANISM FOR A ROTARY ELECTRIC SWITCH WITH A LOST-MOTION COUPLING BETWEEN ROTORS AND PARTICULAR DETENT MEANS**

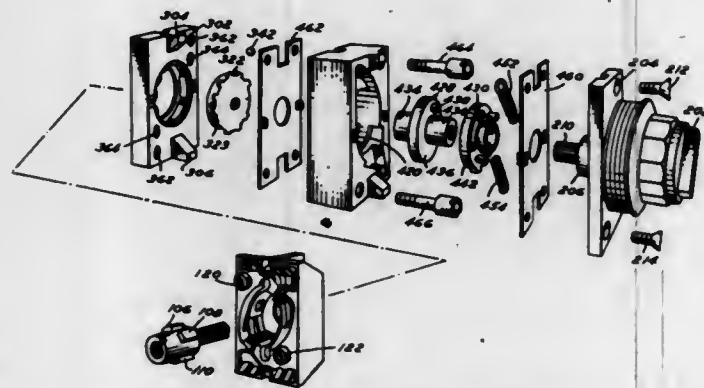
Hermann Kaiser, Detroit, Mich., assignor to Gemco Electric Company, Clawson, Mich., a corporation of Michigan

Filed Dec. 12, 1966, Ser. No. 601,162

Int. Cl. H01h 9/22, 3/50

U.S. Cl. 200—155

6 Claims



The disclosure relates to a dual positioning mechanism for a rotary electric switch including a first detent mechanism enabling positioning of the rotary switch at two or more circumaxially spaced apart locations and a second spring return mechanism for returning the rotary switch to an initial location.

3,519,778

# **METHOD AND APPARATUS FOR JOINING ELECTRICAL CONDUCTORS**

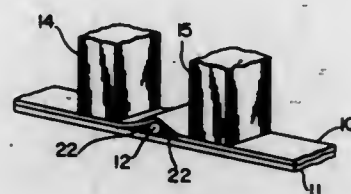
Archibald M. Gibson, Jr., Waynesboro, Va., assignor to General Electric Company, a corporation of New York

Filed Jan. 19, 1968, Ser. No. 699,184

Int. Cl. B23k 11/00

U.S. Cl. 219—58

8 Claims



A method and apparatus for joining small diameter insulated wires to heavier conductors, without requiring insulation stripping, wherein spaced electrodes are utilized to initially cold form the heavier conductor about the small wire and thereafter an electric current is applied.

# **3,519,779 METHOD OF MAKING NON-POROUS WELD BEADS**

Allan A. Dolomont, Branford, Conn., assignor to Olin Corporation, a corporation of Virginia  
No Drawing. Continuation-in-part of application Ser. No. 650,547, June 30, 1967. This application Mar. 13, 1968, Ser. No. 712,586

Int. Cl. C23b 5/50, 5/58; B23k 9/16

U.S. Cl. 219—74

25 Claims

The present invention relates to new and improved aluminum welding wire and more particularly to a new and improved aluminum welding wire which yields a high quality, non-porous weld bead when used in welding components of aluminum articles.

3,519,780

# **METHOD OF ARC WELDING AND BUILDING UP OF PARTS**

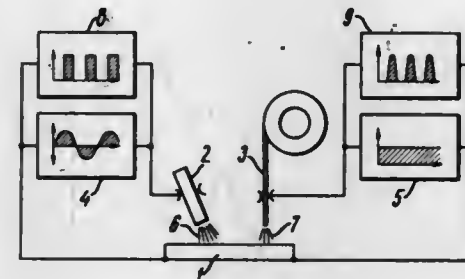
Arkady Grigorievich Potaplevsky, Bulvar Likhacheva 3, kv. 75, and Vsevolod Feodosievich Lapchinsky, Ulitsa Artema 84, both of Kiev, U.S.S.R.

Filed May 12, 1967, Ser. No. 638,139

Int. Cl. B23k 9/04

U.S. Cl. 219—76

5 Claims



A method of arc welding and building up of parts is provided wherein a main current is applied to each of a number of electrodes to produce a corresponding welding arc and superimposed on this main current of each electrode is a current of impulses having an intensity of between 6 and 15 times the intensity of the main current and a duration of between 0.5 and 10 m. sec. to control melting of the associated electrode, transfer of electrode metal and weld penetration in the metal being welded.

3,519,781

# **ELECTROSLAG REMELTING AND WELDING PROCESSES**

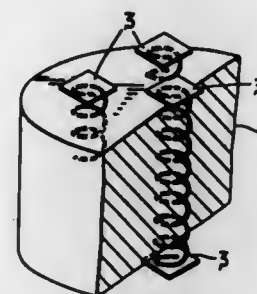
Frank E. G. Ravault, Nechells, England, assignor to Fosco International Limited  
Filed June 20, 1968, Ser. No. 738,477

Claims priority, application Great Britain, June 23, 1967, 29,224/67

Int. Cl. B23k 9/18, 25/00

U.S. Cl. 219—73

8 Claims



A starter tablet for use in the electroslag remelting and welding processes which is a block of a composition which comprises ingredients which react together exothermically when fired to yield a slag suitable for use in the said

electroslag processes, wherein the block has within it, and projecting from it on opposite faces, metal springs which serve, inter alia, to improve electrical contact.

3,519,782

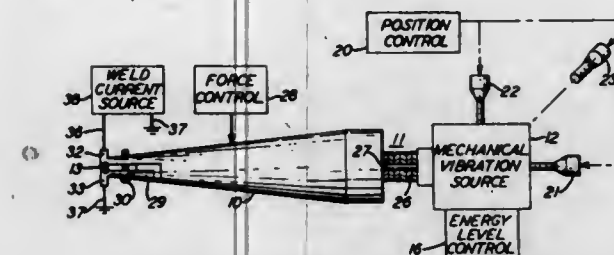
# **PRECISION ELECTRIC WELDER**

Paul Mallory, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York  
Filed Dec. 13, 1966, Ser. No. 601,492

Int. Cl. B23k 9/00

U.S. Cl. 219—78

9 Claims



A welding head is provided with transverse flanges for receiving current pulses to heat a welding tip secured therebetween. The heat of the tip is thermally conducted to weldments. Mechanical vibrations are applied to the welding head for inducing a minute relative motion between weldments. The position of the welding head is controlled by mechanical adjusting apparatus to a position which is relatively independent of thermal expansion effects in the welding head.

3,519,783

# **WELDING PROCESS**

John W. Forsberg, Mentor-on-the-Lake, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Original application Jan. 15, 1965, Ser. No. 425,949, now Patent No. 3,364,081, dated Jan. 16, 1968. Divided and this application Aug. 30, 1967, Ser. No. 672,672

Int. Cl. C23f 7/08

U.S. Cl. 219—92

5 Claims

Aqueous solutions containing phosphate, nitrate and lead ions are useful for forming phosphate coatings on metal surfaces. Such coatings may be formed by contacting the metal with the solution at room temperature. The phosphate solutions are particularly useful in that they improve the drawing properties of metals treated therewith, and metal surfaces thus treated remain weldable. The phosphate coatings also improve the adhesion of siccative organic coatings to the metal.

3,519,784

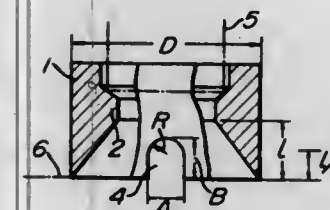
# **ANNULAR WELDING AID FOR USE IN STUD WELDING**

Takeshi Oku and Takashi Shibano, Suita-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan  
Filed May 4, 1966, Ser. No. 547,565

Int. Cl. B23k 9/20

U.S. Cl. 219—98

3 Claims



A welding aid for use in welding studs to a flat plate comprising an annular body made of slag-forming mate-

rial having a central bore therein and a plurality of cut-out portions or recesses on the lower portion thereof. Since the body is of a semi-conductive material, it partially melts and assists in forming a uniform weld while the cut-out portions control the amount of weld deposition.

3,519,785

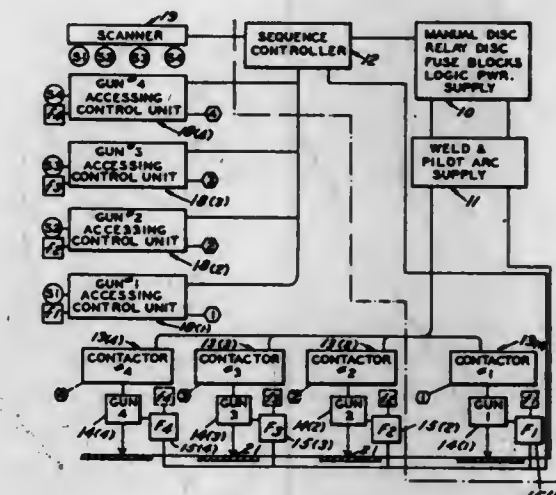
# **MULTIPLE GUN WELDER AND CONTROL APPARATUS**

Roland H. Vetter, Birmingham, Mich., assignor to Warren Fastener Corporation, Mount Clemens, Mich., a corporation of Michigan  
Filed Dec. 21, 1967, Ser. No. 692,492

Int. Cl. B23k 9/20

U.S. Cl. 219—98

5 Claims



This invention relates to a multiple welding gun control apparatus for operating a plurality of guns on a time sharing basis from a common welding controller and source of weld power having the capacity to operate a single gun or weld applicator unit.

The guns are effectively scanned for selective access to the system controller and power source through a series of time displaced or staggered windows developed by the scanner. The guns are normally blocked from system access except when a window opening is presented to a gun. If a gun is in a ready-to-weld or power requesting condition at the time its window is opened or presented to the gun, it gains access to the system, and the scanner is inhibited to maintain the window open for substantially the duration of the welding cycle for the accessed gun. Upon or near the completion of the welding cycle, the scanner is enabled to close the window for the accessed gun and to present subsequent windows to the successive guns, which have been interlocked or blocked from access to the system during the time that the generation of the windows has been interrupted.

3,519,786

# **MULTIPLE GUN WELDER AND CONTROL APPARATUS**

Gordon A. Roberts, Ann Arbor, Mich., assignor to Warren Fastener Corporation, Mount Clemens, Mich., a corporation of Michigan  
Filed Dec. 21, 1967, Ser. No. 692,586

Int. Cl. B23k 9/20

U.S. Cl. 219—98

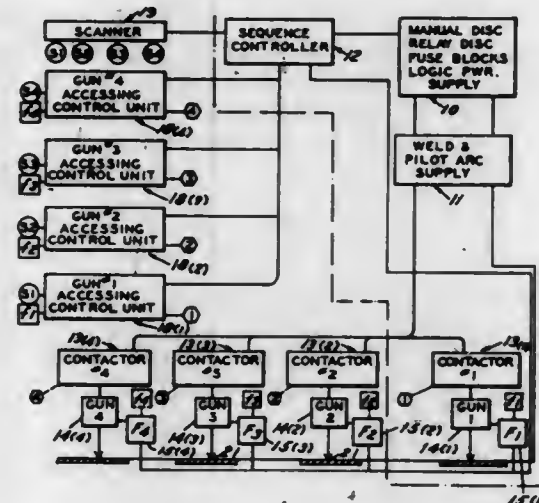
18 Claims

This invention relates to a multiple welding gun control apparatus for operating a plurality of guns on a time sharing basis from a common welding controller and source of weld power having the capacity to operate a single gun or weld applicator unit.

The guns are effectively scanned for selective access to the system controller and power source through a series



of time displaced or staggered windows developed by the scanner. The guns are normally blocked from system access except when a window opening is presented to a gun. If a gun is in a ready-to-weld or power requesting condition at the time its window is opened or presented to the gun, it gains access to the system, and the scanner is inhibited to maintain the window open for substantially



the duration of the welding cycle for the accessed gun. Upon or near the completion of the welding cycle, the scanner is enabled to close the window for the accessed gun and to present subsequent windows to the successive guns, which have been interlocked or blocked from access to the system during the time that the generation of the windows has been interrupted.

3,519,787

**WELDING APPARATUS**

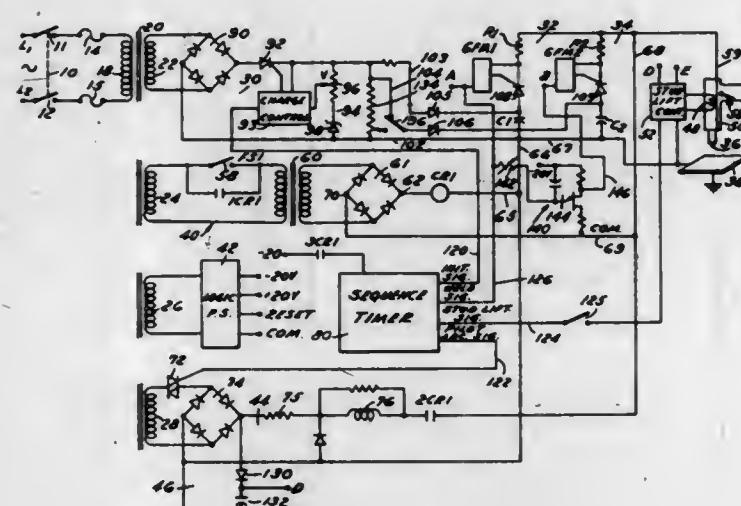
Ralph E. Kroy, Utica, Mich., assignor to Warren Fastener Corporation, Mount Clemens, Mich., a corporation of Michigan

Filed Apr. 22, 1968, Ser. No. 723,020

Int. Cl. B23k 9/20

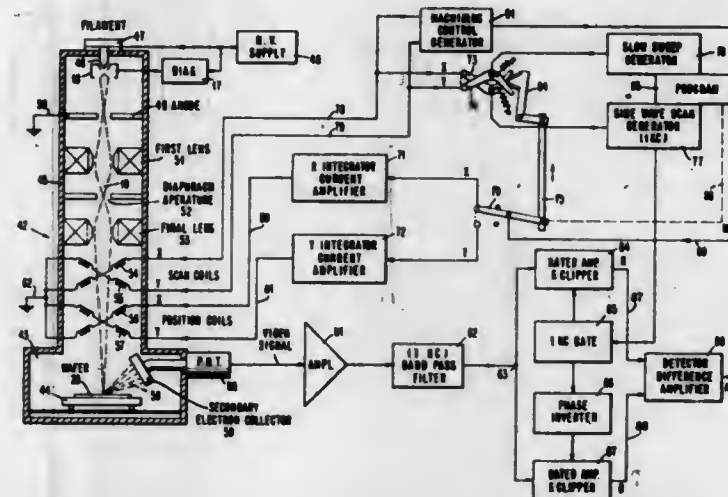
U.S. Cl. 219-98

15 Claims



A stud welding apparatus featuring a plurality of energy storage and discharge devices each connected in a separate discharge circuit with the stud and workpiece and separately controllably dischargeable therethrough to produce a current of variably extendable welding intensity duration greater than that produced by any one of the discharge devices alone.

3,519,788  
**AUTOMATIC REGISTRATION OF AN ELECTRON BEAM**  
Michael Hatzakis, Ossining, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Jan. 13, 1967, Ser. No. 609,230  
Int. Cl. B23k 15/00  
U.S. Cl. 219-121 11 Claims



A system is provided for automatically centering an electron working beam on the workpiece by registering the beam on an electron emissive registration or target area adjacent the workpiece. The beam, swept across the registration area in a sinusoidal pattern, produces secondary emission which is detected to produce an output error voltage when the beam is off-center. The error voltage is used to realign the beam on-center.

3,519,789

**WELDING METHOD**

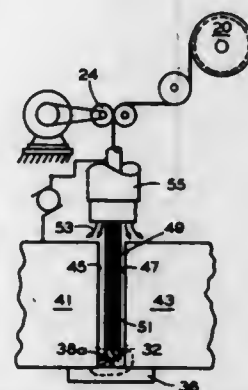
Jerome W. Nelson, Columbus, Robert E. Pollock, Hilliard, and Robert P. Meister, Columbus, Ohio, assignors to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

Filed Aug. 8, 1966, Ser. No. 570,868

Int. Cl. B23k 9/12

U.S. Cl. 219-130

16 Claims



A consumable welding wire, having a predetermined permanent curvature imparted thereto prior to entering the contact tube, is guided into a weld gap with the emerging arcuate end portion thereof directed toward one of the gap sidewalls.

3,519,790

**METALS JOINING**

Phillip N. Heller, Greensburg, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 7, 1967, Ser. No. 688,893

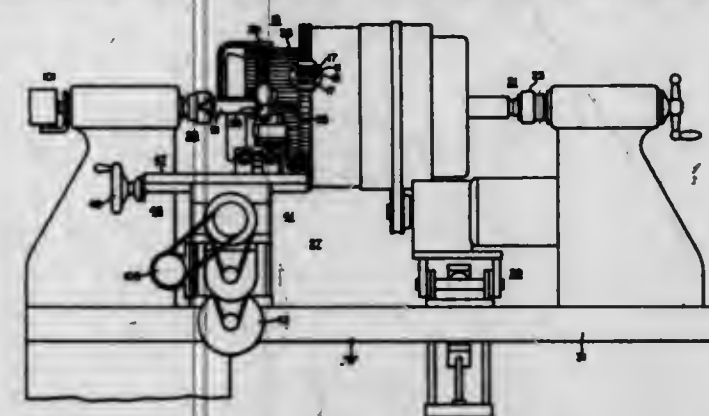
Int. Cl. B23k 9/00

U.S. Cl. 219-137

4 Claims

A method of welding coil leads 15 of a rotating machine 14 to its commutator risers 11. The risers 11 are separated by mica insulators 17. A resilient, as distinct

from a stiff arc, is moved continuously in successive circular paths over the joints between the risers 11 and



leads 15 welding the joints. Because the arc is resilient it is not interrupted by the insulating strips 17. Effective grounding 33, 37, 39 for the risers is provided.

3,519,791

**ELECTRICALLY HEATED GARMENT**

Mark T. Basseches, Pleasantville, and Ely S. Margolis, New Rochelle, N.Y., assignors to Marjorie Margolis, New Rochelle, and Lorraine Shachnow, Riverdale, N.Y.

Filed Oct. 23, 1968, Ser. No. 769,826

Int. Cl. H05b 1/00; H01h 3/00

U.S. Cl. 219-211

1 Claim



An electrically heated garment having free edges forming a closure and including fastener means for maintaining said edges in body encircling relation, the device including a switch element defined by the fastener means, the switch closing a circuit through the battery and heater element when the fastener means are engaged, and opening said circuit when the fastener means are disengaged, to prevent accidental or inadvertent drain on the batteries when the garment is not in use.

3,519,792

**HEATED HAIR CURLER**

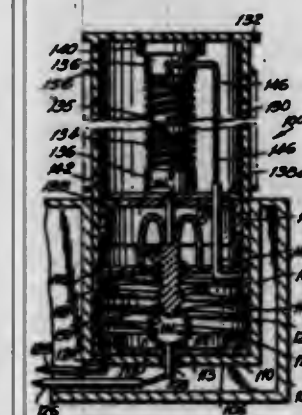
Nathan L. Solomon, P.O. Box 550, Englewood, N.J. 07631

Filed July 26, 1967, Ser. No. 656,163

Int. Cl. A45d 2/36, 4/16; H05b 1/00

U.S. Cl. 219-222

7 Claims



An electrically heated hair curler having a self-contained heating element with temperature limiting means for

preventing overheating of the curler and indicia for indicating to the user when the curler has reached its operative temperature. The curler contains adequate heat retaining material to maintain an elevated temperature during the curling process.

3,519,793

**HAIR CURLER**

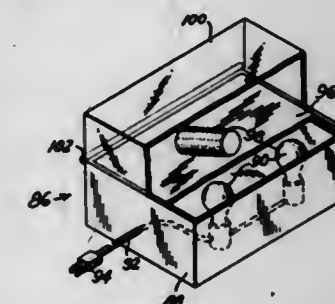
Nathan L. Solomon, P.O. Box 550, Englewood, N.J. 07631

Filed Mar. 8, 1967, Ser. No. 621,697

Int. Cl. A45d 4/16

U.S. Cl. 219-222

7 Claims



A hair curler having interior cavities containing heat retaining material is heated by immersion in a heated fluid bath. The curler has at least one interior passageway through which the heated fluid passes, thereby increasing the surface of the curler exposed to the heated fluid, so as to more quickly heat the heat retaining material within the curler as well as reducing the weight of the roller. The fluid may be air heated in a container by convection and radiation of electric bulbs.

3,519,794

**LIGHTER PLUG UNIT**

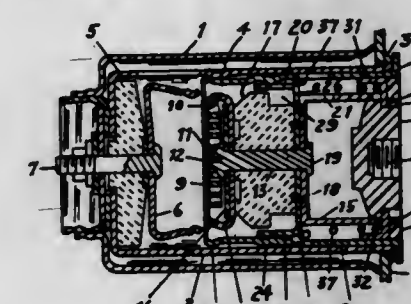
Jones Burnett Edwards, 1923 Woodcrest Ave., Apt. 6, Charlotte, N.C. 28203

Filed June 26, 1968, Ser. No. 740,170

Int. Cl. F23g 7/22

U.S. Cl. 219-267

10 Claims



An electric lighter plug unit for an electric popout cigarette lighter received and stored in a socket or holding device, and generally used in automobiles.

3,519,795

**ARTICULATED IMMERSION HEATER**

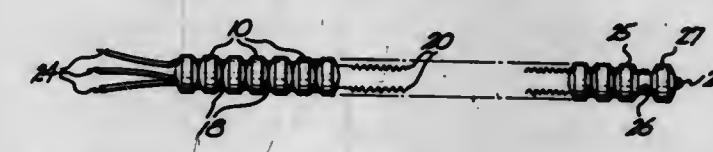
Theodore S. Kinney, Rte. 1, Box 595X, Poughkeepsie, N.Y. 12601

Filed Apr. 1, 1968, Ser. No. 717,579

Int. Cl. F24h 1/18; H05b 1/00

U.S. Cl. 219-310

1 Claim



A flexible heater element has a heater assembly, formed of an electric-resistance element threaded throughout and connecting together an elongated series of insulative blocks,



fully encased in a sheath formed of at least two flexible tubular members intermediately connected in an articulated manner by a relatively short manually flexible joint member.

3,519,796

**DOMESTIC DISHWASHER CONTROL**

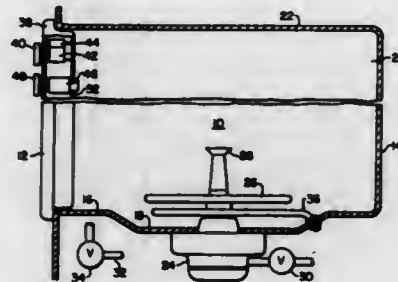
Jack E. Bebinger, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 17, 1968, Ser. No. 768,456

Int. Cl. F24h 1/00; H05b 1/00

U.S. Cl. 219—334

2 Claims



A domestic dishwasher having an electrical heater used for boosting the water temperature and including a thermostatic switch responsive to the water temperature for effecting reenergization of a timer motor during at least one interruption of the cycle for the purpose of insuring an adequate water temperature includes means readily accessible to and exposed to the user of the dishwasher for varying the thermostatic switch setting so that the user selects the temperature she believes best for certain portions of the cycle in accordance with the dishwashing load.

3,519,797

**OVEN CONTROL SYSTEM**

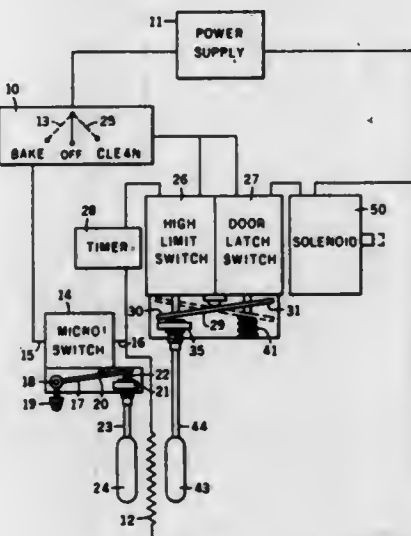
Burre I. Kjellberg, Ballwin, Mo., assignor to Diatemp, Inc., St. Louis, Mo., a corporation of Missouri

Filed Nov. 27, 1968, Ser. No. 779,530

Int. Cl. F27d 11/02; H05b 1/02

U.S. Cl. 219—413

2 Claims



A hydraulic temperature control system for a household oven chamber having one hydraulic bulb in contact with the oven heating element to control the baking cycle and a second hydraulic bulb in contact with the same heating element to actuate a safety latch for the oven door and also to actuate a high temperature limit switch for operation above 850° F. to control automatic cleaning of the chamber.

3,519,798  
**DEVICE FOR THERMAL PROCESSING OF SEMICONDUCTOR WAFERS**

Albert Walther, Gartenberg, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed Apr. 4, 1968, Ser. No. 718,879

Claims priority, application Germany, Apr. 7, 1967, S 109,235

Int. Cl. F27d 11/08

U.S. Cl. 219—439

5 Claims



A device for thermal processing of disc shaped objects for use in semiconductors, particularly for epitactic precipitation of semiconductor material, wherein the discs being processed are arranged at the bottom of a treatment chamber and are heated from below to processing temperatures by an areally extending heating device with its upper surface parallel to the discs being treated. The device of the present invention is characterized by the fact that the planar bottom of the treatment vessel, comprised of silicon dioxide and having particularly a uniform wall thickness, is supported from below by at least one member in direct contact with the bottom and is comprised of more heat resistant material than SiO<sub>2</sub>.

3,519,799

**HERMETICALLY SEALED ELECTRICAL PLUG-IN TERMINAL WITH MATING ELECTRICAL SOCKET**

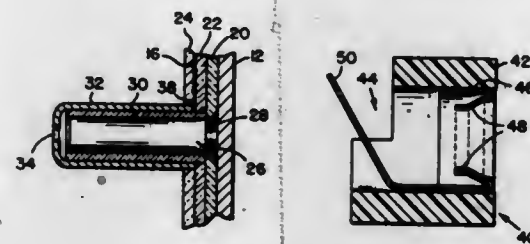
Glenn Resh Bange, Pittsford, N.Y., assignor to Ritter Pfaudler Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 24, 1968, Ser. No. 762,039

Int. Cl. H05b 3/08, 3/16; H01r 13/50

U.S. Cl. 219—541

7 Claims



A plug-in terminal for a sealed heater unit is disclosed. The terminal unit is hermetically sealed by the method of manufacture that is also disclosed which allows the terminal to be completely immersed in water for washing. The terminal comprises a stud welded to the heater substrate with a ceramic tube and a metal sleeve bonded to the welded stud and to each other.

Also disclosed is a mating female socket having a plurality of flexible fingers spaced around the periphery of the electrical socket. The fingers serve as the receiving means for the mating hermetically sealed terminal plug, with the flexibility allowing the plug to be inserted into the socket with some degree of misalignment.

3,519,800

**PERFORATION SENSING APPARATUS**

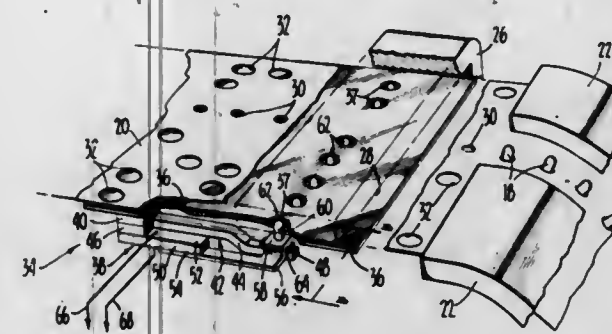
Karl E. Shill, Fremont, Calif., assignor to The Singer Company, a corporation of New Jersey

Filed Apr. 22, 1966, Ser. No. 544,607

Int. Cl. G06k 7/02; H01v 7/00

U.S. Cl. 235—61.11

9 Claims



A high-speed perforated paper tape reader for reading perforated paper tape in a forward or reverse direction. The reader includes a reversible drive capstan and a series of perforation sensing members having one end in continuous contact with the paper tape and another end in contact with a transducer which changes its electrical properties as the transducer is deformed as the paper contacting end enters and then leaves a perforation in the moving paper tape.

3,519,801

**RECORD CARD PROCESSING MACHINE**

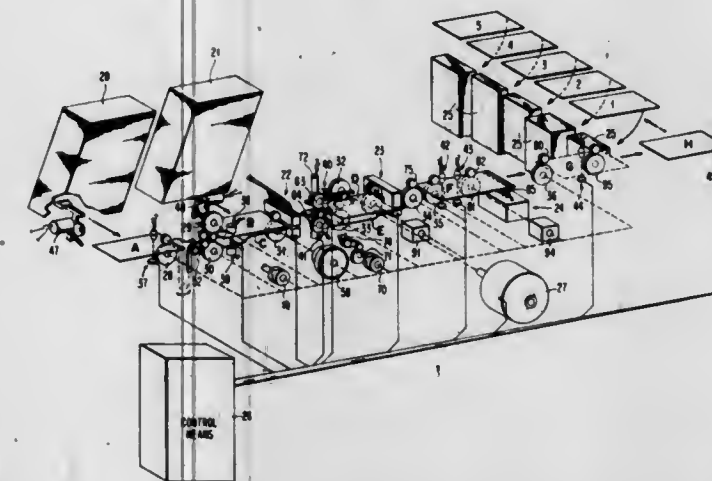
Glen F. Nielsen and Donald K. Rex, San Jose, Robert E. Schopp, Campbell, and Lawrence A. Wilson, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Feb. 15, 1965, Ser. No. 432,599

Int. Cl. G06k 17/00

U.S. Cl. 235—61.6

10 Claims



A record card processing machine having a plurality of processing stations arranged so that two separate record card paths are provided through a part of the machine and common card paths are provided through other parts of the machine. An electromagnetic control means at each of the processing stations and a plurality of record card position sensing means spaced along the card paths are provided so that record cards can be selectively moved through the processing stations. The record cards are moved through the stations in accordance with signals generated by a programming means in combination with signals from the record card position sensing means to selectively actuate the electromagnetic control means to perform the programmed record card processing functions.

3,519,802

**CARDS EMPLOYING CAPACITOR SENSING OF ENCODED DATA**

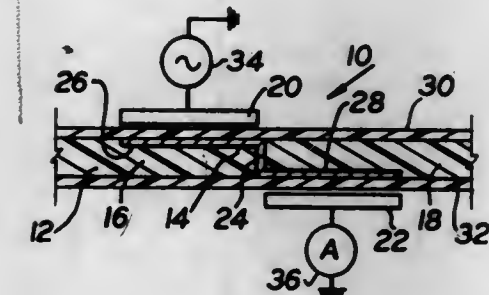
Alphonse Cinque, Lynbrook, and Max Norman Schweitzer, Bay Shore, N.Y., assignors to Securadyn Ltd., a corporation of New York

Filed Nov. 27, 1968, Ser. No. 779,447

Int. Cl. G06k 7/08

U.S. Cl. 235—61.11

9 Claims



An improved credit card and the like which includes internally coded data by which it is possible to uniquely identify the proper holder of the card. The encoded data takes the form of a plurality of conductive members having portions thereof in different planes whereby, with the aid of external sensing means, it is possible to generate preselected areas of maximum and minimum capacitance within the card.

3,519,803

**VEHICLE COUNTER**

Robert E. Doggett, 7821 Outlook Ave.,

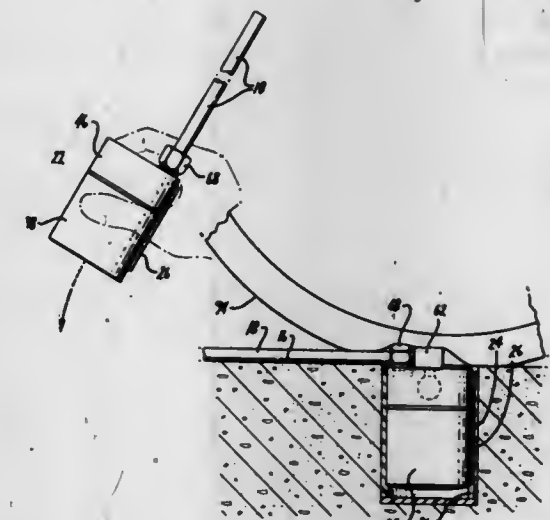
Oakland, Calif. 94605

Filed Sept. 30, 1968, Ser. No. 763,747

Int. Cl. B61l 1/16

U.S. Cl. 235—99

11 Claims



A vehicle counter adapted to be positioned beneath a roadway which has an elongated actuating member pivotally connected at its lower end with a housing for the counter. The actuator member is biased into an upstanding position over the roadway for engagement and pivotal displacement by passing vehicles. A connection between the actuator member and the counter for effecting the actuation of the latter and means for positioning the pivot axis of the actuating member a predetermined distance below the roadway are also provided. The actuator member can be pivoted into a substantially horizontal supported position on the roadway when engaged and run over by a tire of a passing vehicle.

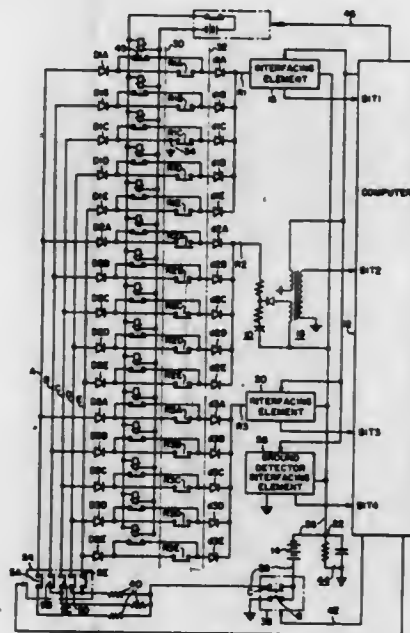


### 3,519,804 GROUND DETECTION CIRCUITRY FOR COMPUTER INPUT CONTACT INTERFAC- ING SYSTEM

Raymond L. Billingsley, Detroit, Mich., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Jan. 25, 1967, Ser. No. 611,696  
Int. Cl. G06f 11/04

U.S. Cl. 235—153

8 Claims



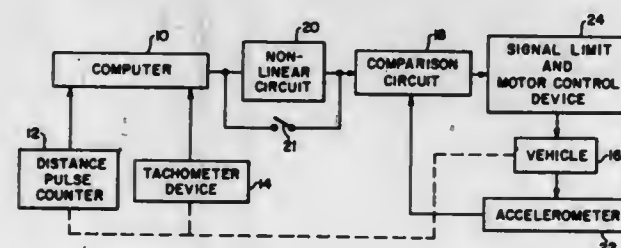
Input contact path ground faults are located in a computer input contact interfacing system by means of binary outputs generated by interfacing elements in response to periodic ground detection circuit operation. The ground test is made frequently and is initiated by a computer controlled switching device to be compatible with the normal contact status interfacing functioning of the system.

### 3,519,805 VEHICLE STOPPING CONTROL APPARATUS

George M. Thorne-Booth, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Nov. 29, 1967, Ser. No. 686,512  
Int. Cl. G06g 7/12; B60t 13/66

U.S. Cl. 235—150.2

13 Claims



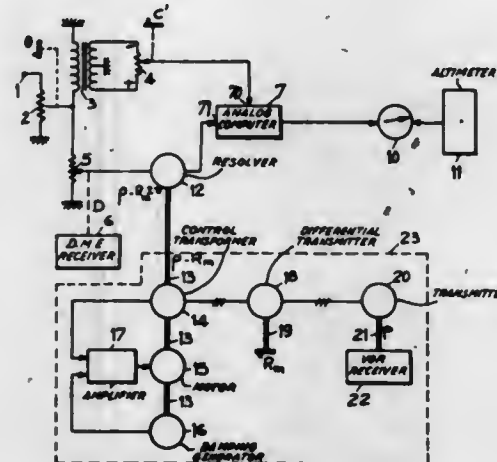
This invention relates to an improved vehicle stopping control apparatus operative to obtain a desired smooth and comfortable precise stopping of a vehicle, such as a passenger vehicle, in accordance with a predetermined movement control profile curve. A vehicle acceleration-sensitive closed loop control system is provided wherein the vehicle is decelerated in accordance with a first predetermined relationship when an interim distance  $d_0$  is reached prior to the desired stopped location of the vehicle, and a second predetermined deceleration relationship is then followed until the vehicle is stopped at the desired location  $d_1$ . A non-linear signal circuit is included within the closed loop control system to improve the desired and programmed stop of the vehicle at the desired position.

### 3,519,806 ACTUAL SLOPE COMPUTER

Rene Lami and Georges Colombet, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France  
Filed Jan. 25, 1968, Ser. No. 700,610  
Claims priority, application France, Feb. 8, 1967, 94,150  
Int. Cl. G06g 7/12; G01c 21/20

U.S. Cl. 235—150.22

7 Claims



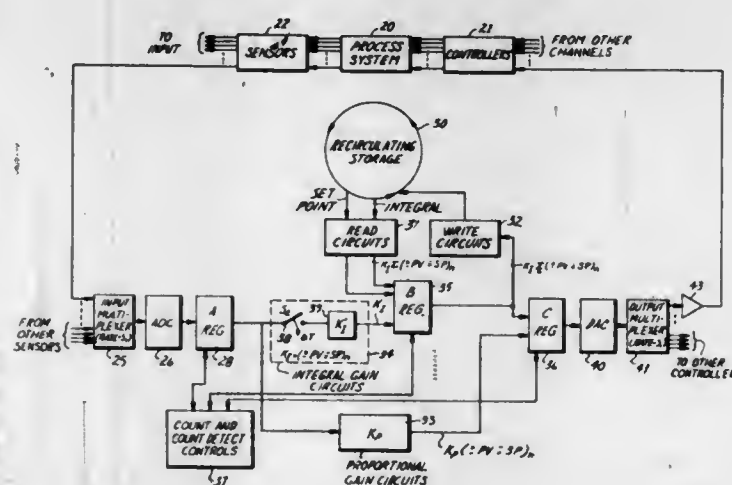
An actual slope computing device, for indicating at any moment, in an aircraft, the deviation between the actual flight path of this aircraft and a preselected path, comprising a computing unit for computing, at any moment, the actual slope of the path of the aircraft or the altitude at which it must be to follow the preselected path and a display unit for indicating the deviation between the computed slope and the desired slope or between the computed altitude and the actual one.

### 3,519,807 DIGITAL CONTROLLER WITH ALARM

James O. Jacques, Boulder, Colo., and Richard K. Oswald, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Jan. 17, 1966, Ser. No. 521,138  
Int. Cl. G06f 15/06, 15/46

U.S. Cl. 235—151.1

6 Claims



In a process control system, manual adjustment and automatic utilization of selectable set point limits is achieved through use of digital set point storage means in conjunction with adjustable analog devices for establishing limit and alarm values and an analog to digital converter. The system operates the counter to count at a fixed rate while the analog to digital converter generates a varying potential decreasing at a selected rate from a

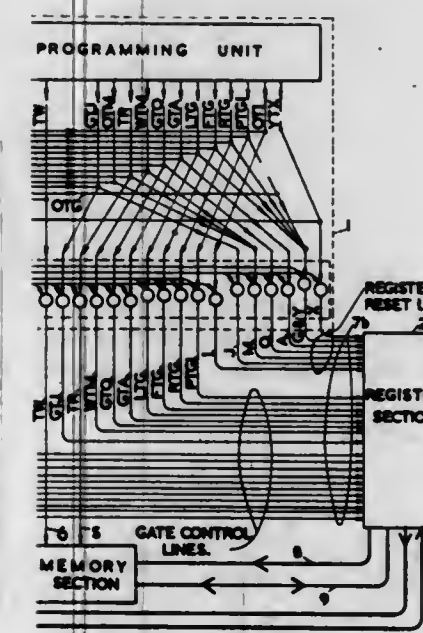
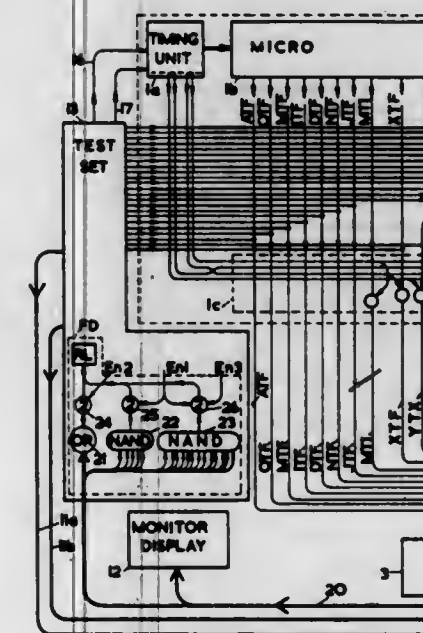
start point. The time relation between the complete countdown of the counter and the detection of amplitude coincidence between the varying potential and the values established by the analog devices determines whether the set point is outside limit or alarm conditions. When the set point represented by the stored value is outside the selected limits the system operates to provide an adjusted set point, which is also manually adjustable.

### 3,519,808 TESTING AND REPAIR OF ELECTRONIC DIGITAL COMPUTERS

Robert Ernest Lawder, Halstead, near Sevenoaks, England, assignor to The Secretary of State for Defence in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England  
Filed Mar. 21, 1967, Ser. No. 624,931  
Claims priority, application Great Britain, Mar. 25, 1966, 13,231/66  
Int. Cl. G06f 11/00, 11/04

U.S. Cl. 235—153

20 Claims



A procedure is described for rapidly locating any faulty parts in an electronic digital computer of a type having a control section, a registers section and a memory section

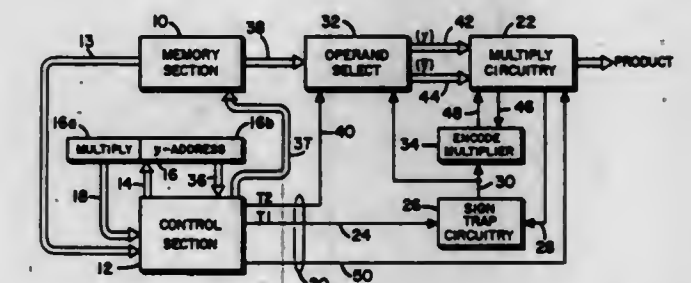
and having microprogramming parts in its control section. By making certain disconnections within the computer, the test procedure is greatly simplified and can be performed with comparatively simple external testing equipment.

### 3,519,809 SIGN ANTICIPATING CIRCUITRY PERFORMING BINARY MULTIPLICATION BY SUCCESSIVE ADDITIONS EMPLOYING ONES COMPLEMENT ROTATION

Gary J. Iverson, White Bear Lake, and David M. Collins, St. Paul Park Village, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware  
Filed Dec. 14, 1966, Ser. No. 601,754  
Int. Cl. G06f 7/39

U.S. Cl. 235—164

7 Claims



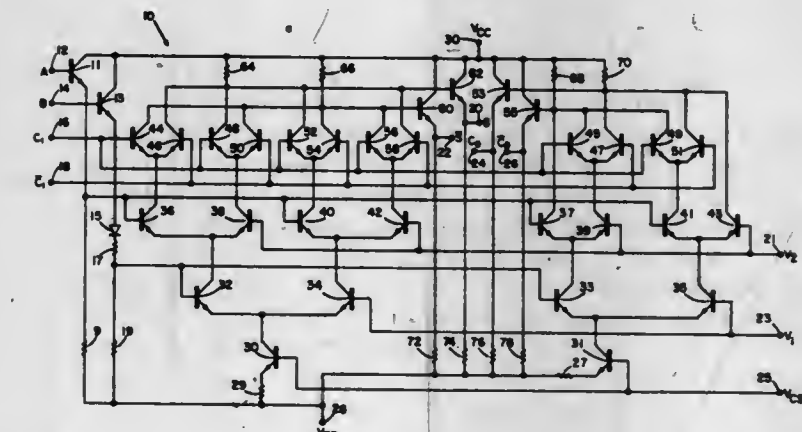
This invention relates to improved multiply circuitry, and the disclosure describes circuitry for anticipating the appropriate algebraic sign of the product of a pair of signed operands, i.e. binary numbers. The circuitry assures that an end-correction of the sign or magnitude of the product is never necessary. Further, circuitry is described whereby it is unnecessary to complement more than one of the operands. This is accomplished without additional time being required for the total multiply operation, since it is accomplished during the transmittal of the operand from memory to the multiply circuitry.

### 3,519,810 LOGIC ELEMENT (FULL ADDER) USING TRANSISTOR TREE-LIKE CONFIGURATION

Ury Priel and James W. Hively, Phoenix, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois  
Filed Feb. 14, 1967, Ser. No. 615,997  
Int. Cl. G06f 7/50

U.S. Cl. 235—176

10 Claims



A logic element constructed in a transistor tree-like configuration wherein the transistors are operatively biased



to switch in the high speed, non-saturating current mode. Binary digits are applied to differentially connected transistors in the tree-like arrangement to generate logic in a serial manner down the transistor tree and generate output functions and complements at the output of the logic element.

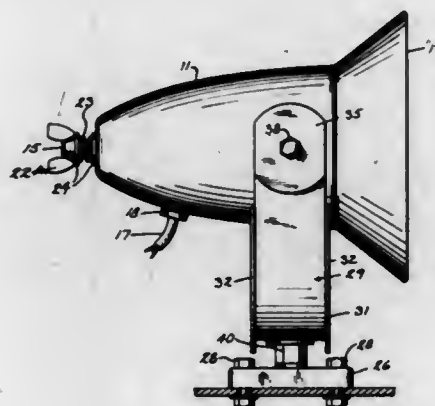
3,519,811

**FLOODLIGHT HOUSING AND SUPPORT**

Henry S. Jacobs, Shorewood, Wis.  
(4113 N. Downer Ave., Milwaukee, Wis. 53211)  
Filed Apr. 19, 1967, Ser. No. 632,091  
Int. Cl. F21p 5/00; F21v 21/04

U.S. Cl. 240—3

3 Claims



A floodlight housing includes an electrical socket that is secured either to a single threaded shaft which extends through an opening in the rear end of an elongated enclosure and is held against rotation, or to a pair of spaced screws which extend through two holes in the rear end of the enclosure. By tightening nuts on the single threaded shaft or on the pair of screws, the socket and lamp bulb therein are drawn inwardly and the flared sides of the lamp bulb are seated against a cushioning rubber gasket disposed about the inner periphery of the enclosure. A polished, thin-wall reflector portion of the enclosure flares outwardly beyond the lens end of the lamp bulb. The housing is supported on a U-shaped leaf spring, formed of unbonded laminations, which is attached at the ends of its arms to diametrically opposed points on the enclosure. A flanged bracket is disposed within the U-shaped leaf spring, and the leaf spring and bracket are both secured to a base at their bottoms. A short biasing leaf spring is disposed between the bracket and the U-shaped leaf spring to normally hold the lower ends of the arms of the U-shaped leaf spring away from the bracket.

3,519,812

**PORTABLE ELECTRIC LANTERN WITH SWIVEL-TYPE LAMP ASSEMBLY**

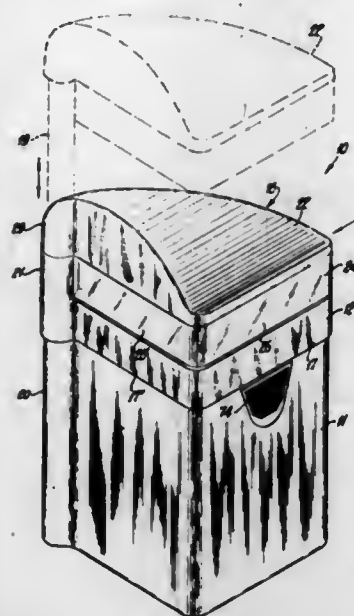
Robert E. Brindley, New York, N.Y., and William H. Doring, Old Greenwich, Conn., assignors to Union Carbide Corporation, a corporation of New York  
Filed Feb. 29, 1968, Ser. No. 709,334  
Int. Cl. F21l 7/00

U.S. Cl. 240—10.6

18 Claims

A portable electric lantern consisting of a lantern case and top cover containing therein a conventional lantern battery and a swivel-type lamp assembly mounted on top of the top cover and adapted by means of an adjustable lamp post to be elevated above the top cover for illuminating the surface on which the lantern is placed during use. The lamp assembly may be swiveled or rotated to any desired position in a plane substantially parallel to the surface to be illuminated. An electrical circuit is in-

corporated within the lantern for carrying electrical current from the battery to the lamp assembly and includes



switch means for automatically turning on the lamp when the lamp assembly is elevated above the top cover.

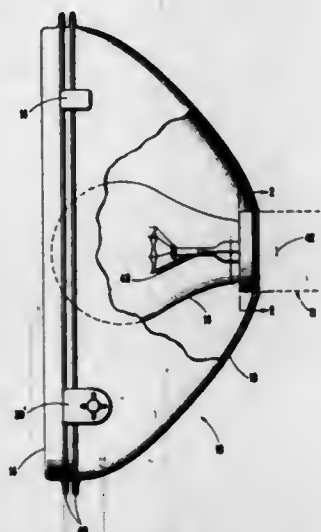
3,519,813

**TRAFFIC LIGHT SOCKET MEANS**

Gregory Siklos, Bronx, N.Y., assignor to The Marbelite Company, Inc., Brooklyn, N.Y.  
Filed Oct. 18, 1967, Ser. No. 676,190  
Int. Cl. F21v 7/06

U.S. Cl. 240—41.35

12 Claims



An electrical socket construction for the mounting of an electric traffic signal bulb with the bulb being retained in a preselected position. The socket enables helical threading of a C-shaped filament bulb into a socket so that the opened portion of the C filament faces downwardly in a traffic signal whereby light output is maximized. Preferably, the socket construction is an integral part of a plastic housing and integral with a plastic reflector for a traffic signal bulb to minimize cost, maintenance and assembly operations.

3,519,814

**IMAGE CONVERTER ELECTRODE ARRANGEMENT FOR A MASS SPECTROMETER**

Hermann F. Mai, Dresden, and Heinz K. Wagner, Jena, Germany, assignors to Friedrich-Schiller-Universität Jena, Jena, Germany

Filed Jan. 3, 1967, Ser. No. 606,661

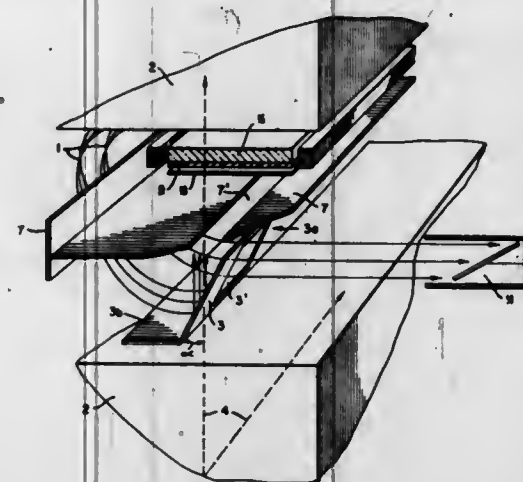
Int. Cl. H01j 39/34

U.S. Cl. 250—41.9

9 Claims

Mass spectrometer apparatus comprises an image converter electrode at which secondary electrons in a sec-

ondary spectrum are released from a plurality of ion beams in a primary ion spectrum. A voltage applied between the image converter electrode and an electron-sensitive layer accelerates the secondary electrons toward



the electron-sensitive layer. A magnetic field guides the secondary electrons toward the electron-sensitive layer. A secondary electron emitter foil between the electrode and the layer increases the secondary electron current released at the electrode.

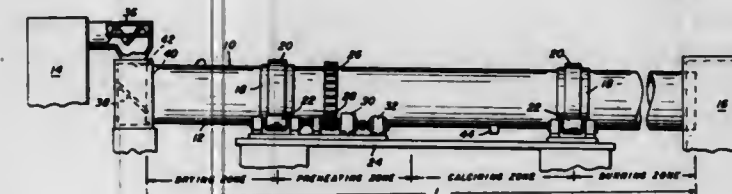
3,519,815

**APPARATUS FOR AND METHOD OF CONTROLLING THE DENSITY OF RAW MATERIALS FLOWING THROUGH A ROTARY KILN**

Dean E. Sandbrook, Waco, Tex., assignor to United States Steel Corporation, a corporation of Delaware  
Filed July 14, 1966, Ser. No. 565,297  
Int. Cl. G01n 23/12

U.S. Cl. 250—43.5

10 Claims



This invention relates to rotary kilns, and more particularly to an improved apparatus for and method of controlling the density of material in a rotating kiln. The apparatus for controlling the density of the raw material flowing through a rotary kiln has a frame, a rotatable kiln rotatable on the frame and adapted to receive the raw material at one end and move the raw material through a work zone to the other end, pocket means provided on the periphery of the kiln adjacent a detecting position and adapted to contain raw material and to move along a rotary path of movement, radioactive source means disposed along the rotary path of movement and operable by movement of the pocket means to direct a beam of radioactive energy through the pocket means and the raw material, detector means disposed adjacent the path of movement and the radioactive source means and adapted to receive radioactive energy transmitted through the raw material and to convert the radioactive energy into an electrical signal, control means connected to the detector means and actuated by the electrical signal, drive means connected to the kiln and the control means, the control means being operable to change the speed of rotation of the kiln and thereby control the density of the raw material in the kiln.

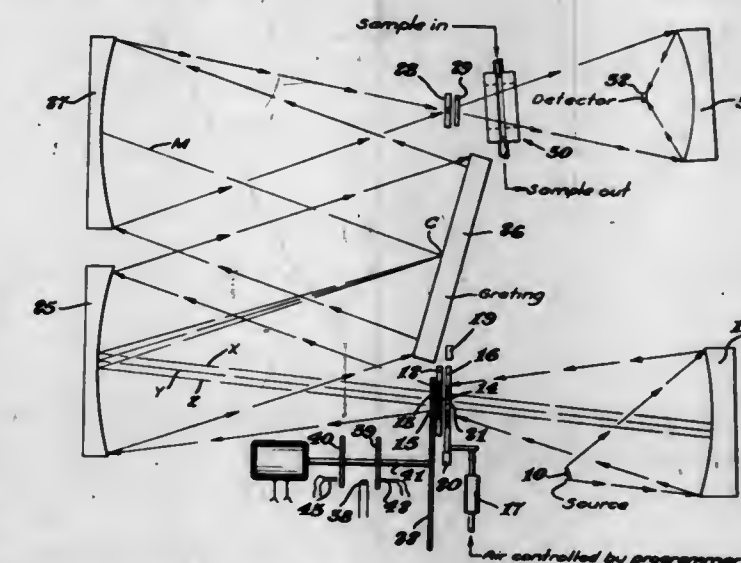
3,519,816

**STREAM ANALYZER FOR RADIATION ABSORPTION ANALYSIS OF A PLURALITY OF COMPONENTS**

Arnold M. Bartz and Norman Wright, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
Filed Oct. 5, 1966, Ser. No. 584,467  
Int. Cl. G01n 21/26, 21/34

U.S. Cl. 250—43.5

9 Claims



Apparatus for the concurrent quantitative determination of a plurality of components in a single cell, such as the cell of a stream analyzer, utilizes a single source, a single detector, a monochromator having a single dispersing means as a component part and a single exit slit from the monochromator, but most importantly, a plurality of entrance slits provided with shutter means for alternately, periodically, selectively and cyclically blocking and unblocking pairs of such entrance slits, and, in addition, means for concurrently directing radiation from two unblocked entrance slits to the dispersing means from two different angles of incidence thereby passing two monochromatic bands through the monochromator, one band being selected for monitoring absorption of a sample component and the other band for monitoring background and/or interfering substances, additional means for similarly and at other times directing radiation concurrently at the dispersing means from each slit of other preselected pairs of entrance slits, respectively, means for chopping radiation passing each pair of unblocked entrance slits, each of the beams from a given pair being chopped at a different frequency, means for frequency discrimination and ratio comparison of the concurrent signals produced by the detector in response to the radiation chopped at said different frequencies, means for shifting the shutter means from entrance slit pair to entrance slit pair, means for harnessing the output of the detector, such as a chart recorder or process control devices, means for discriminating ratio comparison signals, pair by pair, from the preselected pairs of entrance slits, and means for coordinating the shifting of the appropriate harnessing means.

3,519,817

**APPARATUS AND METHOD FOR IRRADIATING CONTINUOUSLY FLOWING LIQUIDS**

Alfred Brunner, Winterthur, Switzerland, assignor to Sulzer Brothers Ltd., Winterthur, Switzerland, a corporation of Switzerland

Filed Feb. 16, 1968, Ser. No. 706,121

Claims priority, application Switzerland, Mar. 16, 1967, 3,794/67

Int. Cl. G01n 23/12

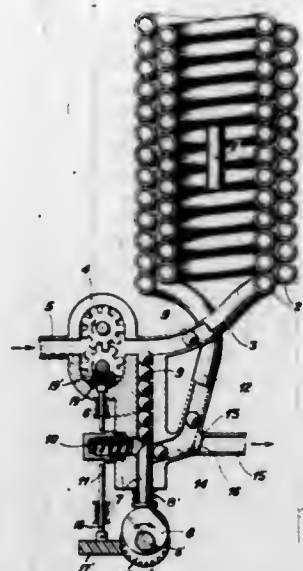
U.S. Cl. 250—44

5 Claims

The bulbous elements are periodically introduced into the liquid stream downstream of the radiation field to define individual liquid containing chambers. The liquid in



the chambers is mixed in a manner to cause equal sojourn time of all the liquid particles through the radiation field



by the action of the bulbous elements to achieve homogeneous irradiation of all liquid particles.

3,519,818

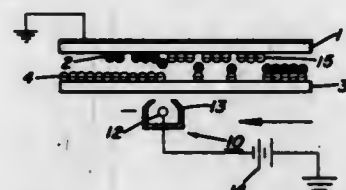
# METHOD OF PREPARING A NEGATIVE XEROGRAPHIC REPRODUCTION FROM A POSITIVE LINE COPY IMAGE

Lloyd F. Bean, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York  
Filed July 20, 1966, Ser. No. 566,594

Int. Cl. G03g 13/00

U.S. Cl. 250-49.5

14 Claims



An imaging process is disclosed whereby a negative xerographic reproduction may be prepared from a positive line copy image. A visible toner image is electrostatically formed on a support substrate and contacted with the surface of a donor member having dusted on its surface a uniform layer of pigmented developer material. At least one of the exposed surfaces of the resulting configuration is charged at a predetermined potential so as to effectively bring about the exchange of the toner particles between the interface of the contacted surfaces thereby producing a negative reproduction of the original positive image input.

3,519,819

# ELECTROPHOTOGRAPHIC IMAGE RECEIVING ELEMENT WITH MEANS TO SPACE SAID ELEMENT FROM AN IMAGE BEARING SURFACE DURING IMAGE TRANSFER

Eugene P. Gramza and Gene H. Robinson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
Filed Oct. 9, 1967, Ser. No. 673,544

Int. Cl. G03g 5/02

U.S. Cl. 250-65

18 Claims



Receiving elements having a regulated surface roughness are capable of producing electrographic images of improved quality over elements having smooth surfaces.

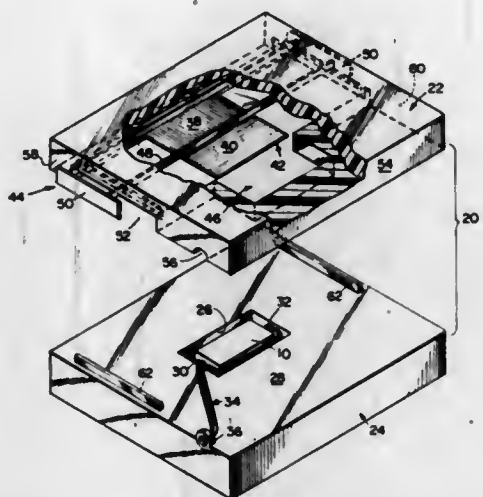
## 3,519,820 MONITORING DEVICE FOR INDICATING A GIVEN RANGE OF INCIDENT RADIATION

Herman E. Erikson, Winchester, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware  
Filed Aug. 13, 1965, Ser. No. 479,527

Int. Cl. G01t 1/20

U.S. Cl. 250-71.5

1 Claim



The present application relates to a compact, relatively-simple and hence inexpensive device for indicating possibly injurious levels of incident radiation, e.g., X-ray and gamma radiation, within specified ranges. In its basic form, the device consists merely of a small housing element opaque to visible light but pervious to X-rays and gamma rays, an activatable component such as a given fluorescent substance or phosphor carried by and substantially co-extensive with support means therefor of given area having a given range of light output and responsive to a given range of incident radiation, and components of an electrical circuit comprising a source of a given D.C. voltage such as a miniature battery, a photoresistor component physically superimposed with the aforesaid activatable component, and an indicating component such as an ammeter for providing a given range of current readings calibrated in terms relating to the radiation to be measured. In modified form, the device includes means for augmenting the range of incident radiation to which the device is sensitive. The indicating component may be enclosed in the housing or remotely situated, as provided by external connector means.

3,519,821

# METHOD AND APPARATUS FOR CALIBRATING RADIATION DETECTION AND MEASUREMENT INSTRUMENTS

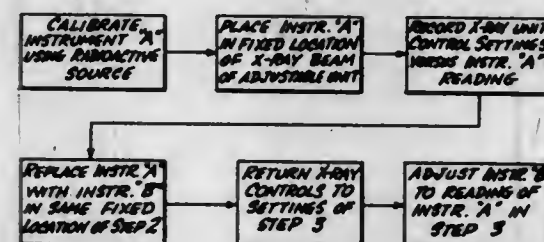
Michael S. Bolster, Tumwater, Wash.  
(12701 NE. 20th, Vancouver, Wash. 98665)

Filed Aug. 15, 1966, Ser. No. 572,298

Int. Cl. G01t 1/16

U.S. Cl. 250-83

5 Claims



This application discloses an improved apparatus and method of calibrating instruments used for detecting and measuring radiation such as that emitted by radioactive materials. An X-ray unit is used in combination with

radiation instrument holding means and a remote indicator to calibrate an unknown instrument after first correlating the X-ray control settings to the values read on a known instrument placed in the instrument holding means. Detailed instructions for carrying out the method are disclosed.

3,519,822

# TIME OF FLIGHT TO KINETIC ENERGY CONVERTER FOR A NUCLEAR PARTICLE SPECTROMETER

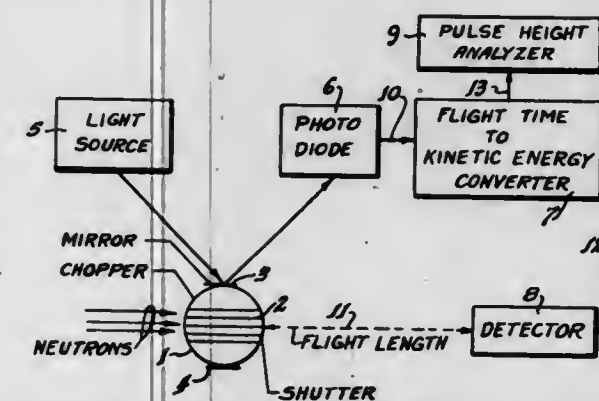
Gary A. Sleege, Ames, Iowa, assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 10, 1967, Ser. No. 660,883

Int. Cl. H01j 39/32

U.S. Cl. 250-83.1

4 Claims



A device for converting the time of flight,  $t$ , of nuclear particles of mass  $m$  over a distance,  $D$ , into a voltage having a magnitude proportional to the kinetic energy of the nuclear particles. A voltage generator synchronized with the start of the time of flight of the nuclear particles produces a voltage proportional to  $\frac{1}{2}mD^2/t^2$ . This voltage is sampled and stored in a pulse height analyzer at the end of the time of flight of a nuclear particle.

3,519,823

# ATTITUDE SIGNALLING SYSTEM INCLUDING A MIRROR WHICH SCANS THE HORIZON OF A CELESTIAL BODY

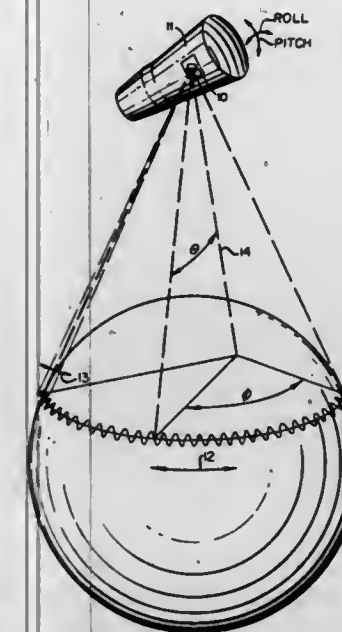
Kenneth G. Heller, Redwood City, Sheldon A. Knight, Mountain View, and William Snyder, Palo Alto, Calif., assignors, by mesne assignments, to TRW Inc., a corporation of Ohio

Filed May 15, 1963, Ser. No. 280,540

Int. Cl. G01c 3/08

U.S. Cl. 250-83.3

6 Claims



An attitude sensor including an infrared telescope mounted for periodic oscillatory azimuthal scan of a sec-

tor of horizon of an object over which it is flying, as in a space vehicle. The line of sight of the telescope is oscillated in elevation simultaneously with the azimuthal oscillation. An electromagnetic servomechanism continuously orients the telescope so that it tracks the horizon during azimuthal scan. A block diagram is given of electrical circuitry for controlling the telescope scan and for processing the output signals derived from the telescope.

3,519,824

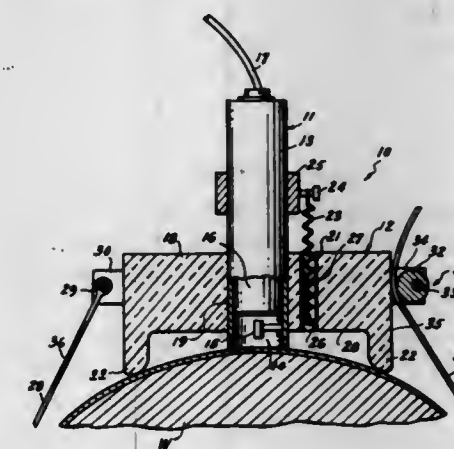
# GUIDE FOR PROBE ASSEMBLY OF PORTABLE RADIATION BACKSCATTER MEASURING INSTRUMENT

Jacques J. Weinstock, Flushing, and William D. Hay, Peekskill, N.Y., assignors to Unit Process Assemblies, Inc., New York, N.Y., a corporation of New York  
Filed Mar. 14, 1966, Ser. No. 533,926

Int. Cl. G01t 1/16

U.S. Cl. 250-83.3

1 Claim



A portable radiation backscatter measuring instrument for measurement use on curved surfaces constituted by a transparent workpiece engaging base member adapted to position a probe element normal to the surface being measured and auxiliary biasing means to maintain the probe in uniform contact with the workpiece surface irrespective of the curvature thereof.

3,519,825

# SYSTEM FOR DETECTING THE PRESENCE OF AN INFRARED-RADIATING ARTICLE WHICH DISCRIMINATES BETWEEN RADIATION EMANATING FROM THE ARTICLE AND BACKGROUND RADIATION

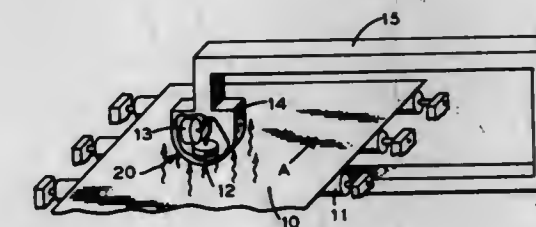
William S. Locks, Dickson City, Pa., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware

Filed Feb. 7, 1967, Ser. No. 614,513

Int. Cl. G01n 21/34

U.S. Cl. 250-83.3

7 Claims



A system for detecting the presence of an infrared-radiating article such as a metallic strip, bar or the like,



includes a source of constant-amplitude pulses which are applied to an active infrared detector; there being relative movement between the article and the detector. When the detector senses the initial presence of the article, the resistance of the detector decreases proportionately causing an increase in the height of one or more constant-amplitude pulses which are coincidentally applied to the detector. A pulse height discriminator is set to pass only those pulses having a predetermined minimum height; this height being greater than the pulse height that is produced principally by background radiation incident to the detector. The pulses which pass the pulse discriminator are received by a monostable device which is normally in a reset state but which is switched into a set state in response to the first composite pulse of the pulse train which passes the discriminator. The monostable device may be adjusted so that a missing pulse or pulses from the pulse train which may result from attenuation of the radiation applied to the active infrared detector by extraneous surface matter on the strip does not cause the monostable device to reset. The monostable device resets after the rearward end of the detected strip advances beyond the field of detection of the active infrared detector. The respective set and reset states of the monostable device may be continuously recorded by a digital computer to which printout access may be made at any time.

If desired, two or more infrared detection systems, of the type described above, may time-share a centrally located digital computer so that two or more detection systems and stations may be monitored by the computer.

3,519,826

## TEMPERATURE COMPENSATION CIRCUITS

Lionel Raymond Frank Thompson, Hatfield, England, assignor to Hawker Siddeley Dynamics Limited, Hatfield, England, a British company

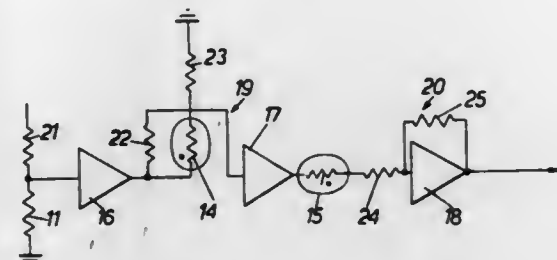
Filed Sept. 27, 1968, Ser. No. 763,335

Claims priority, application Great Britain, Sept. 29, 1967, 44,499/67

Int. Cl. G01t 1/26

U.S. Cl. 250—83.3

2 Claims



In a system incorporating an infrared detection cell and amplifying circuitry for the cell signal, instead of being mounted in a constant temperature environment as hitherto, the cell is permitted to fluctuate in temperature along with ambient temperature, and temperature compensation is provided in the circuitry. The amplifying circuitry has three successive amplifier stages, and two temperature-compensating networks are connected intermediate the first and second, and intermediate the second and third stages, respectively. These temperature-compensating networks include thermistors and associated resistors. The infrared detection cell is mounted on top of a thermally-conductive copper block and the two temperature-compensating thermistors are mounted on either side of this same block. The remaining resistors in the temperature-compensating networks are selected so as to

give a law of gain change with temperature variation such as to compensate closely for the variation in response of the cell with temperature.

3,519,827

## SERVOMOTOR CONTROLLED POSITIONING MEANS FOR THE OPTICAL PICKUP IN STEREO VIEWERS USING FIBER OPTICS

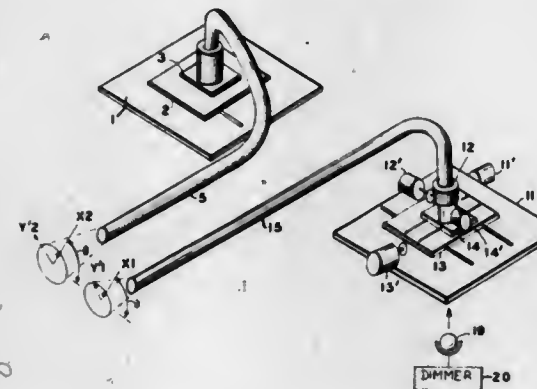
Anwar K. Chitayat, Plainview, N.Y., assignor to OPTOMECHANISMS, INC., Plainview, N.Y.

Filed July 11, 1967, Ser. No. 652,517

Int. Cl. H01j 39/12; G02b 27/22

U.S. Cl. 250—202

7 Claims



Automatic servo control signals are provided for left or right optical pickup in a stereo viewer. Signals proportional to misalignment of left and right optical pickups are produced by a scanning disc. The difference between the left and right signals is obtained and used to provide servo control signals. Separate signals are provided to correct misalignment along two coordinate axes and also to correct rotation misalignment of the pickups and unbalanced magnification of the left and right images.

3,519,828

## AUTOMATIC GAIN CONTROL CIRCUIT FOR PHOTOCELL AMPLIFIERS USING VARIATION OF FORWARD BIAS ACROSS PHOTOCELL

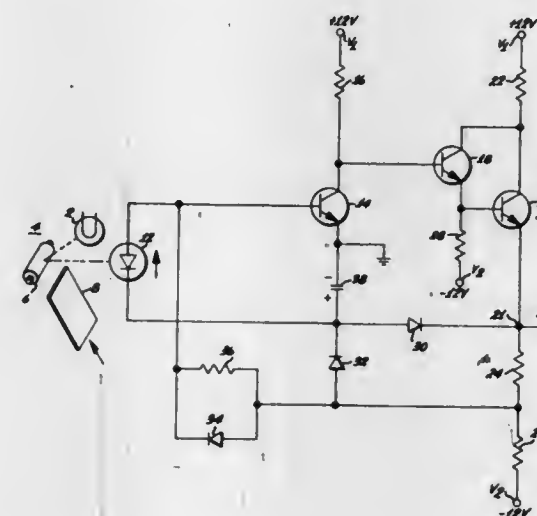
Richard E. Milford, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York

Filed Aug. 9, 1968, Ser. No. 751,581

Int. Cl. H01j 39/12

U.S. Cl. 250—214

11 Claims



An automatic gain control circuit for photocell amplifiers includes means for automatically adjusting the gain of the photocell so that the output signal from the amplifier remains substantially constant for a wide variation in the level of light falling on the photocell.

3,519,829

## OPTICAL SYSTEM FOR RADIATION SENSITIVE RANGEFINDER

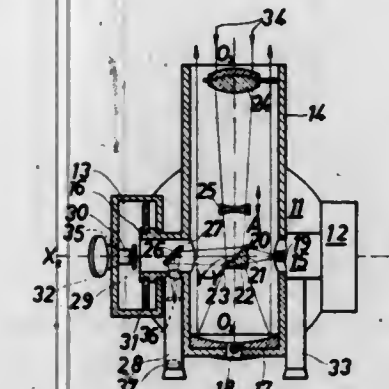
Georg Pradel, Heinz Richter, and Rolf Roder, Jena, Germany, assignors to VEB Carl Zeiss Jena, Jena, District of Gera, Germany

Filed Oct. 10, 1967, Ser. No. 674,710

Int. Cl. G01c 3/08

U.S. Cl. 250—216

6 Claims



An electro-optical rangefinder has two optical systems and two light-sources. The one light-source through one of the optical systems emits intensity-modulated invisible light for measurement. The other light-source emits visible light and together with the other of the two optical systems makes up into a searchlight. Said other light-source lies at such a focus of said one optical system as corresponds to the medial wave-length of the light it emits. To the optical system not emitting visible light is coordinated an eyepiece for visual reception of the visible light. The two optical systems may be coaxial with each other.

3,519,830

## METHOD AND MEANS FOR MAINTAINING THE RESOLUTION OF A SCANNING SYSTEM HAVING AN UNDEFINED OBJECT PLANE

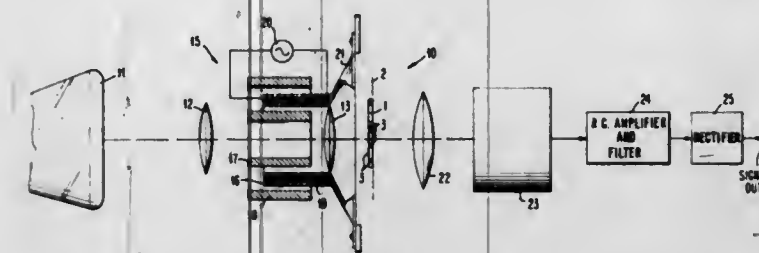
Louis A. Kamensky, Briarcliff Manor, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 17, 1966, Ser. No. 521,164

Int. Cl. G02f 1/28

U.S. Cl. 250—217

21 Claims



A method and apparatus are disclosed which maintain the resolving power of a scanning system even though information on an information bearing medium lies in a plurality of focal planes. The interaction between a scanned reading spot of variable focal length and information on an information bearing medium provides electrical signals which relate to the maximum resolution of the optical system regardless of the focal plane in which the information being sought is disposed. Wrinkled documents or transparent media containing information at different levels within the transparent medium are examples of information bearing media wherein the information desired resides in a plurality of focal planes. Using the method and apparatus of the present invention, ambiguous readings are eliminated and the system provides output signals representative of the maximum resolution of the system.

3,519,831

## CONTACT-FREE MEASURING DEVICE FOR WIRE AND SIMILARLY SHAPED MATERIAL

Gerhard Voigtlaender-Tetzner, Leverkusen, Germany, assignor to Exatest Messtechnik Gesellschaft mit beschränkter Haftung, Friedrichstr., Leverkusen, Germany

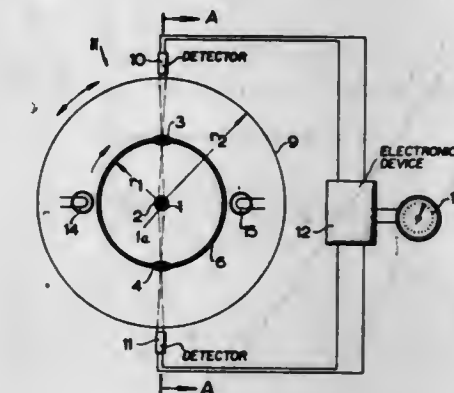
Filed June 26, 1967, Ser. No. 648,689

Claims priority, application Germany, June 29, 1966, E 31,948

Int. Cl. G01b 11/10

U.S. Cl. 250—219

10 Claims



Apparatus for contact-free measurement of the transverse sectional dimensions of material having a wire, band or similarly shaped configuration wherein the material passes continuously along an axis of travel and a pair of lenses are diametrically mounted on a first ring arranged perpendicularly to the axis of travel. Concentrically arranged about the axis and the first ring and in the same plane with the first ring is a second ring on which are mounted a pair of diametrically opposed light sensitive detectors. The image of the material to be measured passes through the lenses and is reproduced on the detectors which, in turn, send a signal to a measuring device which displays the dimension of the material on an indicating instrument. The rings may be arranged to rotate in the same or different directions and multiple pairs of lenses and detectors may be mounted in uniformly spaced relationship on the respective rings. In the event the material does not provide its own illumination, means may be provided for illuminating the material.

3,519,832

## READ HEAD ASSEMBLY FOR CODED MARKINGS

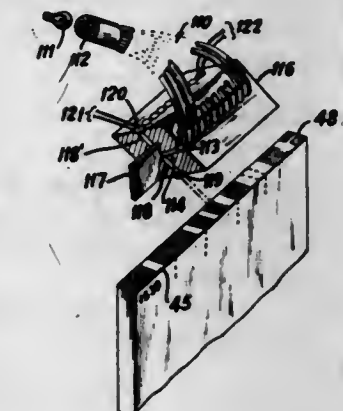
John Castaldi, Brooklyn, N.Y., assignor to Supreme Equipment & Systems Corporation

Continuation-in-part of application Ser. No. 430,330, Feb. 4, 1965. This application Nov. 6, 1967, Ser. No. 680,642

Int. Cl. G01n 21/26; G02b 5/14

U.S. Cl. 250—219

4 Claims



A random access store for cards, file folders and the like, in which the folders are stacked face-to-face. The folders are optically edge-coded and sensed simultaneously



by a plurality of moving carriages, driven by a single cable, which continuously compares the sensed code to the command code and ejects the desired folder. The optical reader senses rectilinearly (along the same line as the light source) and the coded signal is automatically negated from mis-positioned folders. Folder alignment regardless of packing density is provided by magnetic clutching in cooperation with an array of folder guiding slots. Manual entry of the file folders into the store is random and may take place simultaneously with the automatic withdrawal. Towards this end, a feed-through access is provided which automatically gates and raises the magnetic clutches to permit ejection of the desired folder. Further refinements described include ejected folder collection; automatic input; a memory adjunct; and remote signalling.

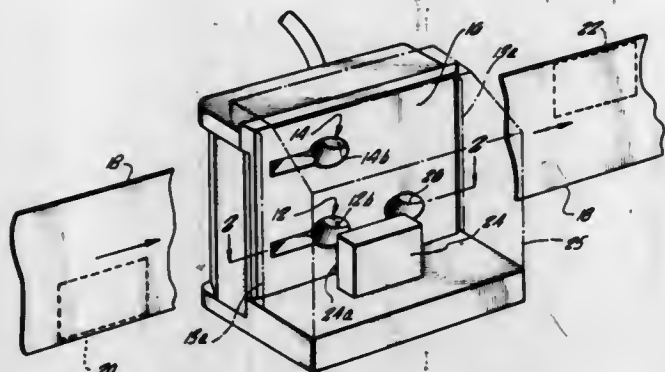
3,519,833

### SENSING HEAD FOR REFLECTIVE MARKS ON TAPE

Andrew E. Arch, Arcadia, and Eugene E. Paananen, Glendora, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan  
Filed Feb. 12, 1968, Ser. No. 704,922  
Int. Cl. G06k 7/10

U.S. Cl. 250—219

9 Claims



Apparatus for sensing individual reflective marking strips positioned on each half of one side of a moving tape. First and second photo sensing cells are positioned apart so that when tape is passed thereby one photo sensing cell is at one half of such tape and the other photo sensing cell is at the other. A pair of lamps are positioned such that the photo sensing cells are normally not illuminated thereby and such that a reflective marking strip on either half of tape when positioned in front of the corresponding photo sensing cell will reflect light from a lamp back to the corresponding photo sensing cell. An electrical circuit is connected to both of the photo sensing cells and is operative to provide a first output signal when both photo sensing cells are either illuminated or not illuminated and operative to provide a second output signal when only one of the photo sensing cells is illuminated and a third output signal when the other photo sensing cell alone is illuminated.

3,519,834

### IMPACT SPECIMEN FRACTURE ANALYZER

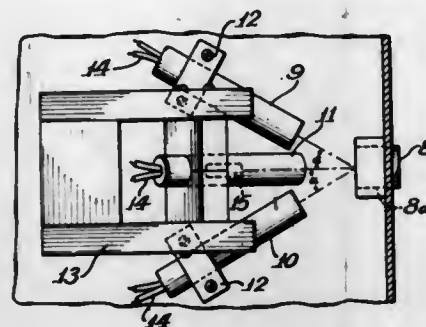
George A. Frederick, Wheaton, Ill., assignor, by mesne assignments, to Peoples Development Inc., Chicago, Ill., a corporation of Delaware  
Filed Feb. 1, 1966, Ser. No. 524,009  
Int. Cl. G01n 21/48

U.S. Cl. 250—222

7 Claims

Method and apparatus for determining the transition temperature of metal wherein the surface characteristics of a ruptured metal impact fracture specimen are analyzed to determine the extent of failure in shear and in brittle fracture. The specimens are cooled to different preselected temperatures, and the specimens are broken by impact

fracture while maintaining the specimen at its preselected temperature. The rupture surface of each specimen is subject to a plurality of beams of electromagnetic radiation and the intensity of the radiation reflected by the rupture surface of each specimen is measured. An electrical signal is produced and is related in magnitude to



the intensity of the reflected radiation. The value of this signal is compared to preselected minimum and maximum values wherein the minimum and maximum values correspond to signals produced on test specimens which failed substantially and completely in shear and brittle fracture respectively.

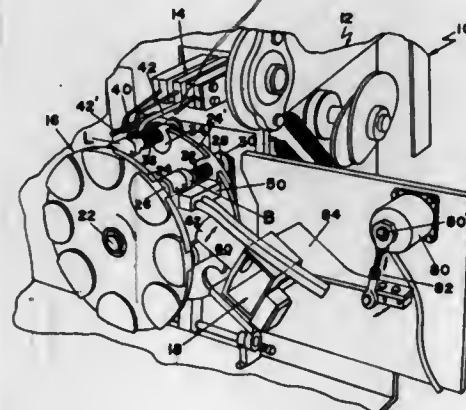
3,519,835

### RADIATION SENSITIVE APPARATUS FOR VERIFYING LABEL POSITION

John R. Davies, Grand Rapids, Mich., assignor to Oliver Machinery Company, Grand Rapids, Mich., a corporation of Michigan  
Filed June 3, 1968, Ser. No. 734,040  
Int. Cl. G06k 5/04

U.S. Cl. 250—223

7 Claims



Apparatus for verifying the accuracy of label position on articles periodically advanced, using spaced indicia printed on the label in combination with photoelectric sensing units specially mounted to scan the indicia area of the label until the sensed indicia create an output sensing signal of a predetermined amount, and then locking in the sensing elements to take a comparative reading on the spaced indicia.

3,519,836

### FIBER OPTIC SCANNING SYSTEM HAVING LIGHT RAY PULSING MEANS

Thomas W. Fargo, Racine, James W. Fargo, Kenosha, and James J. Wolak, Brookfield, Wis., assignors to Custom Control Products, Inc., Racine, Wis., a corporation of Wisconsin  
Filed Sept. 15, 1966, Ser. No. 579,721

The portion of the term of the patent subsequent to Nov. 5, 1985, has been disclaimed  
Int. Cl. G01b 19/36; G02b 5/14

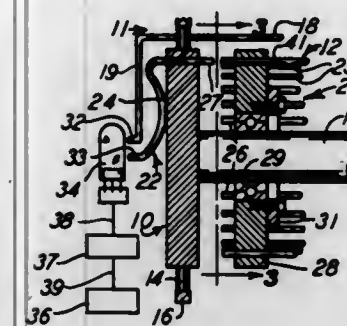
U.S. Cl. 250—227

5 Claims

A method and apparatus for optical scanning comprising steps and means for conducting light rays along

two separate paths, the step and means for sensing the light rays and for pulsing the light rays in one of the paths, and the step and means for combining the light

provided for connecting a spare transformer to said bus as a replacement for any one of said single phase transformers. Special interlocking means assures that the spare transformer is connected to the bus in the same manner as the transformer it replaces.



### POWER SUPPLY FOR LOAD PRESENTING VARIABLE CURRENT DEMAND

James J. Nehez, 808 Brubaker Drive, Kettering, Ohio 45429  
Filed Jan. 17, 1968, Ser. No. 698,589  
Int. Cl. G05f 1/60

U.S. Cl. 307—35

7 Claims

rays to negate the pulsing, and the step and means for interrupting the light rays in the other of the paths to permit the pulsing light rays to be sensed.

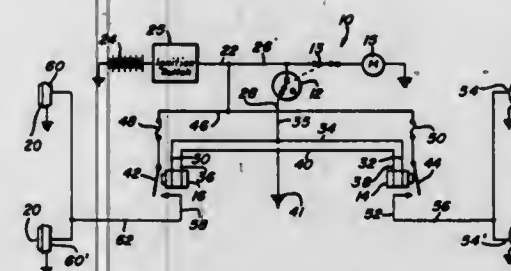
3,519,837

### AUTOMATIC PRECIPITATION LIGHT CONTROL FOR VEHICLES

Huey Nolin, Riviera Beach, and John F. Lidinsky, Lake Park, Fla., assignors to Rain Safety Light, Inc., a corporation of Florida  
Filed Dec. 3, 1968, Ser. No. 780,799  
Int. Cl. B60q 1/04

U.S. Cl. 307—10

6 Claims



A relay assembly is connected between the ignition switch of a vehicle and the head- and taillights thereof. A relay energizing switch is mechanically coupled to the windshield wiper switch of the vehicle. Actuation of the wiper switch causes energization of the relay assembly which in turn completes a circuit between the terminals of the ignition switch and the vehicle lights. Thus, when the windshield wipers are turned on, the vehicle lights are automatically turned on therewith.

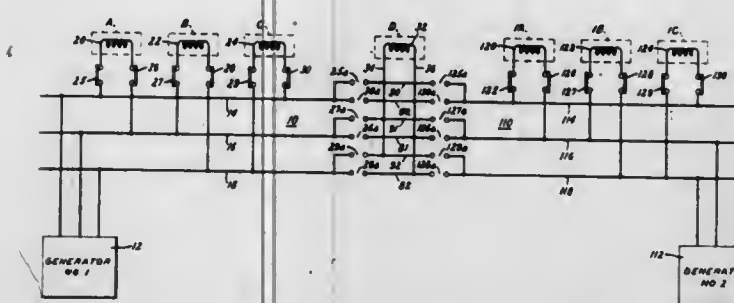
3,519,838

### SPARE TRANSFORMER CONNECTING MEANS

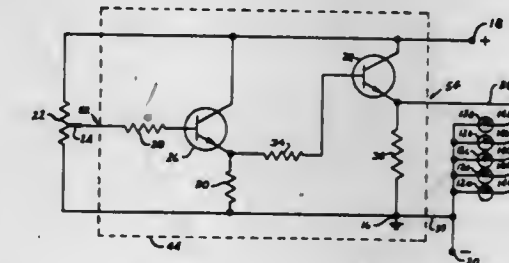
Nathan Swerdlow, Philadelphia, Pa., assignor to General Electric Company, a corporation of New York  
Filed Jan. 27, 1969, Ser. No. 794,049  
Int. Cl. H02j 3/00; H02b 1/24

U.S. Cl. 307—17

25 Claims



Discloses a power system in which three single phase transformers have their primary windings connected in delta to a 3-phase isolated phase bus. Switching means is



An apparatus to supply an adjustable voltage to a load presenting a widely varying current demand comprises a voltage divider across a direct current power supply and an adjustable wiper on the voltage divider providing base bias to an emitter-follower cascade. The load, which may comprise a series of separately switchable lamps, is placed between the final emitter of the cascade and one side of the power supply. Base resistors in the emitter-follower cascade protect the circuit against transients and emitter resistors, including a fixed load resistance in the final emitter circuit of the cascade, protect the circuit against collector-to-base breakdown in the event of load removal. The circuit elements, except for the voltage divider, are assembled to a chassis having four terminal connections, two of which provide connections to the voltage divider, which may be remotely located.

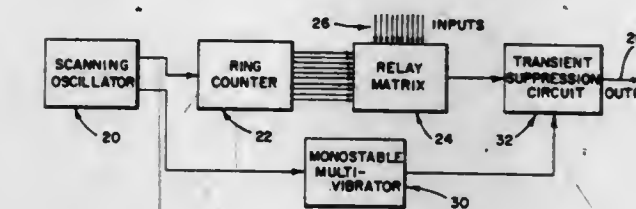
3,519,840

### REED RELAY SCANNER WITH TRANSIENT SUPPRESSION

Richard O. Traina, Randolph Township, N.J., assignor to Plessey Airborne Corporation, Hillside, N.J., a corporation of New Jersey  
Filed June 24, 1968, Ser. No. 739,248  
Int. Cl. H04b 15/00

U.S. Cl. 307—93

9 Claims



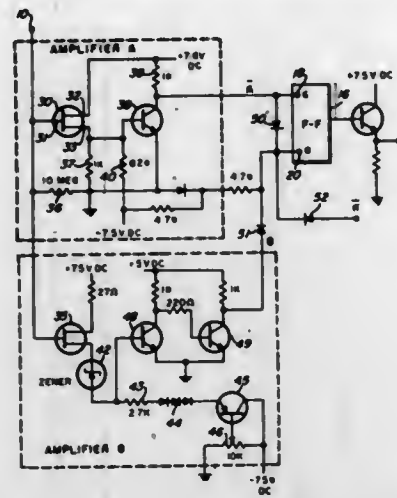
Ten position multiplexer for the sequential connection of ten independent variables to a common output. A scanning oscillator drives a ten position SCR ring counter for operating a reed relay matrix. A transient suppression circuit connected to the matrix output includes a capacitor connected across the output terminals and having a discharge circuit controlled by a reed relay operated synchronously with the relay matrix.







fier B is adjusted to produce a trigger pulse when the wave front voltage rises to, say, 90% of maximum, which resets



the flip-flop. The duration of the flip-flop output pulse is a measure of the rise time of the wave front.

3,519,850

### DIFFERENTIAL SENSE AMPLIFIER AND DETECTOR CIRCUIT

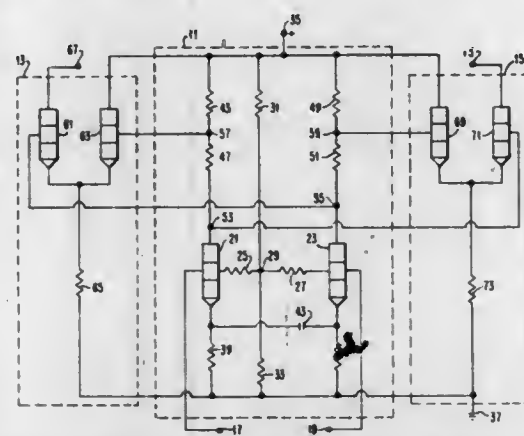
Robert Smith, Raleigh, N.C., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 11, 1967, Ser. No. 674,470

Int. Cl. H03f 1/00; H03k 5/20

U.S. Cl. 307—235

3 Claims



A circuit for detecting a predetermined amplitude threshold of a bipolar signal comprising a transistorized differential amplifier having two series-connected resistors in the collector circuits of each transistor of the amplifier allowing two output signals proportional to one another to be derived from each collector. Two detector circuits, each comprising two emitter coupled transistors are connected to the collector circuits of the differential amplifier. One transistor of each pair is connected between the split resistors of one of the differential amplifier collector circuits, and the other transistor is connected directly to the collector circuit of the other transistor of the differential amplifier. A detection threshold is thus established by offsetting the collector voltages and comparing the total positive and negative swing to it.

3,519,851

### DRIVER FOR BIPOLAR CAPACITIVE LOADS

Paul Stephen Groner, Santa Ana, Calif., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed May 26, 1967, Ser. No. 641,599

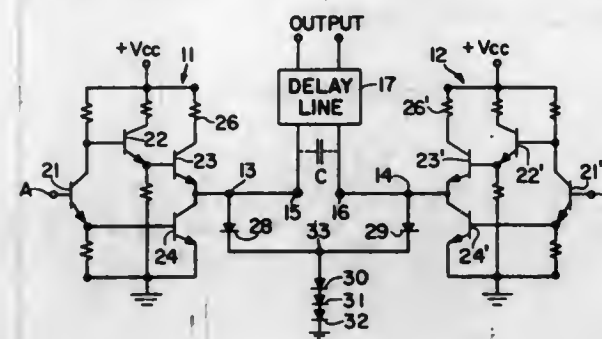
Int. Cl. H03k 5/08

U.S. Cl. 307—237

10 Claims

A bipolar driver circuit is disclosed for a capacitive load such as a delay line. The driver circuit causes current to flow in either direction through the two input terminals

of the capacitive load depending on whether the load is being driven with a logic "1" pulse or a logic "0" pulse. Between logic pulses, a voltage which accumulates across



the capacitive load is discharged by a diode network which is connected to the two input terminals of the capacitive load.

3,519,852

### LOW POWER ANALOG SWITCH

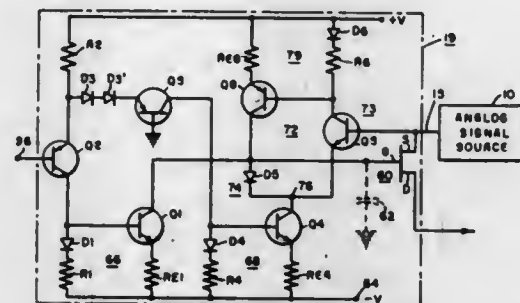
James E. Jennings, Bowie, Md., and Edmund A. Karcher, Palm Beach Gardens, Fla., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 26, 1967, Ser. No. 671,184

Int. Cl. H03k 17/00

U.S. Cl. 307—253

8 Claims



A junction field effect transistor (FET) has its source electrode connected to a source of analog signals and its drain electrode connected to provide an output signal. The gate electrode is connected to a current sink which is turned on when a first input signal is applied to an input terminal of the switch.

The analog signal is also connected to the base of a transistor, the emitter of which is connected to a circuit point. Connected between the circuit point and a source of current is a diode with its cathode connected to the circuit point and its anode being additionally connected to the gate electrode of the FET. The circuit point is connected to a current sink which is turned on in response to a second input signal applied to the switch. Current is supplied to the second current sink by means of the transistor while the source of current raises the potential at the gate electrode until such point that the diode conducts whereupon the diode and the transistor supply the current to the second current sink. For any change in analog voltage a corresponding change occurs at the cathode of the diode causing the anode thereof to increase or decrease in potential accordingly, thereby maintaining the voltage at the gate electrode of the FET substantially equal to the voltage of the source electrode thereof to prevent forward biasing of the gate-source junction and to reduce current feedthrough from the gate to the source circuit. When the voltage at the gate electrode is raised, the FET turns on to pass the analog signal.

3,519,853

### ELECTRICAL SAMPLING GATES

Edward Albert Fenell, Harlow, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 8, 1967, Ser. No. 614,697

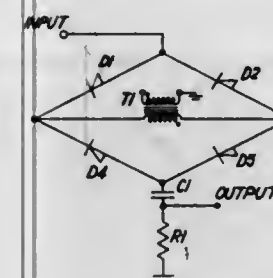
Claims priority, application Great Britain, Feb. 11, 1966,

6,093/66

Int. Cl. H03k 17/00

U.S. Cl. 307—257

13 Claims



The invention relates to an electrical sampling gate including a diode or transistor bridge network which is used to obtain a sample of the derivative of an input signal. In other gates the parameters of the semiconductive devices have to be selected to very close tolerances otherwise the output may be asymmetrical due to bridge unbalance whereas in this circuit the parameters are less important since unbalance is stored on a capacitance (forming part of derivative network) after the first sampling pulse. In one embodiment the second derivative is obtained by placing an inductance in parallel with the resistance which forms part of the derivative network. A number of these sampling gates may be operated in series or in parallel.

3,519,854

### THERMIONIC CONVERTER WITH HALL EFFECT COLLECTION MEANS

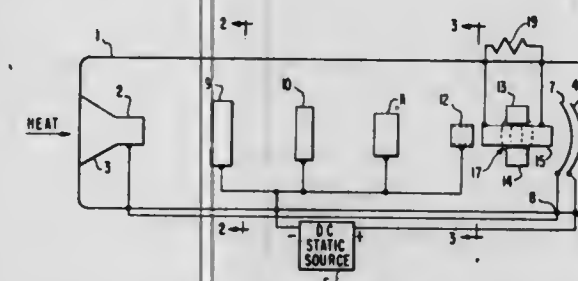
Edwin D. Davis, 1723 Crescent Ridge Road, Daytona Beach, Fla. 32018

Filed Feb. 20, 1967, Ser. No. 617,336

Int. Cl. H02n 3/00, 7/00

U.S. Cl. 310—4

8 Claims



A thermionic converter utilizes the Hall effect for current collection. A plurality of electrostatic electrodes shape the electron beam prior to collection, and either permanent magnet or electromagnetic means may be used to provide the transverse magnetic field for the Hall plates.

3,519,855

### ELECTROGASDYNAMIC SYSTEMS

Meredith Gourdin, Oakland, N.J., assignor to Gourdin Systems, Incorporated, Livingston, N.J., a corporation of Delaware

Filed Mar. 3, 1965, Ser. No. 436,892

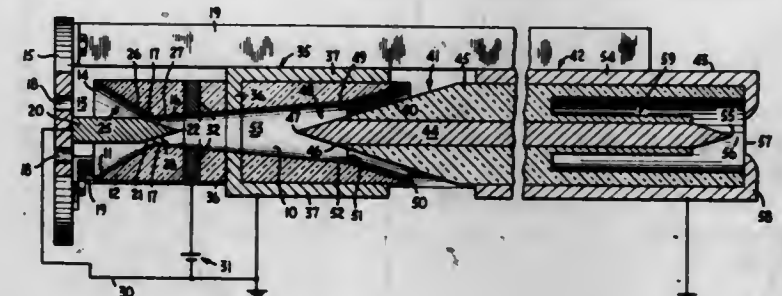
Int. Cl. H02n 3/00

U.S. Cl. 310—10

23 Claims

An electrogasdynamic apparatus operating on a gaseous stream containing a condensable constituent, in which the apparatus includes a dielectric convergent-divergent nozzle section defining a flow channel. A forwardly tapering plug

electrode is disposed in the flow channel at the throat of the dielectric nozzle to define thereby a rapidly diverging annular flow configuration adjacent the tapering portion of the plug. Generally surrounding the channel and flush with the divergent portion of the nozzle boundary is an attractor electrode. An ionizing potential source is connected between the plug and attractor electrodes to establish in the channel a transverse ionizing field which ionizes



3,519,856

### ELECTROMECHANICAL OSCILLATORS

Cecil Frank Clifford, % Newbridge Works, Bath, Somerset, England

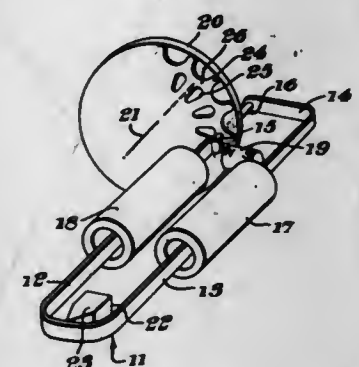
Filed Sept. 26, 1966, Ser. No. 582,036

Claims priority, application Great Britain, Oct. 15, 1965, 43,783; Apr. 18, 1966, 16,814

Int. Cl. H02r 7/06

U.S. Cl. 310—22

2 Claims



A tuning fork oscillator in which the fork and the magnetic field are so placed that at least a part of the magnetic flux passes through at least parts of the fork tines, signal and drive coils for connection to a drive circuit are inductively linked to one or both of the tines, and the tines are provided with magnetic projections which cooperate with a wavy magnetic track or tracks on an escape wheel to drive the escape wheel as the fork oscillates.

3,519,857

### STATOR ASSEMBLY FOR A DYNAMOELECTRIC MACHINE WITH MEANS FOR ADJUSTMENT AND REMOVAL

Donald E. Plumb, Williamsville, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 30, 1969, Ser. No. 837,493

Int. Cl. H02k 1/18

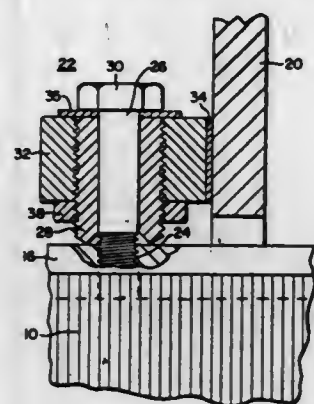
U.S. Cl. 310—42

5 Claims

Initial axial positioning and subsequent radial adjustment and stator removal are provided in a dynamoelectric machine by a fastener arrangement between core



bars and ribs or bulkheads within the frame. The fastener arrangement consists of a bolt engaged within at least one threaded hole in the core bar, a locking bushing located loosely around the bolt between the head at the bolt and the core bar and having external threads en-



gaging an eccentric nut. The nut has different distances from its threaded aperture to different ones of its edges with a particular edge joined to one of the frame ribs. A jam nut and other locking means may be provided to prevent loosening of fastener arrangement by vibration during use.

3,519,858

#### PORTABLE ELECTRICAL TOOL HAVING PERMANENT MAGNET FIELD

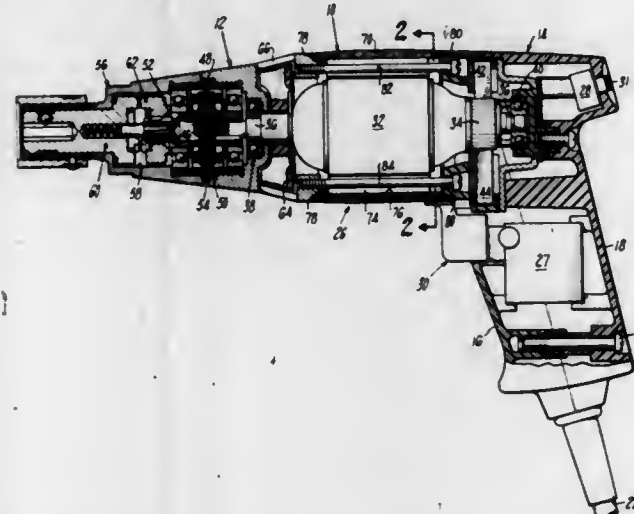
Peter H. Morganson, Winsted, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Mar. 13, 1967, Ser. No. 622,485

Int. Cl. H02k 7/14

U.S. Cl. 310-47

1 Claim



The portable electrical power tool of this invention is of a type having a permanent magnet field and comprises a continuous imperforate cylinder providing a magnetic flux shield and constituting an external motor housing, a nose portion and a rear housing portion releasably secured in clamping engagement with opposite axial ends of the cylinder.

3,519,859

#### HOLLOW ROTOR SYNCHRONOUS INDUCTOR-TYPE STEPPING MOTOR WITH COIL AND P-M EXCITATION

Anthony P. Morreale, Whittier, and Raymond R. Irani, Los Angeles, Calif., assignors to Computer Devices Corporation, Santa Fe Springs, Calif., a corporation of California

Filed Apr. 7, 1969, Ser. No. 814,148

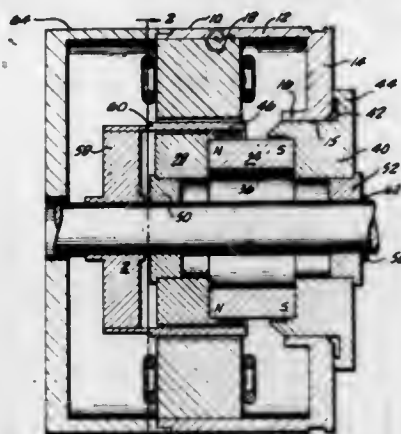
Int. Cl. H02k 1/06, 21/00, 37/00

U.S. Cl. 310-49

6 Claims

A reversible synchronous inductor-type stepping motor having a low inertia hollow rotor in the form of a thin

magnetic toothed sleeve supported for rotation by a low-mass nonmagnetic hub. The salient pole stator is provided with two coils per pole, and further excitation is



provided by an axially magnetized fixed cylindrical permanent magnet with pole members having a lesser diameter than the hollow rotor.

3,519,860

#### ARRANGEMENT FOR ANCHORING THE LEADS IN DYNAMOELECTRIC MACHINE

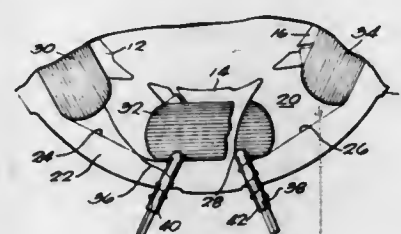
Thomas W. Stone, Owosso, Mich., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware

Filed Apr. 22, 1968, Ser. No. 723,152

Int. Cl. H02k 11/00

U.S. Cl. 310-71

4 Claims



Coil leads are positioned in the corners of the coil slots formed at the juncture of the inner coil slot walls and the poles. The coils are wound in place on the poles over the lead wires secured anchoring the lead wires in the corners. The coil ends are connected to the lead wires.

3,519,861

#### CLEANING AND COOLING SYSTEM FOR CANNED MOTORS

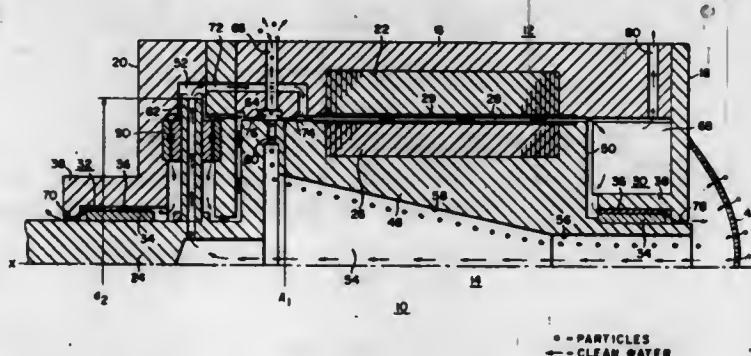
Donald C. Guthan, Albany, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 17, 1969, Ser. No. 807,660

Int. Cl. H02k 5/12, 5/20, 9/26

U.S. Cl. 310-87

10 Claims



A canned motor which may be used for pumping, or for propulsion of an underwater vessel operating sub-

merged. Silt-laden water enters a hollow rotor shaft as a result of pumping action induced by impellers driven by the shaft. Centrifugal force causes the particle matter in the water, having a specific gravity greater than 1.0, to move to the outer periphery of the shaft bore while the clean water is confined to the center. The silt is discharged to the ambient water by a "low" head impeller and the clean water is circulated by a "high" head impeller through the shaft bearings and the gap between the rotor and the stator to lubricate the bearings and cool the motor.

and core and supporting the electrical leads interconnecting the commutator segments and armature coils. The armature coils are wound with a flier that periodically loops the winding about end hooks of successive commutator segments to form taut commutator leads partially embedded in the felt washer along substantially their entire length, and varnish is applied to harden the deformed washer in conical configuration caused by the partially embedded commutator leads and to adhere the partially embedded commutator leads to the washer.

3,519,862

#### INSULATING WEDGE FOR CORE SLOTS IN DYNAMOELECTRIC MACHINES AND THE LIKE AND MACHINE FOR MAKING THE SAME

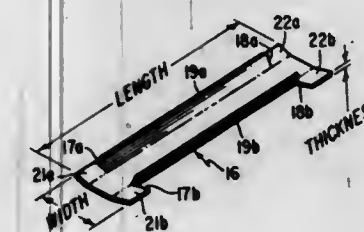
Robert G. Walker, Fort Wayne, Ind., assignor to Industra Products, Inc., Fort Wayne, Ind., a corporation of Indiana

Filed Oct. 25, 1968, Ser. No. 770,643

Int. Cl. B26d 1/46; H02k 3/34, 3/48

U.S. Cl. 310-214

8 Claims



An insulating wedge for a slot in a magnetic core for dynamoelectric machines and the like is provided with two opposed slits at each end to form four retaining tabs that extend outward and prevent the wedge from falling or being pushed out of the core slot when turns of wire are pushed into the core slot. The machine for slitting the wedge has two parallel, spaced, fixed cutting edges and a movable cutter with two parallel, spaced surfaces that fit between the fixed cutting edges. The cutter has an opening between its two spaced surfaces to form four cutting edges which cooperate with the two fixed cutting edges to provide the four slits in one operation of the cutter.

3,519,863

#### COMMUTATOR LEAD MOUNTING

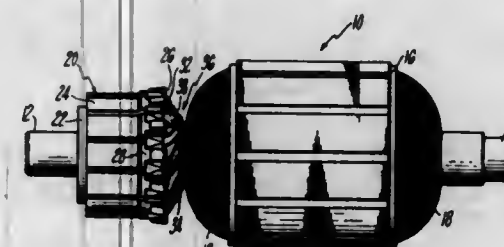
Edward Curtis Ambler, Newington, and William J. Conlon, New Britain, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Jan. 2, 1969, Ser. No. 788,383

Int. Cl. H02k

U.S. Cl. 310-234

9 Claims



An armature having a conventional laminated core and commutator and a felt washer deformable during winding mounted on the armature shaft between the commutator

3,519,864

#### HIGH PRESSURE ELECTRIC DISCHARGE DEVICE WITH BARIUM PEROXIDE GETTER AND GETTER MOUNTING STRUCTURE

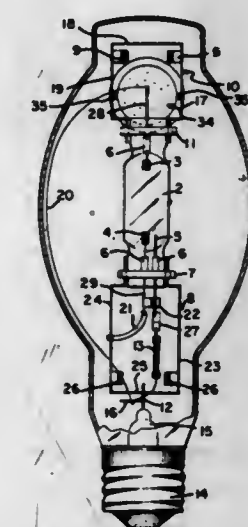
Warren C. Gungie, Danvers, and John F. Waymouth, Marblehead, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 29, 1966, Ser. No. 605,668

Int. Cl. H01j 7/18, 61/24

U.S. Cl. 313-25

5 Claims



Barium peroxide is disposed within a high pressure electric discharge device to getter hydrogen which is entrapped therein. To hold the barium peroxide, the material is placed between a pair of foraminous plates which are opaque to ultraviolet light. The getter is disposed in the device at a location where it will be subjected to ambient temperatures between about 150 and 427° C.

3,519,865

#### LOW PRESSURE ALKALI METAL DISCHARGE LAMPS WITH PROTECTED LEAD WIRES

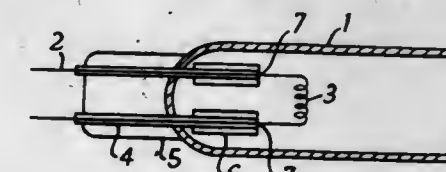
Robert F. Weston, London, England, assignor to British Lighting Industries Limited, London, England

Filed Sept. 19, 1967, Ser. No. 668,764

Int. Cl. H01k 1/18, 1/22

U.S. Cl. 313-43

2 Claims



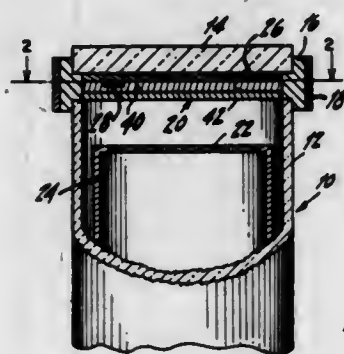
An alkali vapor lamps in which the lead wires are protected by insulating sleeves and a shield for said



sleeves, the shield being of insulating material or of metal electrically connected to one of the lead wires, the shield being preferably cup-shaped with the open end of the cup facing backwardly from the discharge.

**3,519,866**  
**PHOTOCONDUCTIVE PICKUP TUBE HAVING OPAQUE GOLD PATTERN ENCAPSULATED IN TIN OXIDE LAYER**

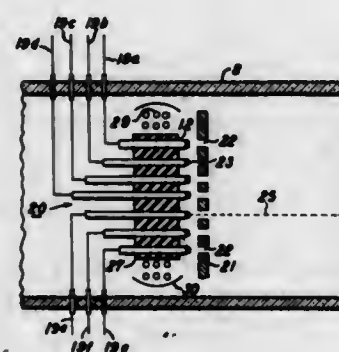
Joel R. Leaman, Elizabethtown, Pa., assignor to RCA Corporation, a corporation of Delaware  
Filed Sept. 26, 1967, Ser. No. 670,672  
Int. Cl. H01j 31/26, 39/00  
U.S. Cl. 313—65 2 Claims



A photoconductive target with one or more reference areas opaque to light, for service as dark current reference means and reticles. The reference areas are defined by layers of gold having an opaque thickness interposed between two layers of a tin oxide signal electrode.

**3,519,867**  
**ELECTRIC DISCHARGE TUBE FOR DISPLAYING ALPHANUMERIC CHARACTER SYMBOLS**

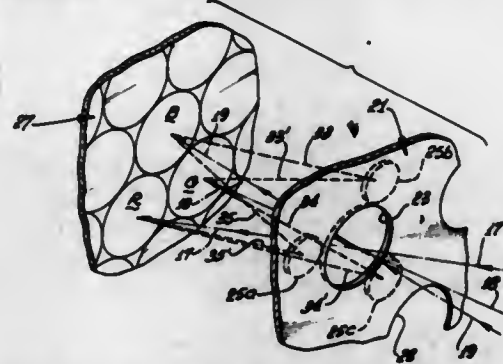
Arthur Tisso Starr, New Barnet, England, assignor to Rank Precision Industries Limited, London, England, a corporation of Great Britain  
Application Aug. 22, 1967, Ser. No. 662,195, which is a continuation of application Ser. No. 428,166, Jan. 26, 1965. Divided and this application May 3, 1968, Ser. No. 730,976  
Claims priority, application Great Britain, Jan. 27, 1964, 3,398/64  
Int. Cl. H01j 29/50, 31/16  
U.S. Cl. 313—70 7 Claims



An electric discharge tube for the displaying of alphanumeric character symbols. A control circuit is utilized in conjunction with said electric discharge tube for controlling in a predetermined pattern a plurality of electron beams therein.

**3,519,868**  
**COLOR TELEVISION TUBE SHADOW MASK PROVIDED WITH CONCAVE MIRRORS SURROUNDING EACH APERTURE AND FACING THE PHOSPHOR SCREEN**

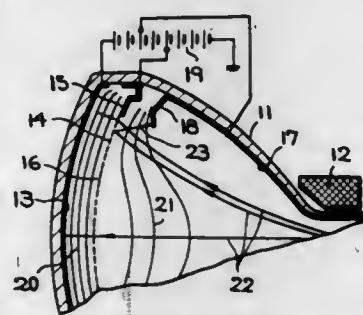
Peter Schwarz, 1501 Rexford Drive, Los Angeles, Calif. 90035  
Filed July 17, 1967, Ser. No. 658,302  
Int. Cl. H01j 29/18, 29/46  
U.S. Cl. 313—85 3 Claims



The screen of this color television picture tube is not aluminized, but concave mirrors are positioned around each hole of the shadow-mask, which reflect light so that each dot of a group contains all three colors of that group.

**3,519,869**  
**SHADOW MASK HAVING APERTURES PROGRESSIVELY TAPERED FROM CENTER TO PERIPHERY**

Hideo Kuniyoshi, Tokyo, Japan, assignor to Victor Company of Japan Limited, Yokohama, Japan  
Filed Apr. 10, 1968, Ser. No. 720,059  
Claims priority, application Japan, Apr. 11, 1967, 42/22,918, 42/22,919  
Int. Cl. H01j 29/80, 1/52, 29/41  
U.S. Cl. 313—85 2 Claims



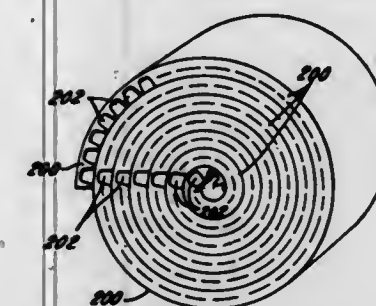
A color television picture tube of the post-acceleration shadow-mask type comprises a phosphor dot screen mounted on the front surface of the tube. A shadow-mask, formed with a plurality of apertures, is positioned between the phosphor screen and an associated electron gun. A frame-like electrode is mounted on the inner circumferential surface of a funnel-like portion of the glass picture tube. A power source supplies different voltages to the phosphor dot screen, the shadow-mask and the frame-like electrode. The cross-sectional shape of apertures formed in the shadow-mask is varied progressively in going from the center of the shadow-mask toward its periphery so that the electron beams may not impinge on the inner walls of the apertures of the shadow-mask.

**3,519,870**  
**SPIRALED STRIP MATERIAL HAVING PARALLEL GROOVES FORMING PLURALITY OF ELECTRON MULTIPLIER CHANNELS**

Andrew O. Jensen, Arcadia, Calif., assignor, by mesne assignments, to Xerox Corporation, a corporation of New York  
Filed May 18, 1967, Ser. No. 639,555  
Int. Cl. H01j 43/20, 43/24  
U.S. Cl. 313—105 2 Claims  
This invention relates to an electron multiplier. Generally, the electron multiplier of the present invention is

constructed from a plate of insulating material. The plate of insulating material contains a plurality of parallel grooves on at least one surface of the insulating plate. A layer of secondary emission material covers the walls

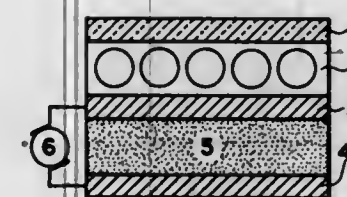
and extending from the inwardly extending portion of the heavy coiled tungsten member. This heating element facilitates initiating the discharge and its position insures



of the grooves so that the plurality of grooves provides for a plurality of electron channels. A plurality of grooved plates of insulating material or a single spiraled plate may be used to provide for a two-dimensional electron multiplier.

**3,519,871**  
**ELECTROLUMINESCENT CELL OF NOVEL STRUCTURE**

Hikokuro Kamie, Tokyo-to, Japan, assignor to Mitsubishi Plastics Industries, Limited, Chiyoda-ku, Tokyo, Japan, a company of Japan  
Filed Oct. 27, 1966, Ser. No. 590,048  
Claims priority, application Japan, Feb. 5, 1966, 41/6,391  
Int. Cl. H05b 33/12  
U.S. Cl. 313—108 11 Claims



An electroluminescent element which consists essentially of a phosphor layer and a pair of electrodes. The electrodes are both attached on only one side of the phosphor layer, the other side of the phosphor layer having no electrodes thereon. The electrodes can be in the same plane, in which case they are less in area than the area of the phosphor layer, or can be superposed and separated by a layer of dielectric material, in which case it is preferred that the electrodes have the same cross sectional area as the area of the phosphor layer. An additional dielectric layer can be provided between the electrodes and the phosphor layer, and an additional dielectric layer can be provided on the opposite side of the electrodes from the phosphor layer.

**3,519,872**  
**THERMIONIC ELECTRODE WITH AN AUXILIARY STARTING COIL FOR A DISCHARGE LAMP**

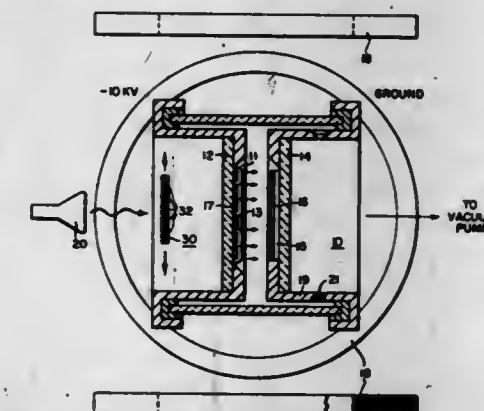
Patrick C. Ward, New York, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed May 17, 1967, Ser. No. 639,154  
Int. Cl. H01j 61/06, 61/18, 61/54  
U.S. Cl. 313—211 5 Claims  
An improved electrode for a mercury-metal halide type arc-discharge device. The electrode comprises a very heavy coiled tungsten member as the primary discharge sustaining surface, and a coiled heating element in series with



quick and reliable transfer of the discharge to the extending operating portion of the electrode once the device is started.

**3,519,873**  
**MULTIPLE BEAM ELECTRON SOURCE FOR PATTERN GENERATION**

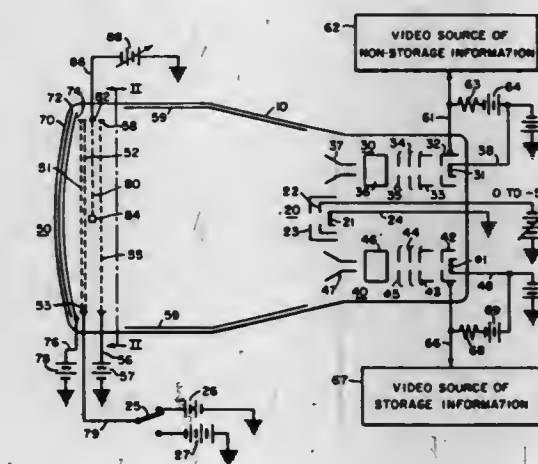
Terence W. O'Keeffe, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Dec. 18, 1968, Ser. No. 784,551  
Int. Cl. H01j 29/50, 31/49  
U.S. Cl. 315—10 14 Claims



The invention is a multiple electron beam source consisting of an array of electron sources which, under the influence of scan coils, functions to simultaneously expose identical patterns on a target workpiece.

**3,519,874**  
**DIVIDED SCREEN DISPLAY TUBE FOR STORE/ NON-STORE INFORMATION PRESENTATION**

Irvin I. Pearson, Horsehead, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Mar. 7, 1969, Ser. No. 805,235  
Int. Cl. H01j 29/41  
U.S. Cl. 315—12 9 Claims



The invention is a direct view storage tube incorporating a grid element establishing independent display areas for stored and non-stored information.



### 3,519,875 CIRCUIT ARRANGEMENT FOR STATIC AUXILIARY DEFLECTION OF AT LEAST ONE ELECTRON BEAM

Hans-Jürgen Brockmann, Lehmweg 37,  
Hamburg 20, Germany

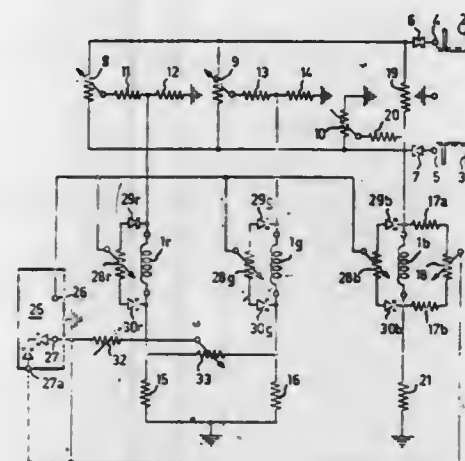
Filed Oct. 16, 1968, Ser. No. 767,998

Claims priority, application Germany, Nov. 22, 1967,  
P 43,452

Int. Cl. H01j 29/50

U.S. Cl. 315—13

6 Claims



An electron beam static convergence system for a color television receiver in which the DC supply for each convergence coil is derived via a rectifier from a voltage source providing a line frequency pulse voltage which is constant during the line sweep period, the rectifier being polarized to be cut off during the line flyback period. A resistance network is connected to each coil and includes means for adjusting the current therein. The pulse voltage source is arranged to have an internal resistance which is small relative to that of the resistance network. The ratio of coil inductance  $L$  to the resistance  $R$  of the network is chosen to provide an  $L/R$  time constant that is long relative to the line flyback period.

### 3,519,876 ALPHANUMERIC CHARACTER DISPLAY

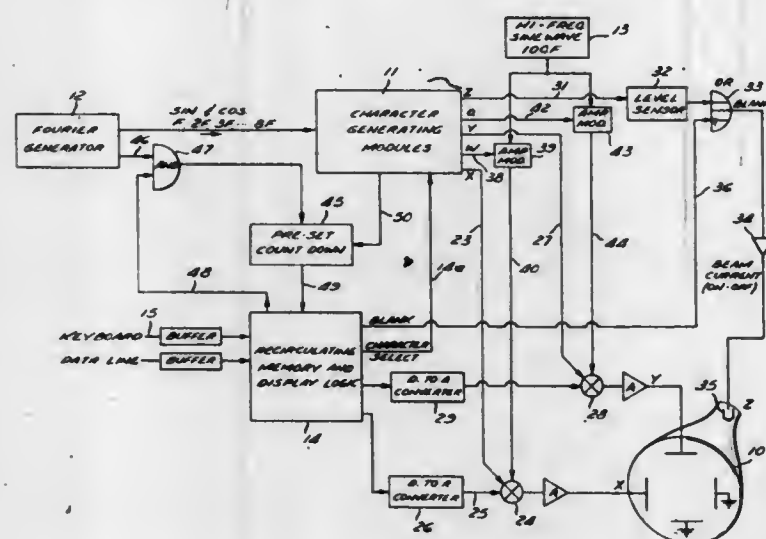
James E. Murray, University Heights, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed July 26, 1968, Ser. No. 747,934

Int. Cl. H01v 29/70

U.S. Cl. 315—18

15 Claims



System and method for displaying alphanumeric characters on the face of a cathode ray tube. The horizontal and vertical deflection voltages for the cathode ray beam are developed from a Fourier series generator acting

through resistance matrices to provide the coefficients of the terms in the Fourier series expressions for the different characters. The beam current is turned on and off by the Fourier series generator in synchronism with the instantaneous beam position. The beam deflection velocity is reduced near discontinuities in the beam trace to eliminate high frequency harmonics in the Fourier series expressions for the horizontal and vertical deflection voltages. A high frequency wobble is superimposed on the deflection voltages to impart a variable thickness to the beam trace laterally of the general direction of its deflection across the face of the tube, so that the character traces will be of typographic quality.

### 3,519,877 PINCUSHION EFFECT CORRECTING ARRANGEMENT

Louis Bathias, Vincennes, France, assignor to Societe Orega Electronique & Mecanique, a corporation of France

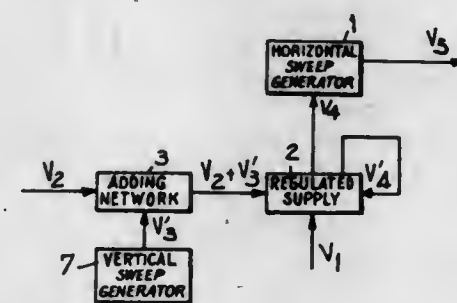
Filed June 10, 1968, Ser. No. 735,825

Claims priority, application France, June 12, 1967,  
110,020

Int. Cl. H01j 29/70

U.S. Cl. 315—24

4 Claims



A pincushion correcting system wherein a signal having the field frequency is included into the supply circuit of the horizontal deflection system.

### 3,519,878 LIGHTNING ARRESTER WITH SPARK GAPS WITHIN VOLTAGE SENSITIVE RESISTOR BLOCKS

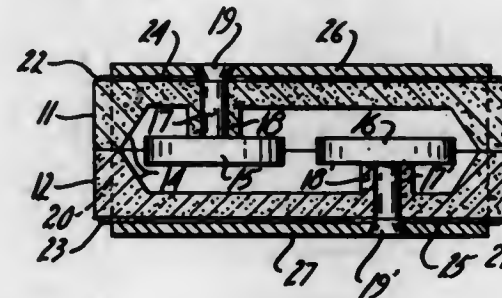
Darrel D. McStrack, New Berlin, and Lawrence M. Burrage, South Milwaukee, Wis., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed July 9, 1968, Ser. No. 743,365

Int. Cl. H01j 7/44, 17/34; H02h 1/04

U.S. Cl. 315—36

14 Claims



This disclosure relates to a lightning arrester having spark gap devices mounted in stacked series-connected relationship between voltage sensitive resistor blocks.

Each spark gap device includes a pair of shallow, round, cup-shaped shells secured in face-to-face relation to define a spark gap housing. The housing is formed of a semiconductor material, such as a ceramic bonded silicon carbide, boron carbide and the like. The housing constitutes an integral grading resistor member electrically connected in parallel with the spark gap.

Similar disc-shaped plate electrodes are each provided with a central terminal rod. A pair of the electrodes are located in side-by-side relation within the spark gap housing with the terminal rods projecting outwardly through hubs formed in the opposite base walls of the shells. The outer ends of the terminal rods are flared and firmly clamp the electrode to the corresponding shell and in firm electrical connection thereto. A ring of conducting paint is applied to the exterior base of each shell and connected by an integral strip projecting inwardly beneath the flared portions. The rings adjust the total current flow and equalize the current density throughout the shells.

### 3,519,879 FLASH APPARATUS WITH AUTOMATIC LIGHT TERMINATION HAVING GATING AND ANTICIPATION MEANS

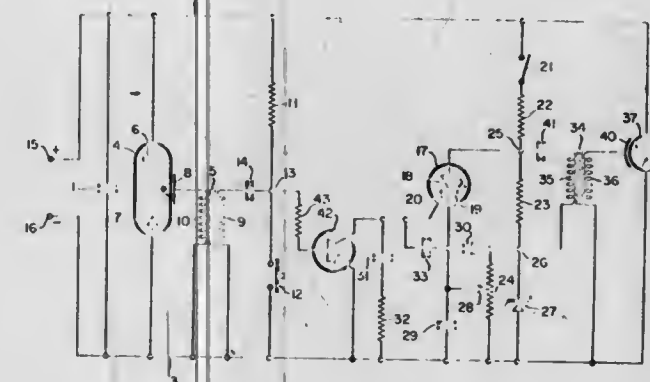
Francis T. Ogawa, Denver, Colo., assignor to Honeywell, Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 25, 1968, Ser. No. 747,714

Int. Cl. G01j 1/32; H05b 37/02, 41/38

U.S. Cl. 315—151

14 Claims



A circuit, including a light activated silicon controlled rectifier having a capacitor and a resistor in series between its gate and cathode electrodes, is normally disabled by a semiconductor gating switch controlled by a voltage in the firing means for the flash tube of the apparatus. Firing of the flash tube actuates the switch and enables the circuit, which then produces across the resistor-capacitor combination a voltage proportional to both the intensity and the total quantity of light received by the rectifier. When this voltage rises to a predetermined value, it turns on the rectifier. This produces a trigger pulse which fires a quench tube to quench the flash tube, after which the switch again disables the circuit.

### 3,519,880 ELECTROLUMINESCENT IMAGE DISPLAY SYSTEM HAVING IMPROVED HORIZONTAL SCANNING

Masami Yoshiyama, Neyagawa-shi, Teruo Sato, Kadomashi, and Hikoshi Takeda, Kitakawachi-gun, Japan, assignors to Matsushita Electric Industrial Co. Ltd., Osaka, Japan

Filed Nov. 29, 1967, Ser. No. 686,594

Claims priority, application Japan, Dec. 29, 1966,  
42/1,185; Dec. 30, 1966, 42/116

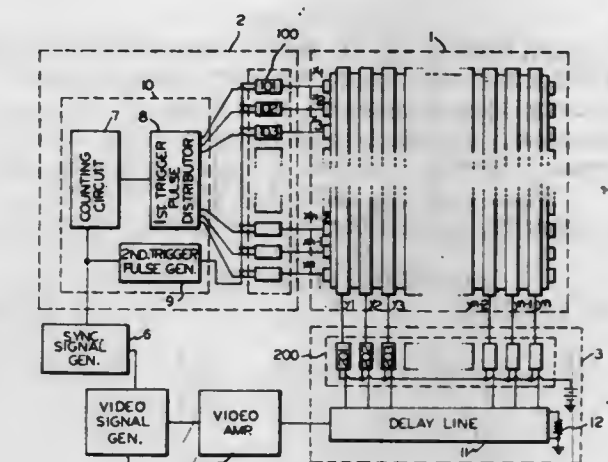
Int. Cl. H05b 37/00, 39/00

U.S. Cl. 315—169

9 Claims

An electroluminescent image display system adapted to reproduce a moving half-tone picture, such as a television image, including an electroluminescent, crossed-grid display panel, a horizontal electrode driving circuit, to provide a selecting pulse and blanking pulses during each horizontal period, a vertical electrode driving circuit comprising a delay line and brightness control gates, and video signal supply means.

Said brightness control gates are opened simultaneously by the gating action of said selecting pulse for each horizontal synchronizing signal of the video signal, and transmit the video signal, which is distributed on said delay line, to the associated vertical electrodes.



Consequently, the cells along the selected horizontal electrode are simultaneously luminous in response to the video signal, while at the same time luminosity is reduced in the remaining cells by the blanking pulses.

### 3,519,881 STARTING AND OPERATING CIRCUIT FOR ANY OF A PLURALITY OF DIFFERENT DISCHARGE LAMPS

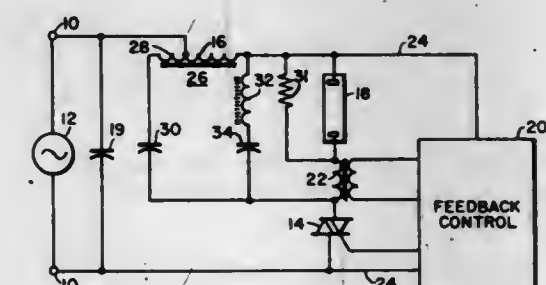
Joseph C. Engel, Pittsburgh, and Robert T. Elms, Monroeville, Pa., and George A. Kappenhagen, Northfield Center, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 17, 1969, Ser. No. 807,710

Int. Cl. H05b 37/00, 39/00

U.S. Cl. 315—236

10 Claims



Apparatus for starting and operating any of a plurality of gaseous discharge lamps which have starting requirements varying from a high voltage pulse to an intermediate voltage, high energy pulse. The apparatus utilizes an AC switching means and ballasting inductor which are in series with the lamp to be operated. A control means is responsive to a lamp operating condition in order to actuate the AC switching means to limit the period of time during half cycles of AC energizing potential that the lamp is operatively connected to the energizing source. In the operation of the apparatus, when the energizing potential is initially applied to the apparatus, a transformer generates a high voltage pulse to initiate operation of those lamps which require such a starting pulse. A saturable electrical magnetic element, which forms a part of the apparatus, becomes saturated in a time period of from about 2 microseconds to about 100 microseconds after the energizing potential is initially applied to the apparatus. After



the saturable electrical magnetic element becomes saturated, the lamp ballasting inductor and a capacitor form a series resonant circuit in order to apply across the lamp an intermediate voltage, high energy pulse, to initiate operation of those lamps which require such intermediate voltages for starting.

3,519,882

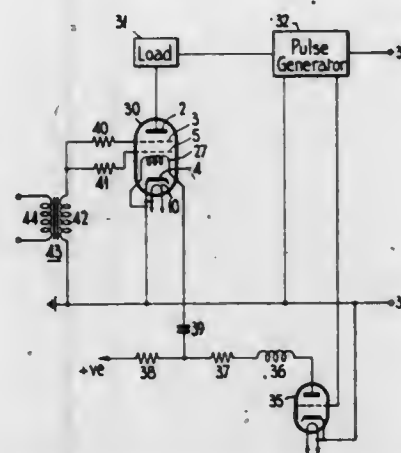
### GAS DISCHARGE TUBE WITH MAGNETIC MEANS FOR EXTINGUISHING THE DISCHARGE

John Gower, Rickmansworth, and Kenneth George Cook, Northwood, England, assignors to The M-O Valve Company Limited, London, England, a British company  
Filed Oct. 25, 1968, Ser. No. 770,520  
Claims priority, application Great Britain, Nov. 3, 1967, 50,182/67

Int. Cl. H01j 17/14, 17/56

U.S. Cl. 315—340

11 Claims



A gas-filled device having an anode, a cathode and a baffle structure, and means for producing a magnetic field. In the absence of the magnetic field a discharge may pass between the cathode and anode, but when the field is applied electrons emitted from the cathode are constrained by the magnetic field to follow paths obstructed by the baffle structure.

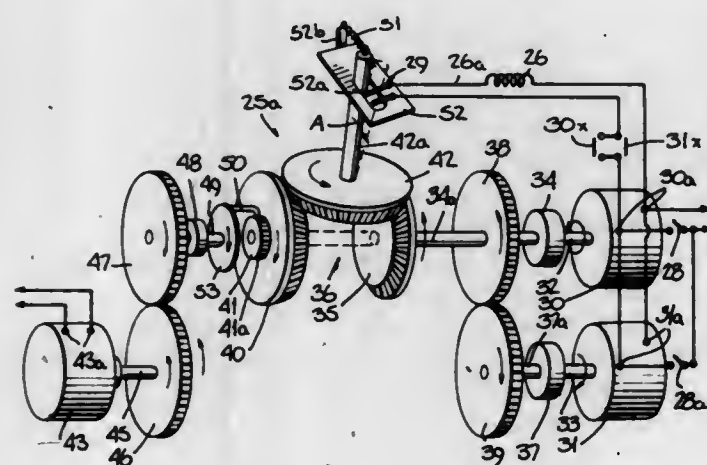
3,519,883

### FREQUENCY-RESPONSIVE CONTROL APPARATUS IN ELECTRIC POWER SUPPLY SYSTEMS

Charles V. Morey, Lynbrook, N.Y., assignor to Consolidated Edison Company of New York, Inc., New York, N.Y., a corporation of New York  
Filed Nov. 20, 1967, Ser. No. 684,419  
Int. Cl. H02h 7/22, 7/28; H02p 5/48

U.S. Cl. 317—26

24 Claims



Method and mechanical apparatus for operating a protective relay in a power system. Synchronous motor continuously drives mechanical mechanism at speed proportional to system frequency; mechanism continuously compares speed of synchronous motor with that of constant

speed motor representative of under-frequency limit, constant speed motor being driven independently of system frequency; drop in speed of synchronous motor, due to drop in system frequency, permits constant speed motor to control said mechanism to produce differential movement for closing switch to energize operating coil circuit. See specification for alternative embodiments of said mechanism and control apparatus arrangements, and "fail-safe" features incorporated in arrangements.

3,519,884

### ELECTRICAL PROTECTIVE RELAYS

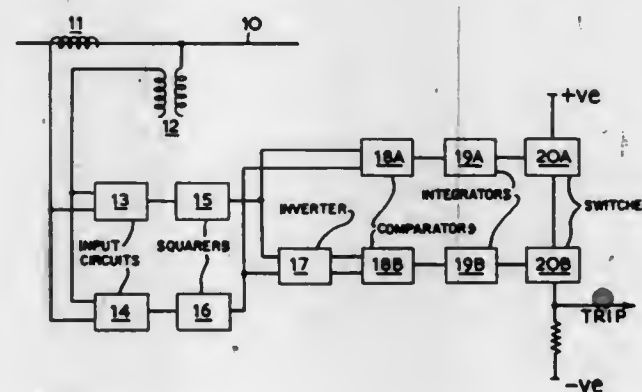
Eric Paddison and John McGill Gillies, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company  
Filed Aug. 30, 1967, Ser. No. 664,389

Claims priority, application Great Britain, Aug. 31, 1966, 38,791/66

Int. Cl. H02h 3/42

U.S. Cl. 317—27

4 Claims



This invention relates to a protective relay for comparing the phase sequence of two input signals derived from the protected system and adapted to produce a coincidence signal therefrom during any period in which these signals are in a predetermined phase sequence and their excursions are in the same sense and coincident in time, the signal quantities being so chosen that they are in phase at the "boundary" of operation of the relay. An integrator intergates the coincidence signal and is adapted to develop an output for effecting a protective function only if its duration exceeds a predetermined value whereby to determine the shape of the operating characteristic of the relay and render the relay non-responsive to spurious signals of short duration.

An additional comparator may also be connected to receive these two input signals and their outputs may be connected in series so that they must both operate before a relay operating signal is produced. This mode of connection ensures that the relay does not over-reach its zone of protection in response to D.C. offset errors or superimposed transient oscillations. Alternatively, the outputs from the separate comparators may be connected in parallel whereby to obtain faster operating times under such conditions at the expense of a certain amount of over-reach.

3,519,885

### TRANSIENT RADIATION HARDENING METHOD AND APPARATUS FOR ELECTRONICS CIRCUITRY

George A. Gilmour, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed June 20, 1966, Ser. No. 558,860

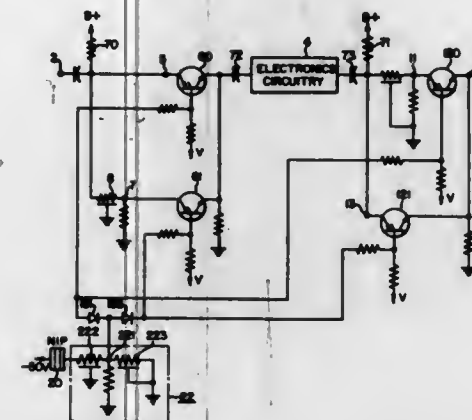
Int. Cl. H02h 7/00

U.S. Cl. 317—33

10 Claims

Apparatus and method for transient radiation hardening of electronics circuitry wherein a time delay is pro-

vided in the input means and output means of the circuitry to be protected. The delay at the output of the electronics circuitry is removed and the delay at the in-



put of the electronics circuitry is inserted a predetermined time after the occurrence of a nuclear detonation of sufficient intensity to affect the electronics circuitry.

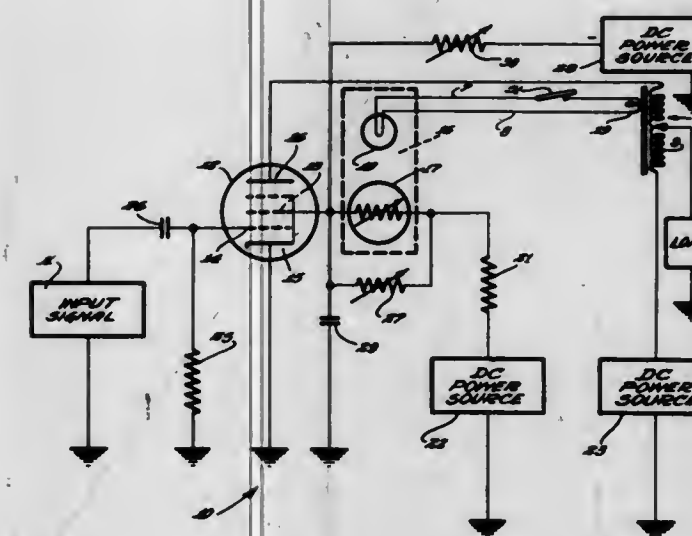
3,519,886

### PROTECTION CIRCUIT FOR OUTPUT POWER DEVICES

August Spencer III, and Gordon T. Bennett, Athens, Tex., assignors to Curtis Mathes Manufacturing Company, Dallas, Tex., a corporation of Texas  
Filed Nov. 17, 1967, Ser. No. 683,922

U.S. Cl. 317—51

3 Claims



A control device for protecting an electronic power device when the input signal is removed so that the electronic device is not destroyed. A photoconductive device controlled by the output of the electronic device is connected in circuit with the electronic device to protect it.

3,519,887

### HIGH VOLTAGE MOUNTING ASSEMBLY

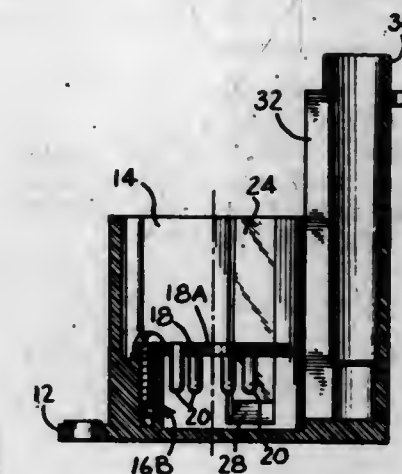
Louis W. Schreiner, Palatine, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware  
Filed Sept. 15, 1967, Ser. No. 668,030

U.S. Cl. 317—99

1 Claim

A unitary, insulated high voltage mounting assembly for a television receiver has a pair of communicating chambers for receiving and supporting a high voltage rectifier

and a focus voltage dropping resistor. A channel is provided in the rectifier chamber for leads connecting the



high voltage rectifier to external circuitry and for insulating the leads from the rectifier.

3,519,888

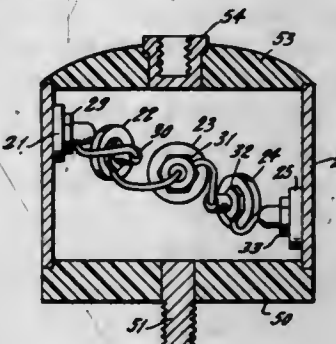
### HIGH VOLTAGE STACK HAVING METALLIC ENCLOSURE

Frank W. Parrish, El Segundo, Calif., assignor to International Rectifier Corporation, Los Angeles, Calif., a corporation of California  
Filed Aug. 12, 1968, Ser. No. 751,817

Int. Cl. H01l 1/12

U.S. Cl. 317—100

6 Claims



A high voltage stack is contained within a hollow metallic enclosure having a polygonal cross-sectional shape. A plurality of semiconductor devices are connected to the interior walls of the metallic enclosure with beryllia ceramic disc interposed between the metallic surface of the enclosure and one surface of each of the semiconductor devices. The semiconductor devices are then connected in series with one another and are arranged in a helical path. The first and last of the semiconductor devices have their terminals connected to first and second end caps which enclose the top and bottom, respectively, of the polygonal housing, and the entire housing is filled with a suitable dielectric potting compound.

3,519,889

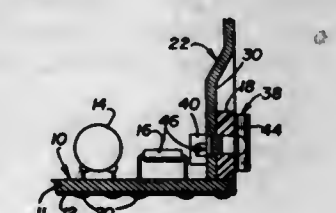
### ASSEMBLY WITH TRANSISTOR HEAT DISSIPATION

Anthony T. Monaco, Skokie, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois  
Filed Nov. 6, 1967, Ser. No. 680,921

Int. Cl. H01l 1/12

U.S. Cl. 317—100

2 Claims



The assembly includes a panel upon which are mounted a transistor and other electrical components electrically



interconnected. A clip mounts the transistor to a body composed of thermally conductive material to carry heat generated in the transistor to the body.

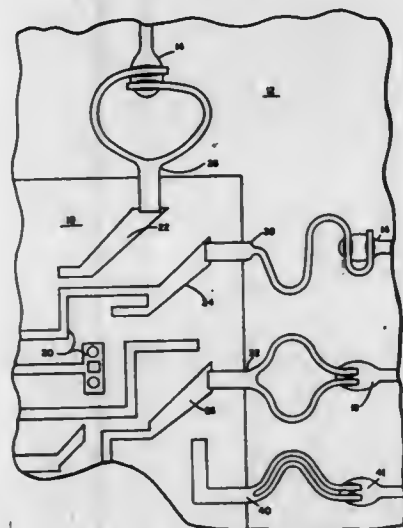
3,519,890

**LOW STRESS LEAD**

Robert M. Ashby, Pasadena, Calif., assignor to North American Rockwell Corporation  
Filed Apr. 1, 1968, Ser. No. 717,541  
Int. Cl. H05k 3/30

U.S. Cl. 317—101

4 Claims



A microelectronic circuit, interconnecting lead, integrally formed upon a circuit containing die with a protruding portion extending beyond the edge of said die, and imposing a minimum of stress upon said die during bonding operations and thereafter. The geometric shape of said protruding portion being fashioned in a predetermined meandering line. The protruding portion is adapted to form single or multiple bonds with a circuit lead or a substrate bonding pad.

3,519,891

**THIN FILM RESISTOR AND METHOD FOR MAKING SAME**

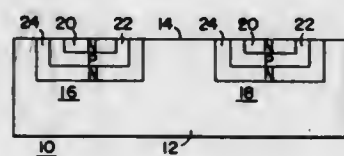
Charles Z. Leinkram, Bowie, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 16, 1968, Ser. No. 721,734

Int. Cl. H01l 19/00

U.S. Cl. 317—101

4 Claims



A semiconductor device having on its surface a conductive glass layer consisting essentially of the reaction product of silicon dioxide, lead oxide, and chromium, which layer is suitable for use as a thin film resistor.

3,519,892

**SUPERCONDUCTING GENERATOR**

Hans Voigt, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Sept. 26, 1968, Ser. No. 762,947

Claims priority, application Germany, Sept. 29, 1967, S 112,123

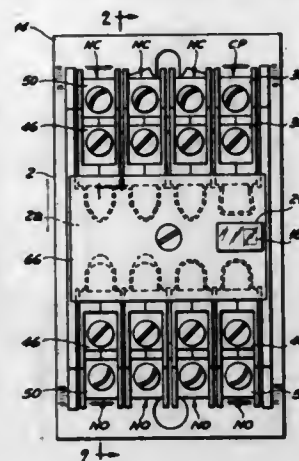
Int. Cl. H01h 47/60

U.S. Cl. 317—123

4 Claims

A superconducting generator has a sheet-like superconductor across which an electrically normal-conducting

spot is moved. The spot is traversed by a magnetic flux which is adjusted to reduce the magnitude of the current



flowing in the region of the superconductor lying ahead of the spot in its path of motion.

3,519,893

**CIRCUIT FOR ENERGIZING ELECTROMAGNETIC OPERATED HAMMERS IN A HIGH SPEED IMPACT PRINTER**

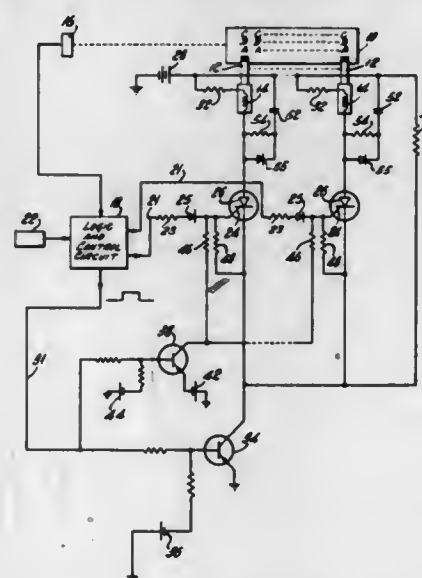
Harold S. Schwartz, White Plains, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York

Filed Sept. 29, 1967, Ser. No. 671,752

Int. Cl. H01h 47/32

U.S. Cl. 317—148.5

4 Claims



An impact printer has solenoid operated print hammers which are fired by a pulse on the control electrode of a silicon controlled rectifier in series with the solenoid operating coils. A transistor switch in series with the cathodes of two or more SCR's is provided to turn them off, and a resistor coupling the cathodes to the power supply is provided to reverse bias the SCR's and to insure turn off. A capacitor coupled to the SCR anode holds it at a low potential following turn off, preventing noise and allowing a sufficient interval for reverse biasing the SCR.

3,519,894

**LOW TEMPERATURE VOLTAGE LIMITER**

Robert N. Hall, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 30, 1967, Ser. No. 627,176

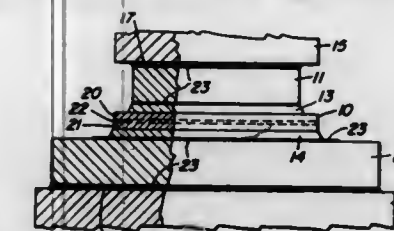
Int. Cl. H01l 9/00

U.S. Cl. 317—234

20 Claims

A diode for use as a voltage limiter in superconductive circuitry operated at liquid helium temperatures is comprised of a thin germanium wafer with opposed surfaces heavily doped with impurities of one conductivity

type and an intermediate region lightly doped with the same conductivity type impurities. When the wafer is subjected to an electric field of predetermined amplitude,



impact ionization of the impurities in the lightly doped region by the free charge carriers occurs, abruptly and diastically lowering the resistivity of the diode.

3,519,895

**COMBINATION OF SOLDERLESS TERMINAL ASSEMBLY AND SEMICONDUCTOR**

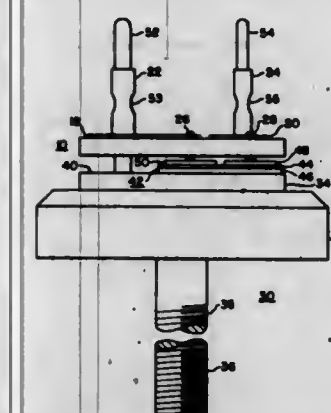
Joseph Marino, Irwin, and William R. Schaefer, Greensburg, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 6, 1968, Ser. No. 703,412

Int. Cl. H01l 1/12, 1/14

U.S. Cl. 317—234

5 Claims



A solderless electrical connector assembly comprises a support member comprising an electrically insulating material. A layer of electrically conductive material is disposed on the top surface of the support member in each of two locations and both are electrically insulated from each other. A separate tubular electrically conductive member is connected to each layer and extends upwardly through the support member to which it is attached, through the electrically conductive layer and terminates at a point above the layer. Electrically conductive protruberances provide electrical connections between the assembly and the element it is mounted on.

3,519,896

**POWER TRANSISTOR ASSEMBLY**

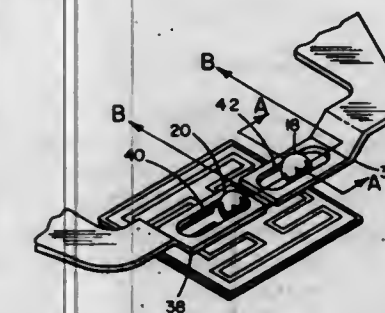
Dale T. Kelley, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Mar. 11, 1969, Ser. No. 806,255

Int. Cl. H01l 1/14

U.S. Cl. 317—234

6 Claims



A semiconductor package assembly wherein a conductive lead clip is mounted on a header and makes electrical contact with metallic spheres or balls on the surface of a

semiconductor die supported by the header. The lead clip has one or more elongated openings therein for engaging, respectively, one or more metallic spheres on the semiconductor die. Feed-throughs which support the lead clip provide external electrical connection to the die which is enclosed within the completed package assembly.

3,519,897

**SEMICONDUCTOR SURFACE INVERSION PROTECTION**

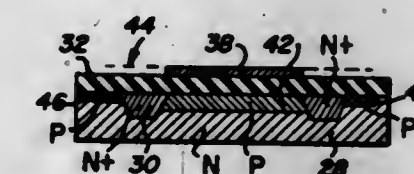
Jared F. Ferrell, Los Gatos, Calif., assignor to National Semiconductor Corporation, Santa Clara, Calif., a corporation of Delaware

Filed Oct. 31, 1968, Ser. No. 772,191

Int. Cl. H01l 5/02

U.S. Cl. 317—234

4 Claims



A novel metal-insulator-semiconductor capacitor device and method of manufacture wherein means are provided for narrowly defining the boundaries of the inversion region lying beneath the metallic electrode disposed on the surface of the semiconductive chip. An impurity region highly doped with an appropriate dopant is provided around the intentional inversion region for delimiting the area thereof as well as prohibiting an unintentional expansion of this area due to spurious inversion of the substrate surface caused by accumulation of surface charge on the overlying dielectric.

3,519,898

**HIGH POWER SEMICONDUCTOR DEVICE HAVING A PLURALITY OF EMITTER REGIONS**

Teruo Nakatani, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan

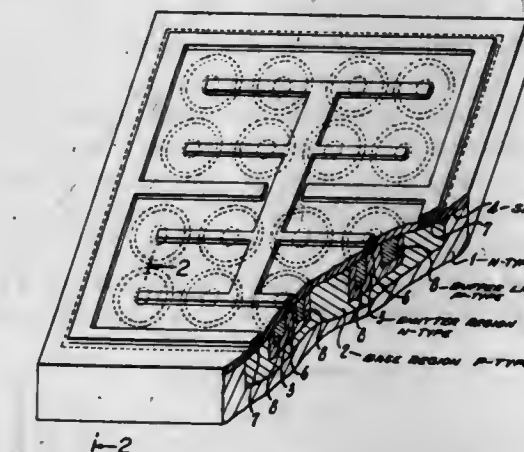
Filed Jan. 30, 1968, Ser. No. 701,627

Claims priority, application Japan, Jan. 31, 1967, 42/6,402

Int. Cl. H01l 11/06

U.S. Cl. 317—235

4 Claims



A semiconductor device having a substrate as the collector region, a base region in the substrate, a plurality of partial emitter regions formed on the base region connected together, and a buffer region within each partial emitter region, said buffer regions having a conductivity type opposite to that of the emitter regions, which makes possible a higher power capability with high stability over a wide operating range.



3,519,899

**MAGNETO-RESISTANCE ELEMENT**

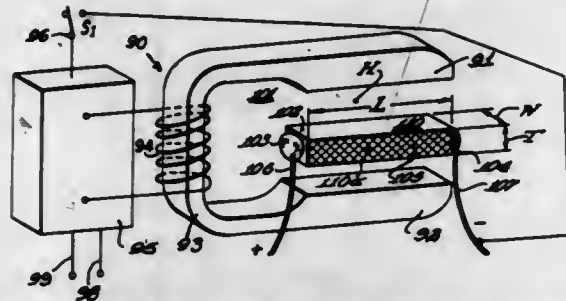
Toshiyuki Yamada, Yokohama-shi, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan

Filed Oct. 9, 1967, Ser. No. 673,658  
Claims priority, application Japan, Oct. 13, 1966, 41/67,381; Nov. 20, 1966, 41/78,792; Feb. 25, 1967, 42/11,984

Int. Cl. H01l 15/00

U.S. Cl. 317-235

17 Claims



A magneto-resistance element controlling a current according to the magnetic field intensity and/or polarity which comprises a P-type region, an N-type region, and intrinsic region provided between the P- and N-type regions and a recombination region partially formed on the surface of the intrinsic region. Carriers injected into the intrinsic region from the P-type region and the N-type region are deflected by a magnetic field toward the recombination region to decrease the carrier concentration in the intrinsic region.

3,519,900

**TEMPERATURE COMPENSATED REFERENCE DIODES AND METHODS FOR MAKING SAME**

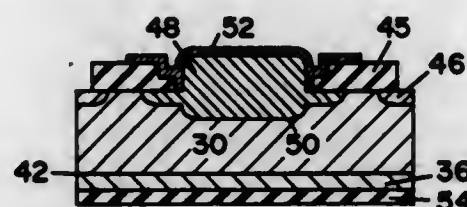
Lamonte H. Lawrence, Tempe, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Nov. 13, 1967, Ser. No. 682,338

Int. Cl. H01l 9/00

U.S. Cl. 317-235

22 Claims



Disclosed is a temperature compensated, alloy junction voltage reference diode and a process for making same. In one embodiment of the invention, the diode is constructed by diffusing an impurity of one conductivity-type semiconductor material into one surface of a wafer to form a forward PN junction therein and alloying a metal into a second surface of the wafer opposing the first surface to form a Zener PN junction of the diode. The formation of the forward and Zener PN junctions by diffusing and alloying into opposing surfaces of the wafer permits excellent control of wafer thickness between these junctions.

3,519,901

**BI-LAYER INSULATION STRUCTURE INCLUDING POLYCRYSTALLINE SEMICONDUCTOR MATERIAL FOR INTEGRATED CIRCUIT ISOLATION**

Kenneth E. Bean, Richardson, and Billy M. Martin, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Jan. 29, 1968, Ser. No. 701,460

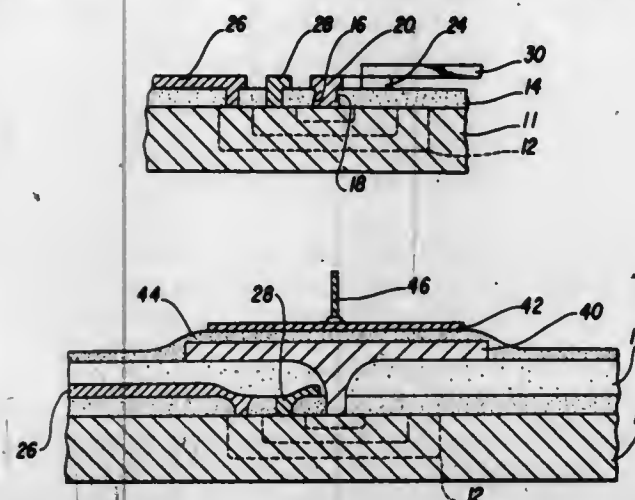
Int. Cl. H01l 11/00, 15/00

U.S. Cl. 317-235

13 Claims

This specification discloses a method of fabricating an integrated circuit characterized by electronic components

being formed in a polycrystalline semiconductor, such as silicon or germanium, deposited at less than 900° C. and at a rate of less than one micron per minute and overlying an isolation layer covering components formed in



a base region of monocrystalline semiconductor material. The components in the polycrystalline semiconductor may employ junctions and may be active or passive. More than one layer of polycrystalline semiconductor and more than one isolation layer may be employed.

3,519,902

**SPIRAL PLATE CAPACITOR**

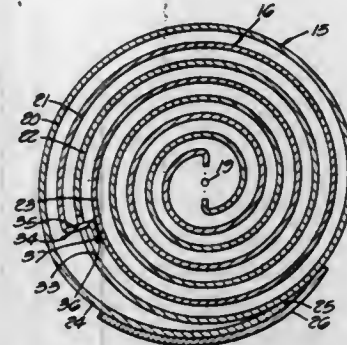
Bohdan N. Morozovsky, Redwood City, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 2, 1969, Ser. No. 812,835

Int. Cl. H01g 3/02

U.S. Cl. 317-260

9 Claims



The invention includes a brace connection between two outer end turns of two interleaved spiral plates of a vacuum capacitor. Conventionally, the spiral plates are brazed at one spirally-wound edge to two rigid, conductive end plates which also serve as the capacitor terminals. However, the other spiral edge of each plate is unsupported and especially at the corner of a plate at its outermost terminal edge. This corner is tied down by the brace connection. The physical strength and electrical properties of the capacitor are, thus, much improved. Thus, the capacitor does not easily become susceptible to damage and does not exhibit poor electrical operating characteristics due to mechanical vibration.

3,519,903

**SYSTEM FOR CONTROLLING A STRIP MATERIAL ROLL AS A FUNCTION OF SPEED OR TENSION OF TRAVELING STRIP MATERIAL**

Woodward C. Carter II, West Seneca, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 5, 1967, Ser. No. 665,568

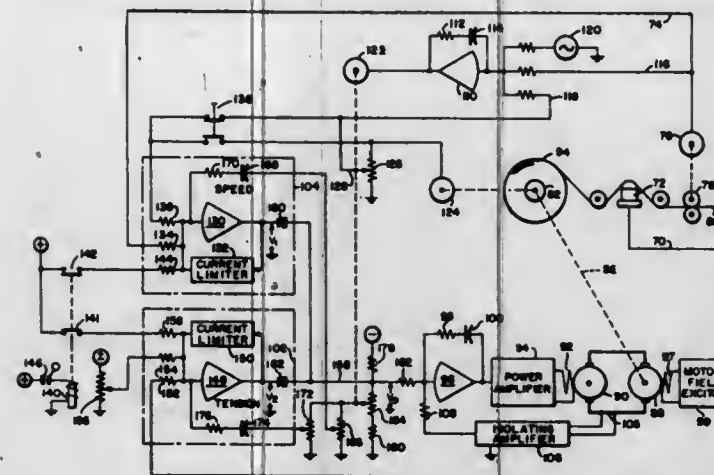
Int. Cl. H02p 15/00

U.S. Cl. 318-6

14 Claims

An electrical control system for strip material winding and/or unwinding apparatus wherein the surface speed

of a strip material roll, either employ or loaded, is first matched to the lineal speed of traveling strip material,



followed by a smooth transition from speed control of the roll to control based on the tension in the strip material being wound or unwound.

3,519,904

**SQUARE WAVE EXCITATION OF FEEDBACK DEVICES**

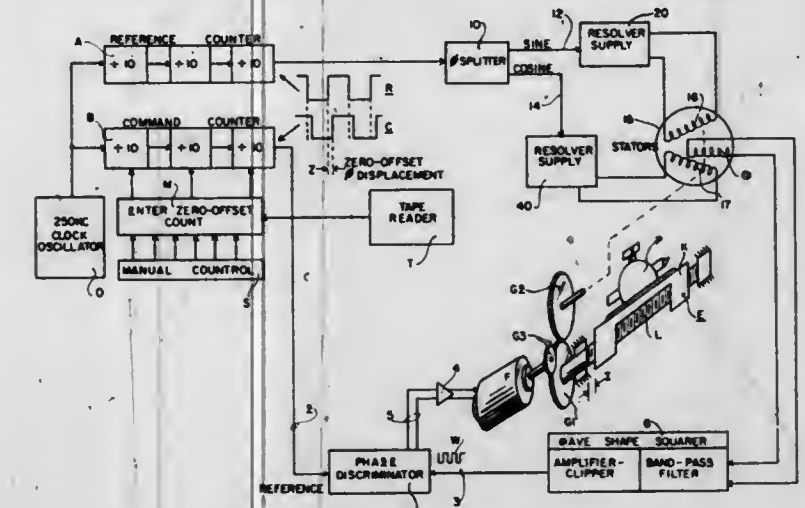
George L. Rogert, Waynesboro, Va., assignor to General Electric Company, a corporation of New York

Filed May 28, 1965, Ser. No. 459,714

Int. Cl. G05b 19/36, 19/38

U.S. Cl. 318-608

11 Claims



In a phase analog servomechanism for controlling the relative position of two objects under the command of command pulses, the resolver is excited with a two phase square wave rather than the conventional two phase sine wave and the output of the resolver is filtered and squared to yield a square wave containing the fundamental frequency for purposes of comparison with command pulses.

3,519,905

**NUMERICALLY CONTROLLED X-Y SERVOMECHANISMS FOR A DRAFTING MACHINE INCLUDING SECONDARY STORAGE OF PERMANENT INFORMATION**

Charles H. Little, Cleveland, and Waldo H. Kliever and Eugene L. Wiemeis, Cleveland Heights, Ohio, assignors to Universal Drafting Machine Corporation, Bedford Heights, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 540,123, Mar. 2, 1966. This application Aug. 26, 1966, Ser. No. 575,373

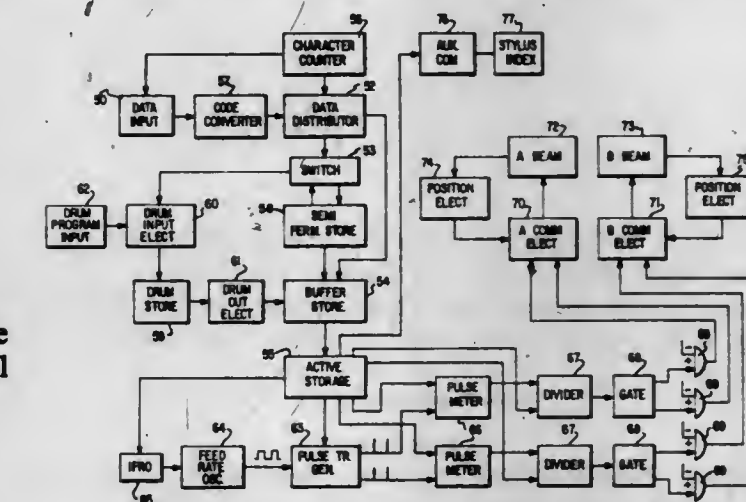
Int. Cl. G05b 19/28

U.S. Cl. 318-568

14 Claims

There is disclosed herein an automatic drafting apparatus including data processing circuits for supplying draft-

ing information to motors utilized for the purpose of moving scribing elements over a drafting surface; said information also being utilized for effecting the engagement of the said elements with the drafting surface. In particular, there is disclosed a control system for such apparatus wherein information may be supplied from external means such as a tape reader, from system internal means such as an information storage or a plurality of such storages and from manual means. Information supplied



from automatic means is processed through and by a numerical control director and supplied to table electronics the table electronics including digital to analog conversion circuits. Digital information is also supplied from drafting sensors to the table electronics and is there combined with information from the numerical control director prior to conversion. The combined information is converted to analog signals and utilized among other things to power the motors mentioned above.

3,519,906

**DC MOTOR SPEED SIGNAL GENERATING CIRCUIT**

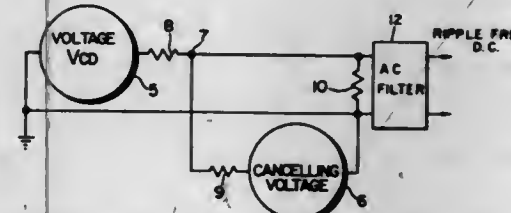
Ernest F. Kubler, Waynesboro, Va., assignor to General Electric Company, a corporation of New York

Filed Feb. 16, 1968, Ser. No. 706,092

Int. Cl. H02p 5/28, 7/14

U.S. Cl. 318-629

3 Claims



There is disclosed means and method for reducing the AC ripple contained in the speed indicative signal of a DC motor. The speed of a DC motor is indicated by a DC voltage, the back EMF. The unwanted AC ripple, which at low motor speeds can be considerably larger than the speed indicating DC voltage, is effectively reduced by adding to this AC+DC voltage an AC voltage of the same frequency but 180° out of phase therewith.

3,519,907

**REVERSIBLE DRIVE SYSTEM**

Abraham P. White, Attleboro, and Francis Finnegan, Plainville, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Jan. 4, 1968, Ser. No. 695,801

Int. Cl. H02p 1/24

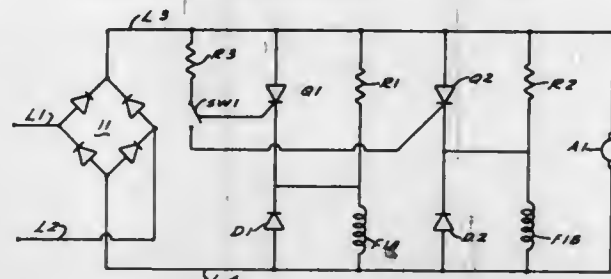
U.S. Cl. 318-122

11 Claims

The drive systems disclosed herein each employ a shunt wound D.C. motor in which the field has a center-tapped



winding constituting a pair of field winding sections which are oppositely polarized. The winding sections are alternately energized from a D.C. source through respective SCR's (silicon controlled rectifiers) to produce reversible



rotation of the armature. A respective diode shunts each of the field winding sections thereby providing a circuit for dissipating inductively stored energy in the section being deenergized when the direction of rotation is reversed.

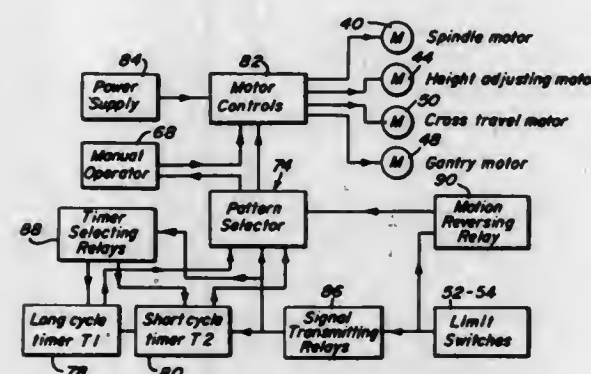
3,519,908

### PLURAL MOTOR PATTERN CONTROL SYSTEM FOR SURFACE TREATING MACHINES

Charles A. Plumley, Rutland, Vt., assignor to Patch-Wegner Company, Inc., a corporation of Vermont  
Filed Sept. 19, 1967, Ser. No. 668,779  
Int. Cl. G05b 19/04

U.S. Cl. 318—39

12 Claims



A control system for automatic movement of a rotating spindle along a selected path of motion. Two motors respectively impart reciprocatory and unidirectional motion to the spindle. Each motion may be interrupted and timed in accordance with a preselected program under control of motion limit switches and timers. A surface finishing wheel driven by the spindle may thereby be automatically moved across the surface of a large slab in a selected pattern most suitable for the material being finished.

3,519,909

### ADJUSTABLE SPEED MOTOR DRIVE USING A WOUND ROTOR OF AN INDUCTION MOTOR MECHANICALLY CONNECTED TO THE ARMATURE OF A D.C. MOTOR, BOTH ELECTRICALLY CONNECTED BY A CONTROL SYSTEM

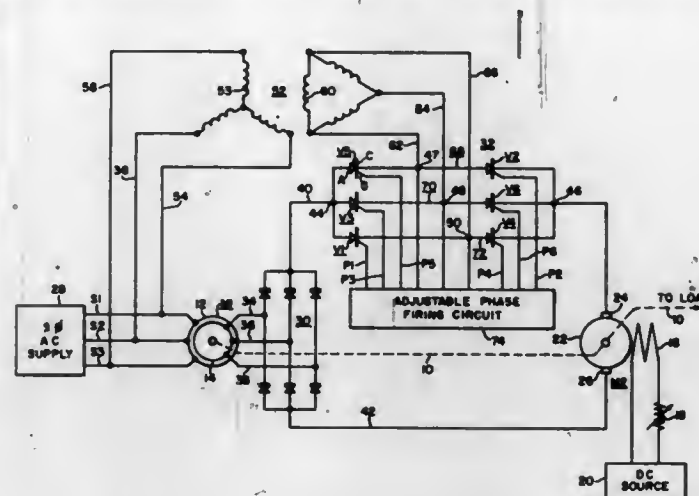
Gerald E. Mathias, Buffalo, N.Y., and Lee A. Kilgore, Export, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Oct. 23, 1967, Ser. No. 683,070  
Int. Cl. H02k 17/34; H02p 7/80

U.S. Cl. 318—46

15 Claims

There is disclosed herein an adjustable speed motor drive system including a wound rotor AC (alternating current) motor and a separately-excited DC (direct current) motor, whose rotors are mechanically coupled for common rotation. A rectifier rectifies the slip output of the AC motor rotor and applies the rectified output

through an adjustable line-commutated converter to the armature of the DC motor. The converter is arranged to pass motor current from the AC motor rotor to the DC motor armature and to provide a voltage cumulative with



the CEMF (counter-electromotive-force) of the motor in opposing the rectifier output voltage. By suitable control the converter is also operable to provide output voltage cumulative with the rectifier output voltage.

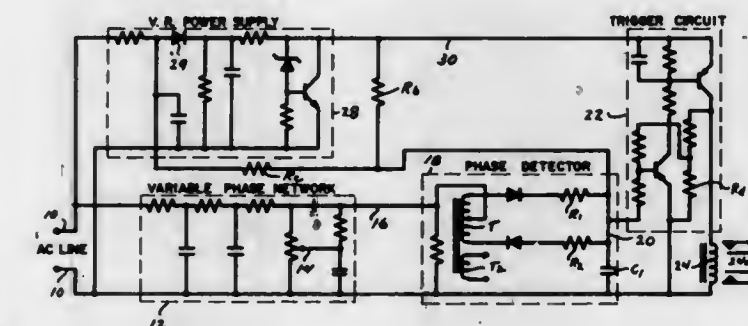
3,519,910

### METHOD AND APPARATUS FOR ELECTRONIC SENSING OF MOTOR TORQUE

Ernest H. Pfaff, Deerfield, and Thomas F. Mills, Jr., Chicago, Ill., assignors to Jeanne Pfaff, Deerfield, Ill.  
Filed Apr. 11, 1968, Ser. No. 720,554  
Int. Cl. H02p 5/42

U.S. Cl. 318—218

9 Claims



A discriminator circuit is used which receives an A.C. voltage signal from the line the phase of which may be adjusted. It also receives an A.C. signal derived from the current in a motor the phase of which is determined by the load on the motor. The phase of the line signal is so adjusted that there is a desired relationship between the line signal and the motor signal. These signals are then combined in a detector circuit the output of which is determined by the phase relationship and used to control a motor. The control may disconnect the motor or be used to control the speed of the motor.

3,519,911

### ALTERNATING CURRENT MOTOR STARTING CONTROL

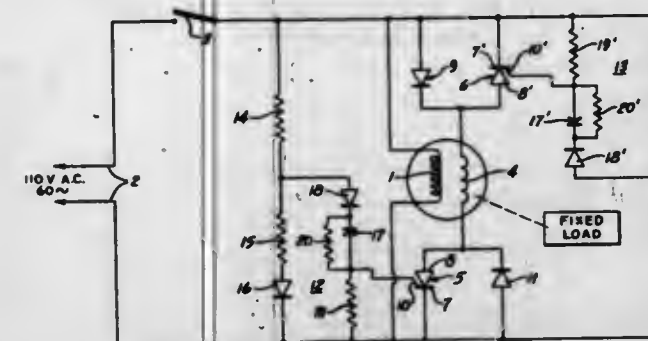
Harry J. Frank, Box 357C, Rte. 1, Cedarburg, Wis. 53012  
Filed July 5, 1966, Ser. No. 562,559  
Int. Cl. H02p 1/44

U.S. Cl. 318—221

10 Claims

This disclosure relates to a motor having the start winding connected to the incoming alternating current power lines through alternately conductive circuit branches each of which includes a controlled rectifier. A capacitor is connected in a charging circuit directly across the power

lines with the gate element connected to a point in the charging circuit. When the supply voltage is supplied to the power lines, pulsating current is supplied to the capacitor charging circuit. Gate current flows to the re-



spective silicon controlled rectifiers, until such time as the capacitors approach a fully charged state. At such time, the capacitors prevent further gate current and the silicon controlled rectifiers revert to the normal blocking state thereby opening the circuit to the starting winding.

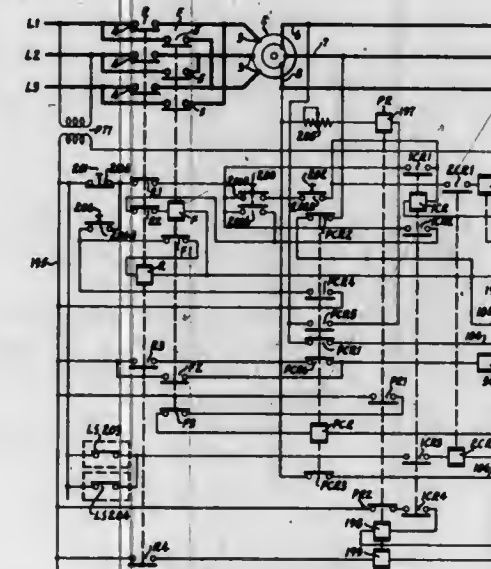
3,519,912

### CURRENT REGULATED SPEED CONTROL SYSTEM FOR WOUND ROTOR A.C. MOTORS

Reginald E. Charlwood, Menomonee Falls, and Robert L. Risberg, Milwaukee, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware  
Filed Dec. 5, 1967, Ser. No. 688,071  
Int. Cl. H02p 5/40

U.S. Cl. 318—237

6 Claims



A motor control system for a wound rotor A.C. motor comprising an energy absorbing chopper-type circuit in the motor secondary circuit for speed regulation. Control means are provided which include secondary voltage feedback means and secondary current regulating means. The system further includes reversing, inching and plugging controls.

3,519,913

### AC TO DC CONVERTER CIRCUIT

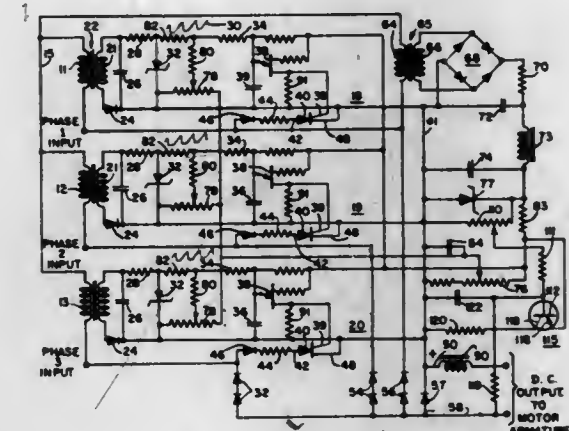
Joseph Janacek, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois  
Filed Dec. 2, 1966, Ser. No. 598,805  
Int. Cl. H02p 5/16; H02m 7/22

U.S. Cl. 318—331

6 Claims

This invention pertains generally to an alternating current to direct current converter circuit and more particularly to a three phase alternating current to direct current circuit can be controlled manually or automatically.

rent motor control circuit. The invention incorporates the use of a relaxation oscillator triggered by the variable ramp of a saw-tooth wave to gate on a silicon controlled rectifier to provide from zero to 100% synchronized motor control. The direct current output voltage of the con-



Many direct current motor circuits provide 25-100% motor control. Motor control circuits have been developed that provide 9-100% control. These have been complex and expensive circuits to produce and have required fairly sophisticated operation.

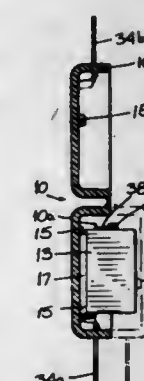
3,519,914

### CHARGING APPARATUS FOR A RADIO, TELEVISION RECEIVER OR THE LIKE

Takayuki Fujimaki and Ikuro Shimizu, Tokyo, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan  
Filed Sept. 14, 1967, Ser. No. 667,838  
Claims priority, application Japan, Sept. 14, 1966, 41/86,585, 41/86,586  
Int. Cl. H01m 1/02

U.S. Cl. 320—2

3 Claims



The charging apparatus described is used for charging the battery in portable devices such as integrated circuit radios, television receivers and the like. When not in use the device to be charged is stored in the charging apparatus which thereby functions as a vanity case. In order to charge the battery in the portable device, the portable device is inserted in a space provided in the case of the battery charge apparatus. This insertion disconnects the device to be charged so that it does not drain the battery and also connects the battery to the charging contacts. Leads are provided on the charging apparatus for insertion in a standard alternating current outlet to provide charging current for the charging of the battery in the portable device.

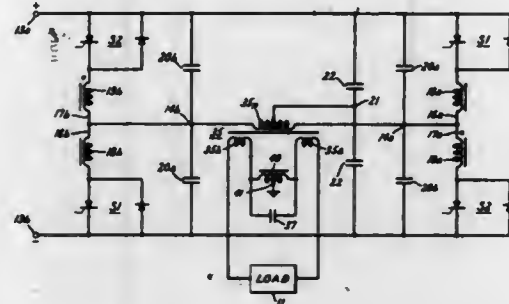


### 3,519,915 HIGH-FREQUENCY SINE-WAVE STATIC INVERTER

Fred W. Kelley, Jr., Media, Pa., assignor to General Electric Company, a corporation of New York  
Filed Feb. 12, 1968, Ser. No. 704,914  
Int. Cl. H02m 1/18; H02h 7/12

U.S. Cl. 321-14

12 Claims



In an electric power inverter designed to supply an A-C load from a D-C source, wherein the load is paralleled by a capacitor and coupled by a transformer to the source via alternately triggered bidirectionally conducting switching elements having separate inductors respectively in series therewith to form a complementary pair of resonant circuits each tuned to a frequency higher than (but less than twice) the operating frequency of the switching elements, an autotransformer is added between dual output windings of the load transformer. In an embodiment where the switching elements are arranged in a bridge configuration employing mutually coupled inductance coils in each output current path, a ferromagnetic shunt of relatively small cross-sectional area is provided in the window of the core on which the coils are respectively disposed.

### 3,519,916 ALTERNATING CURRENT GENERATOR HAVING CENTRIFUGAL LEVER ARRANGEMENT FOR ENGAGEMENT WITH THE BRUSHES

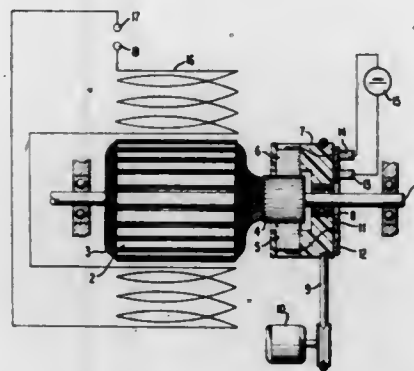
Justus Dornier, Friedrichshafen, Germany, assignor to Dornier A.G. Friedrichshafen (Bodensee), Germany, a corporation of Germany

Filed Dec. 15, 1967, Ser. No. 690,849  
Claims priority, application Germany, Sept. 23, 1967,  
D 54,192

Int. Cl. H02k 9/26

U.S. Cl. 322-56

2 Claims



An apparatus for maintaining constant the frequency of an alternating current generator driven at varying speeds. The apparatus includes a rotor and a collector mounted on a rotatable shaft, a rotatable brush cage for supplying exciting current to the collector, a motor for driving the brush cage at a constant speed corresponding to the desired alternating current frequency, and centrifugal lever arrangement for engagement with the brushes.

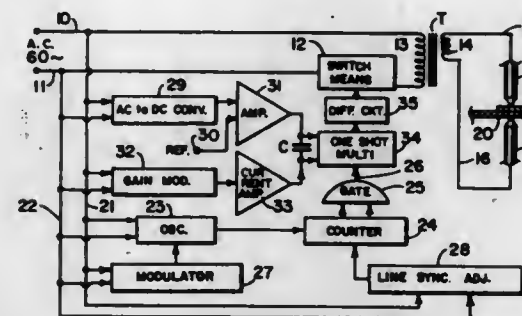
### 3,519,917 AUTOMATIC POWER REGULATION USING DIGITAL WAVE FORM DIVISION OF THE INPUT CYCLIC WAVE FORM

Ricky Martin, North Hollywood, Calif., assignor to Harry Felck Co. Inc., a corporation of California  
Filed Dec. 4, 1967, Ser. No. 687,569

Int. Cl. G05f 5/00

U.S. Cl. 323-22

2 Claims



An apparatus is provided for regulating power delivered to a load from a cyclic wave form such as a sine wave all in an automatic manner to assure that the power delivered is constant even though the input sine waves may vary randomly in amplitude. The power itself is controlled in value by passing a consistent fraction of the wave form defined by a pre-selected phase angle which phase angle may be varied to vary the value of the fraction and thus the power delivered. The regulating means detects any random amplitude changes in the input sine wave and generates a regulating signal which changes in value in accord with changes in the amplitude and thus regulating signal in turn varies in time the pre-selected phase angle in accordance with the value of the signal such that the consistent fraction is increased when the amplitude of the wave form decreases and decreases when the amplitude of the wave form increases. The delivered power is thus automatically maintained constant.

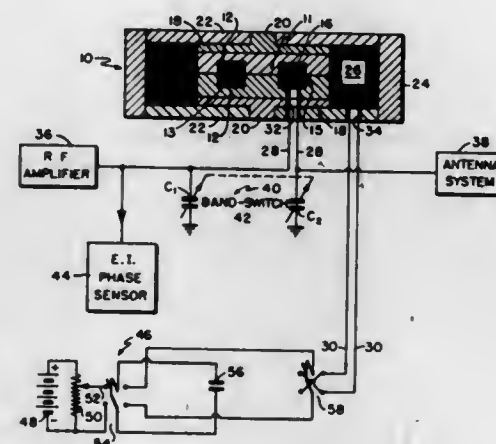
### 3,519,918 FERRITE CORE INDUCTOR IN WHICH FLUX PRODUCED BY PERMANENT MAGNETS IS DECREASED IN DISCRETE STEPS

George Bruck, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware  
Filed Nov. 9, 1967, Ser. No. 687,948

Int. Cl. G05f 7/00

U.S. Cl. 323-89

2 Claims



A variable inductor for use in a radio frequency tuner. The device comprises an inductance winding completely enclosed by a ferrite core. The winding and ferrite core form the inductance parameter of a pi network tuning system positioned between an R.F. (radio frequency) amplifier and an antenna. A pair of ring magnets are positioned on opposite sides of the core and encircled mag-

netically in such a manner as to maintain a steady state magnetic bias across the ferrite core. The magnets are demagnetized or magnetized by means of a control winding to vary the magnetic bias across the core and therefore vary the inductance of the inductance winding. Thus, the permeability of the core and the inductance of the winding are maintained at any given value within a range without the expenditure of electrical power. The control winding is supplied with current from a control system which utilizes signals relating to the degree of mismatch or mistuning to change the inductance and to obtain a matched impedance condition or a resonant condition.

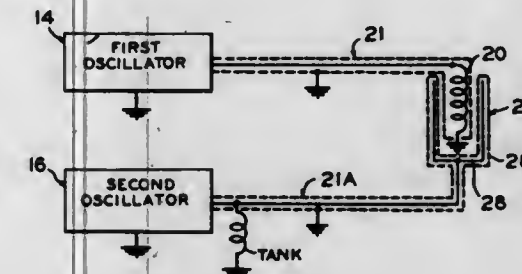
### 3,519,919 FREQUENCY STABILIZING ELEMENT FOR METAL DETECTORS

Edwin Rance, Plain Dealing, La. 71064  
Continuation-in-part of application Ser. No. 658,171,  
Aug. 3, 1967. This application Dec. 11, 1968, Ser.  
No. 782,832

Int. Cl. G01v 3/10; H03b 21/00

U.S. Cl. 324-3

1 Claim



In an object detector and discriminator circuit including first and second radio beat frequency oscillators and an inductor probe forming a tuned circuit a capacitive reaction element is placed in close proximity with the probe to compensate for temperature changes of the probe and maintain a balance of the beat frequency of the oscillators.

### 3,519,920 APPARATUS FOR MEASURING RESISTANCE ACROSS PERIODICALLY OPERATING EN- GINE IGNITION SWITCH

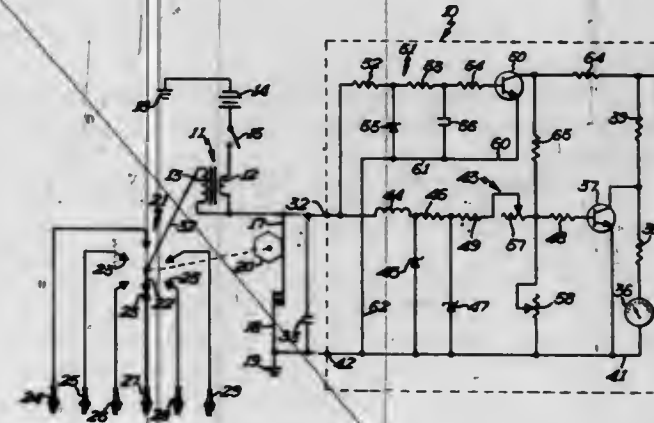
Sydney J. Roth, Edina, Minn., assignor to Marquette Corporation, Minneapolis, Minn., a corporation of Delaware

Filed Apr. 10, 1968, Ser. No. 720,297

Int. Cl. G01m 15/00

U.S. Cl. 324-16

8 Claims



Apparatus for measuring the resistance across the distributor breaker points of an internal combustion engine while the engine is running which includes a meter connected across a transistor, which transistor alternately has

applied to its input terminals voltages dependent upon the voltages across the points during points open and points closed conditions, there being an auxiliary circuit for applying a predetermined biasing voltage to the transistor while the points are closed.

### 3,519,921 COMPACT ELECTRIC CONTINUITY TESTER HAV- ING A PAIR OF HANDLES CONNECTED BY A FLEXIBLE SPRING

Hubert Hetzler, Lautenschlagerstrasse 9,  
Darmstadt, Germany

Filed May 21, 1968, Ser. No. 730,747

Int. Cl. G01r 31/02

U.S. Cl. 324-51

12 Claims



The continuity tester consists of two handles which are connected to each other by a flexible spring. An acoustic or optic signal indicator is operated by a transistorized circuit and supplied by a battery all arranged within one handle. For testing the continuity within an electric circuit each handle has to be connected with one point of the tested electric device.

### 3,519,922 APPARATUS FOR DETECTING ABRUPT CHANGE IN THE THICKNESS OF SHEET MATERIAL

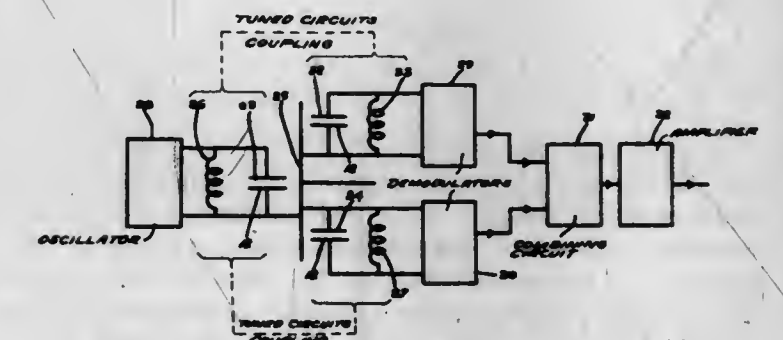
Paul Nash and Gordon Brian Hick, Ottawa, Ontario, Canada, assignors to Nash and Harrison Limited, Ottawa, Ontario, Canada

Filed Dec. 5, 1966, Ser. No. 599,090

Claims priority, application Canada, Dec. 16, 1965,  
947,962

U.S. Cl. 324-61

4 Claims



The detection of abrupt changes in thickness of moving sheet material. The sheet material is fed between the plates of two spaced, substantially identical, capacitors and thereby constitutes part of the dielectric between the plates. An abrupt change of thickness in the material passing between the plates of one of the capacitors is



sensed as a change of capacitance of that capacitor and this difference is utilized to indicate the presence of the defect causing the change in capacitance.

3,519,923

# CAPACITIVE TRANSDUCER SYSTEM INDEPENDENT OF STRAY CAPACITANCE

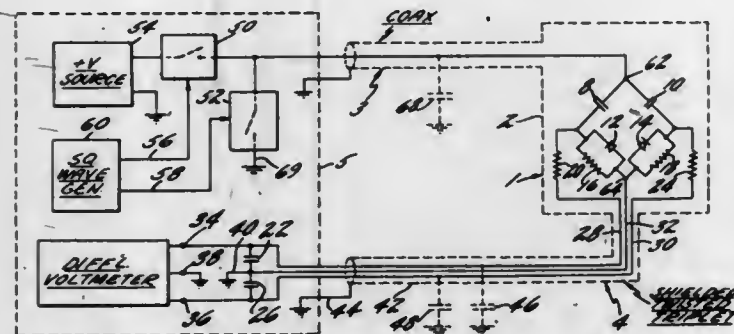
Henry E. Martin, Wapping, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 16, 1968, Ser. No. 721,677

Int. Cl. G01n 27/26

U.S. Cl. 324-61

4 Claims



A capacitive transducer, located remotely from control and monitoring circuitry therefor, is charged and discharged through a coaxial cable so arranged that the capacitance thereof is not in the transducer circuitry, and the output thereof is disposed relative to monitoring equipment so that the capacitance of the output cable is parallel with filter capacitance and not significant relative to the transducer capacitance being monitored.

3,519,924

# MEASUREMENTS SYSTEMS USING CONDUCTIVELY-HEATED PYROELECTRIC ELEMENT

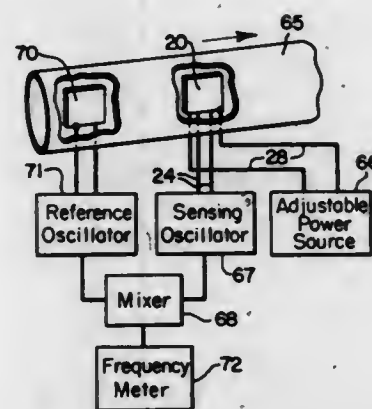
Jay E. Burton, Fort Collins, Colo., assignor, by mesne assignments, to Heath Laboratories, Inc., Fort Collins, Colo., a corporation of Colorado

Filed Sept. 22, 1967, Ser. No. 669,873

Int. Cl. H05b 1/00; H01v 7/00; G01n 27/00

U.S. Cl. 324-71

18 Claims



A pyroelectric crystal is selectively responsive to signals at a predetermined temperature coefficient of selective-frequency change. A heating element is disposed essentially in thermally-conductive contact with the crystal. Signals are translated between the crystal and a signal device while electric power is translated between the heating element and a power unit. The crystal itself constitutes the primary frequency-determining element of an oscillator or a filter. In use either by itself or in association with a second crystal or other heat-sensitive element and through control of a power dissipated in the heating element, various different systems result which are useful in measuring such variables as power, voltage, fluid velocity, density, direction and pressure.

3,519,925

# METHODS OF AND APPARATUS FOR THE CORRELATION OF TIME VARIABLES AND FOR THE FILTERING, ANALYSIS AND SYNTHESIS OF WAVEFORMS

Nigel Allister Amstey, Chelsfield, Kent, and William Edward Lerwill, Keston, Kent, England, assignors, by mesne assignments, to Selamograph Service Corporation, Tulsa, Okla., a corporation of Delaware

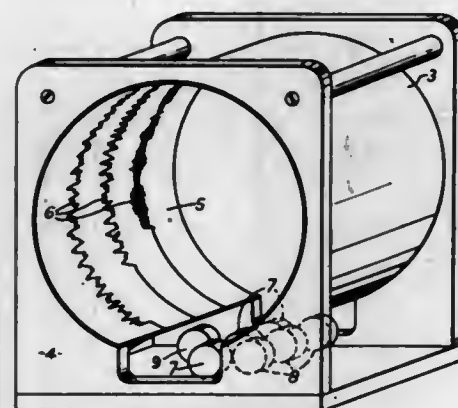
Filed Nov. 6, 1962, Ser. No. 235,622

Claims priority, application Great Britain, Nov. 8, 1961, 40,018/61

Int. Cl. G01r 23/16; G06f 15/34; G06g 7/19

U.S. Cl. 324-77

14 Claims



1. Apparatus for correlating first and second variables the first of which is represented by variations in an electrical signal, wherein the apparatus comprises a plurality of recording heads, at least one playback head associated with each recording head to form a pair, one of said heads of each pair including a plurality of conducting elements which are distributed along part of an enclosed circular path and represent a function of the second variable, means for passing a recording medium around the said enclosed circular path such that variations in the said signal which is supplied to the recording head produce an output from the associated playback head which represents a correlation of the said variables, erase means provided between the respective heads of each pair for erasing signals previously recorded on the medium before the latter reaches the recording head, the respective recording and playback heads being arranged to record on and to play back from parallel tracks on the recording medium, the heads being so arranged and connected that when the signal representing the first variable is fed to a first recording head the correlated output which is obtained from the first playback head is fed to a second recording head and is then correlated with the same second variable but with the latter reversed in time.

3,519,926

# DIGITAL WAVE ANALYSER HAVING SEQUENTIALLY SCANNED SUBSTANTIALLY IDENTICAL, LOW PASS FILTERS

Robert E. Chandos, Santa Barbara, Calif., assignor to Electro-Optical Industries, Inc., a corporation of California

Filed Oct. 31, 1966, Ser. No. 590,821

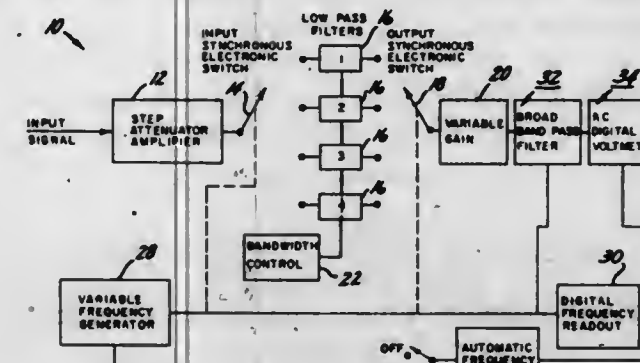
Int. Cl. G01r 23/16, 27/02

U.S. Cl. 324-77

9 Claims

There is disclosed herein an improved wave analyser arrangement for determining the constituent frequency in an information signal having an unknown frequency. This is achieved by having a plurality of low pass filters which are, preferably, adjustable as to the corner frequency thereof. Each of the low pass filters is identical to each other and has the same corner frequency. An input and an output synchronous switch are provided and the unknown frequency signal is correspondingly switched sequentially through the plurality of filters at a frequency

determined by a variable frequency generator. The frequency of the variable frequency generator is a particular test frequency for which it is to be determined whether or not such a frequency exists in the information signal having the unknown frequency. The synchronous input and output switches, of course, ensure that the same low pass filter into which the signal is being provided is also



the one from which the output is being obtained. The variable frequency generator may then be either manually or automatically varied over the frequency range of interest and when an output magnitude is determined it is known that there was a component frequency in the unknown frequency information signal at the particular frequency then existing in the variable frequency generator.

3,519,927

# SCANNING ANALYZER FOR DETERMINING CHARACTERISTICS OF AN IONIZED PLASMA

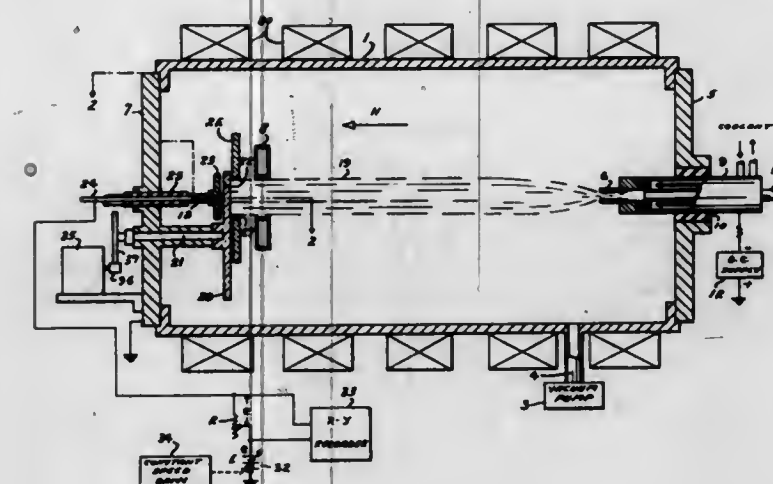
James F. Holt, New Carlisle, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Sept. 5, 1968, Ser. No. 757,734

Int. Cl. G01r 31/22

U.S. Cl. 324-24

5 Claims



Apparatus for measuring and displaying plasma characteristics such as current density and electron temperature over the cross section of the plasma stream. A rotating apertured scanning disc intercepts the plasma stream and scans it along parallel lines. The plasma particles passing through the apertures of the scanning disc are received by a collector electrode producing a current flow in the electrode circuit which varies in accordance with the current density distribution in the plasma stream. By varying the collector voltage the  $E-I$  characteristic for any point may be obtained, from which the electron temperature may be derived. Profiles of both current density and electron temperature are displayed in a gray scale representation on the screen of a kinescope the scanning beam of which is synchronized with the scanning disc.

3,519,928

# FREQUENCY COMPARISON APPARATUS AND METHOD WITH ERROR ELIMINATION

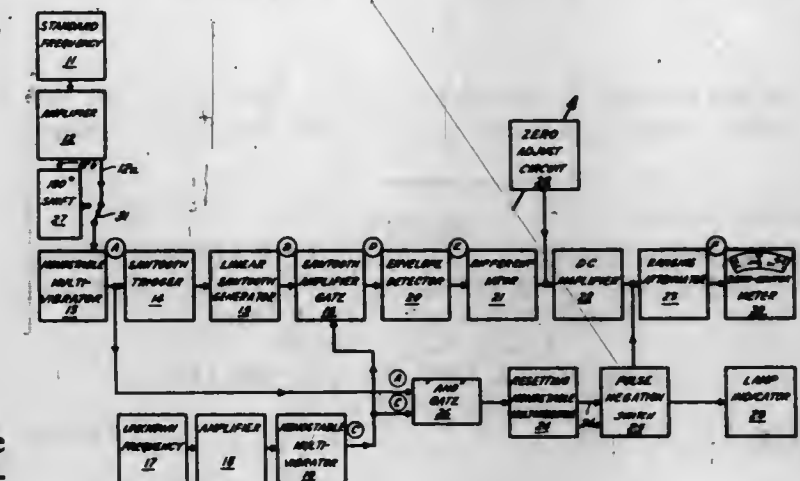
Murray Braverman, New York, N.Y., assignor to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York

Filed Feb. 1, 1967, Ser. No. 613,156

Int. Cl. G01r 23/14

U.S. Cl. 324-79

6 Claims



A frequency meter, for comparing a signal of unknown frequency with a standard frequency source, which utilizes the differentiated output of an electrical sawtooth or ramp function, representing a multiplication of the two signals, to provide a polarized D.C. signal level which, by application to a nulling meter, determines the amount and direction of frequency deviation.

3,519,929

# ARRANGEMENT FOR COMPARING TWO FREQUENCIES BY ALTERNATE COMPARISON WITH A CONTROLLABLE LOCAL FREQUENCY

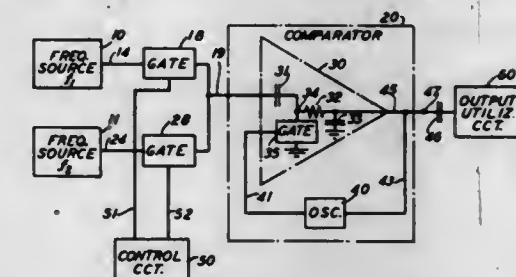
Cyrus F. Ault, Lincroft, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 446,041, Apr. 6, 1965. This application Aug. 4, 1967, Ser. No. 658,575

Int. Cl. G01r 23/00

U.S. Cl. 324-79

4 Claims



The frequency of a controllable oscillator is adjusted via a phase discriminator alternately between the respective frequencies of two signal sources to derive a representation of the magnitude and sense of the difference between the frequencies of the two signal sources.

3,519,930

# NORMALIZATION CIRCUITS FOR POTENTIOMETER DEVICES USING CONSTANT SOURCE IMPEDANCE VOLTAGE DIVIDERS

Frank R. Bradley, 9 Dash Place,

Bronx, N.Y. 10463

Filed May 2, 1966, Ser. No. 546,822

Int. Cl. G01r 17/02

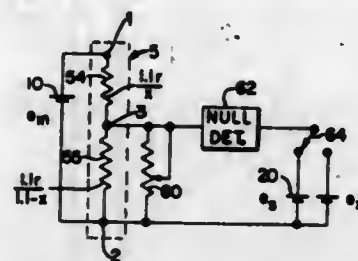
U.S. Cl. 324-98

16 Claims

A potentiometer device using a constant source impedance voltage divider in which the output voltage of



the divider is to be normalized to a reference voltage. Circuits are provided in addition to the normal switching



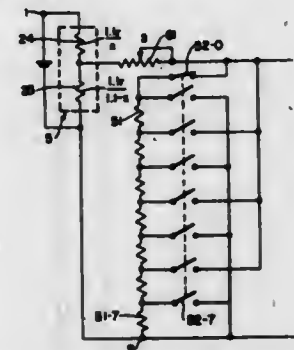
circuits of the divider which further control and set the output voltage of the divider to the normalization voltage.

### 3,519,931 SCALING CIRCUITS FOR VOLTAGE DIVIDERS OF THE CONSTANT SOURCE IMPEDANCE TYPE

Frank R. Bradley, 9 Dash Place,  
Bronx, N.Y. 10463  
Filed May 2, 1966, Ser. No. 546,846  
Int. Cl. G01r 17/02

U.S. Cl. 324-98

16 Claims



Scaling circuits for voltage dividers of the constant source impedance type in which said circuits are formed by a plurality of resistors of substantially equal value which can be connected together in at least two permissible combinations in which each of said combinations each resistor has substantially the same amount of current flowing therethrough.

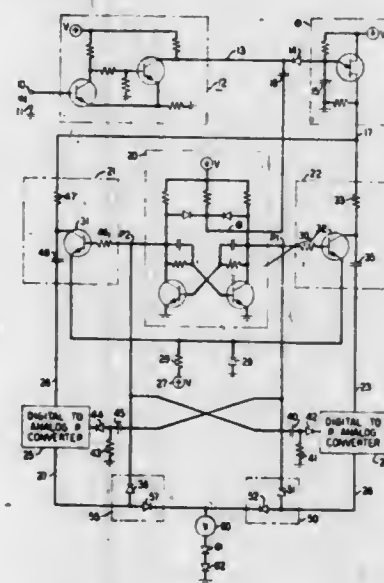
### 3,519,932 PULSE WIDTH MEASURING APPARATUS

Roger D. Baum, Middletown, and David L. Favin, Little  
Silver, N.J., assignors to Bell Telephone Laboratories,  
Incorporated, Murray Hill, N.J., a corporation of New  
Jersey

Filed June 13, 1968, Ser. No. 736,689  
Int. Cl. G01r 19/00, 19/26

U.S. Cl. 324-102

7 Claims



Each input pulse in a pulse train is caused to gate a uni-junction transistor relaxation oscillator thereby producing

groups of voltage impulses during each input pulse interval. The trailing edge of each input pulse is also caused to trigger a bistable multivibrator. Transistor gates connected to each side of the bistable multivibrator steer alternate groups of the voltage impulses to the inputs of each one of two digital to analog converters. Each converter in response to the voltage impulses produces a D.C. voltage at its output proportional in magnitude to the number of impulses. Diode gates connected to each side of the bistable multivibrator switch a D.C. voltmeter between the two converter outputs, thereby providing the meter with a continuous D.C. voltage the magnitude of which is a measure of the average input pulse width.

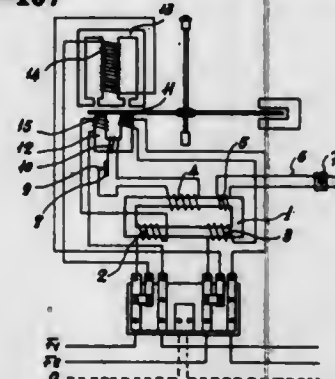
### 3,519,933 MULTIPLE PHASE ALTERNATING CURRENT METER

Carlos Romanillos Lopez, Glerieta de Guzman 1,  
Leon, Spain  
Filed Feb. 1, 1968, Ser. No. 702,292  
Claims priority, application Spain, Nov. 21, 1967,  
347,436

U.S. Cl. 324-107

Int. Cl. G01r 11/32

8 Claims



An improved alternating-current electric meter for use with two phases and neutral (three-wires) wherein a single-phase (two-wire) meter having (a single coil in its consumption-current electro-magnet) is coupled to both phases and is further coupled to an ammeter induction equipment which produces a magnetizing current complementary to the consumption-current electro-magnet of the meter.

### 3,519,934 TEMPERATURE STRAIN RELIEF MOUNTING FOR D-C METER ARMATURE COIL

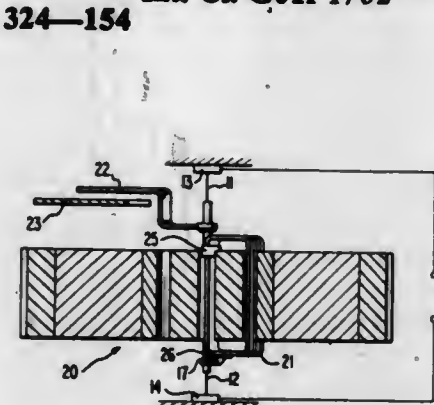
William G. Dudley, Lynnfield, and Harold Rich, Lynn,  
Mass., assignors to General Electric Company, a corporation of New York

Filed June 9, 1967, Ser. No. 645,016

U.S. Cl. 324-154

Int. Cl. G01r 1/02

4 Claims



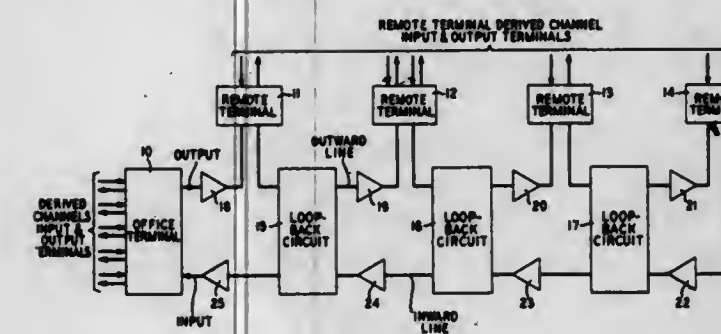
An armature coil is directly connected to the rotatable shaft of a moving coil instrument by a rigid and a flexible bracket. Changes in the relative dimensions of the coil and the shaft due to dissimilar thermal coefficients of expansion are absorbed by the flexible mounting, eliminating shaft warpage and misalignment.

### 3,519,935 ARRANGEMENT FOR PROVIDING PARTIAL SERVICE ON A FAILED SERIALLY LOOPED CARRIER SYSTEM

Lester Hochgraf, Wall Township, Monmouth County,  
N.J., assignor to Bell Telephone Laboratories, Incorporated,  
Murray Hill, N.J., a corporation of New Jersey  
Filed June 21, 1966, Ser. No. 559,194  
Int. Cl. H04b 1/60, 3/46; H04j 3/14

U.S. Cl. 325-2

9 Claims



In looped carrier systems, transmission and power failure sensing circuits detect failures and loop-back the carrier line short of the fault, thereby restoring service to that portion of the carrier line which is located between the office and the sensing circuit nearest the fault on the office side of the carrier line.

### 3,519,936 QUATERNARY DIFFERENTIAL-PHASE- MODULATED PCM REPEATER

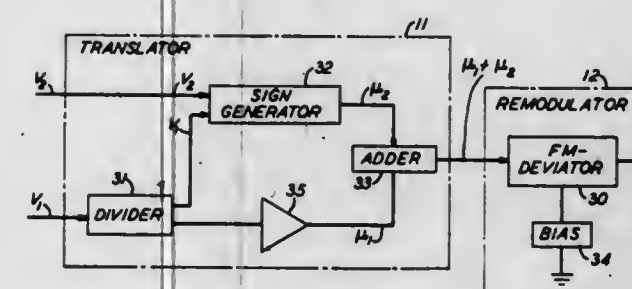
James E. Goell, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J.,  
a corporation of New York

Filed Aug. 8, 1967, Ser. No. 659,203

U.S. Cl. 325-7

Int. Cl. H04b 7/16; H04i 27/18

5 Claims



The application describes apparatus for utilizing the two baseband signals  $V_1$  and  $V_2$ , derived from a quaternary differential phase detector, to regenerate a differential-phase-modulated PCM signal.

In accordance with the invention, a translator converts signals  $V_1$  and  $V_2$  into a single signal,  $\mu_1 + \mu_2$ , which drives a voltage-sensitive oscillator. The translator includes a signal divider which divides the  $V_1$  signal into two components. One component constitutes the  $\mu_1$  signal. The other component and the  $V_2$  signal are coupled to a sign generator which generates the  $\mu_2$  signal such that

$$\text{sgn. } \mu_2 = -(\text{sgn. } V_1)(\text{sgn. } V_2)$$

The  $\mu_1$  and  $\mu_2$  signals are then combined in an adder to produce the regenerator drive signal. Amplifiers are also included to adjust the relative amplitudes of  $\mu_1$  and  $\mu_2$  to yield the required differential phase shift.

### 3,519,937 QUATERNARY DIFFERENTIAL-PHASE- MODULATED PCM REPEATER

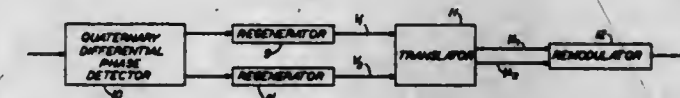
William M. Hubbard, Middletown Township, Monmouth  
County, N.J., assignor to Bell Telephone Laboratories,  
Incorporated, Murray Hill, N.J., a corporation of New  
York

Filed Aug. 8, 1967, Ser. No. 659,209

U.S. Cl. 325-7

Int. Cl. H04b 7/16; H04i 27/18; H03c 3/00

6 Claims



The application describes apparatus for detecting and regenerating a quaternary differential-phase-modulated PCM signal in which the differential phase shift is either  $\pi/4$ ,  $-\pi/4$ ,  $3\pi/4$  or  $-3\pi/4$  radians.

The detector divides the input signal into two components. Each component is then coupled to a binary-type differential phase detector having a particular differential phase delay. The two resulting baseband signals  $V_1$  and  $V_2$  derived from the detector define the differential phase shift between signals in adjacent time slots.

Means for utilizing signals  $V_1$  and  $V_2$  to regenerate the alternating current, differential-phase-modulated signal are also described.

### 3,519,938 FACSIMILE TRANSMISSION BY SELECTIVE SIGNAL PULSE SUPPRESSION

George Mitchell Smith, Eastleigh, England, assignor to  
The General Electric Company Limited, London, Eng-  
land, a British company

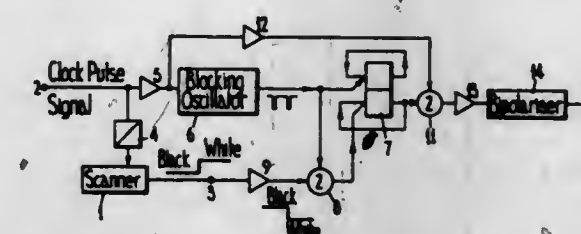
Filed Jan. 5, 1967, Ser. No. 607,414

Claims priority, application Great Britain, Jan. 5, 1966,  
514/66

U.S. Cl. 325-38

Int. Cl. H03k 7/06, 9/06

4 Claims



A binary data facsimile transmission system in which the facsimile data is encoded as a periodic clock pulse signal in which one of the two kinds of data is represented by a clock pulse and the other kind is represented alternately by a clock pulse and the absence of a clock pulse. Thus, the encoded signal is closely derived from the data bit-rate clock pulse signal by suppressing or not suppressing alternate pulses so that timing information is carried by the signal irrespective of which kind of data is being transmitted.

### 3,519,939 AUTOMATIC TUNING RECEIVER WITH DETUNING MEANS

Kanichi Tashima, Hirakata-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Sept. 12, 1966, Ser. No. 578,689

Claims priority, application Japan, Sept. 21, 1965,  
40/58,315; Oct. 1, 1965, 40/60,884; Dec. 3,  
1965, 40/75,195

U.S. Cl. 325-318

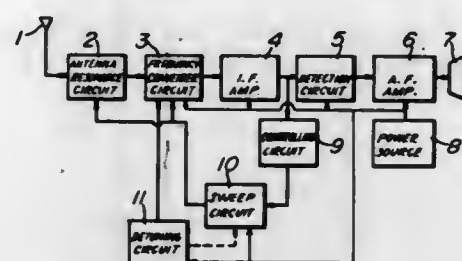
Int. Cl. H03b 23/00; H03j 3/18, 3/20

2 Claims

An automatic tuning receiver in which use is made of variable reactance elements, the reactances of which are varied by electric current or potential supplied thereto



in order to constitute an antenna input circuit and a local oscillator and an output of a sawtooth wave generator which is controlled by an output of an IF amplifier circuit fed to said variable reactance element so that the receiver may be put in a tuned state, and further in which



additional reactance elements are provided along with means for varying the effective reactance of the additional reactance elements whereby the receiver is detuned from the above-mentioned first tuned state and is subsequently brought into another tuned state under control of said IF amplifier.

3,519,940

### VOLTAGE-DEPENDENT CAPACITANCE CIRCUIT FOR CAPACITIVE SENSOR

Ludwig Ludin, Anglikon, Wohlen, Aargau, Switzerland, assignor to Camille Bauer Messinstrumente Aktiengesellschaft, Wohlen, Aargau, Switzerland, a corporation of Switzerland.

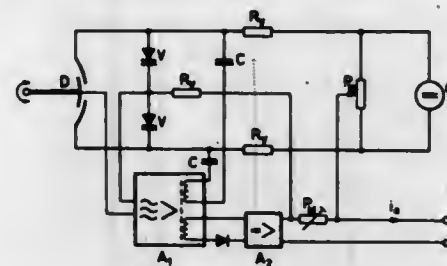
Filed May 20, 1966, Ser. No. 551,706

Claims priority, application Germany, May 29, 1965, H 56,179

Int. Cl. G01n 27/22

U.S. Cl. 328—1

1 Claim



A capacitive pick-off transducer for converting a sensed physical quantity into an electrical signal by means of an input differential capacitor in one branch of a bridge. The other branch of the bridge contains a roughly balancing differential capacitor whose individual capacitances vary with applied voltages across them. The output from the bridge is led to an oscillator amplifier part of whose output is fed back to the bridge and another part rectified for producing a voltage for the roughly balancing capacitor, the rectified part corresponding to said signal.

3,519,941

### THRESHOLD GATE COUNTERS

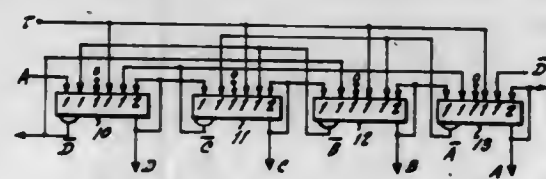
Robert O. Winder, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Feb. 23, 1968, Ser. No. 707,749

Int. Cl. H03k 23/02, 19/42, 19/44

U.S. Cl. 328—43

5 Claims



Threshold gate counters which produce, on adjacent lines, pulses in time sequence which slightly overlap and

which produce, on alternate lines, pulses in time sequence which do not overlap.

3,519,942

### APPARATUS FOR PROVIDING SHORT BUNCHES OF CHARGED MOLECULAR, ATOMIC, OR NUCLEAR PARTICLES

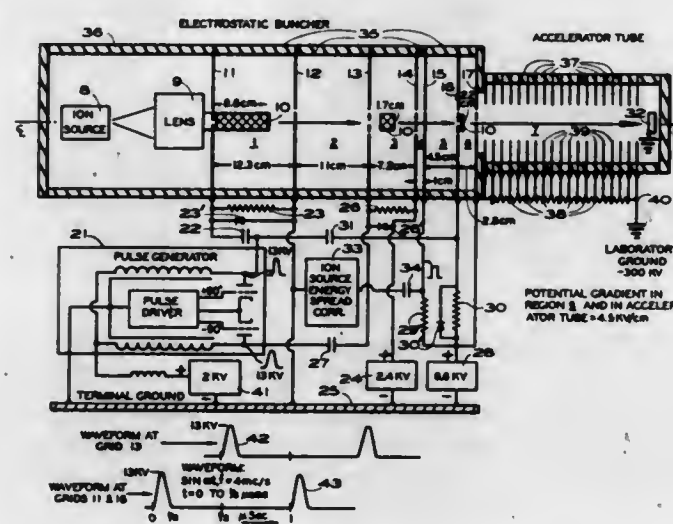
Ralph C. Mobley, 2585 Stoodleigh Drive, Rochester, Mich. 48063

Filed Apr. 13, 1966, Ser. No. 542,361

Int. Cl. H01j 23/00, 23/34

U.S. Cl. 328—233

26 Claims



Ions from a source 8 (FIG. 1) are focused by a lens 9, fed at low velocity in a column 10 into the region 1, and all are accelerated momentarily to high velocity therein. Decelerating the ions as they enter the region 2 greatly foreshortens the column. Similar momentary acceleration of the entire column while in the region 3 and deceleration of the ions upon entering the region 4 foreshorten the column 10 still more. Further deceleration in the regions 5 and 6 provides even more foreshortening. The column is momentarily accelerated in the region 6 just before it enters the region 7, where the same rate of acceleration is maintained to add an effective time bunching of the column on the target 32.

3,519,943

### FREQUENCY DISCRIMINATOR FOR PULSE-SHAPED SIGNALS UTILIZING SEMICONDUCTOR STORAGE TIME

Gerhard-Gunter Gassmann, Berkheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

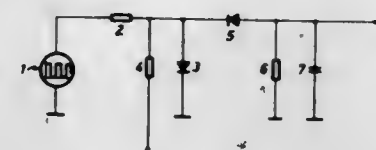
Filed Mar. 20, 1968, Ser. No. 714,498

Claims priority, application Germany, Mar. 22, 1967, St 26,574

Int. Cl. H03d 1/18; H03k 19/08

U.S. Cl. 329—102

5 Claims



A frequency discriminator for pulse-shaped signals which utilizes the storage time delay effects of semiconductor instead of the conventionally used tuned circuit.

A first embodiment includes a first diode, with the output voltage thereof consisting of pulses whose amplitude, within the operating range of the discriminator, being in proportion to the difference of time between the trailing edge and the leading edge of the pulses of the applied

train of pulses, less the diode storage time. The diode detector converts the pulses into a DC output voltage whose magnitude being in proportion to the amplitude of the pulses. A second embodiment uses transistors instead of diodes. In addition thereto, the DC output voltage is fed back to the first transistor to control the center frequency of the discriminator.

3,519,944

### ANGLE MODULATION DISCRIMINATOR-DETECTOR CIRCUIT

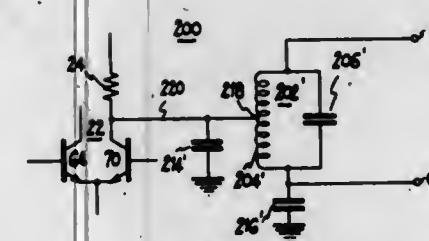
Jack Avins, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Feb. 15, 1968, Ser. No. 705,709

Int. Cl. H03d 3/02

U.S. Cl. 329—103

16 Claims



A discriminator network having only a single tuned circuit generates two antiphase voltages with frequency-amplitude characteristics such that the differences between their peak values produce a linear discriminator characteristic. The network comprises the parallel combination of a parallel tuned circuit and two series capacitors driven by a suitable source of angle modulated waves with the junction of the two series capacitors connected to a point of reference potential. The antiphase voltages are fed to respective input electrodes of a differential amplifier-detector network.

3,519,945

### SYSTEM FOR REPLACING ALL OR PART OF A FAULTY AMPLIFIER

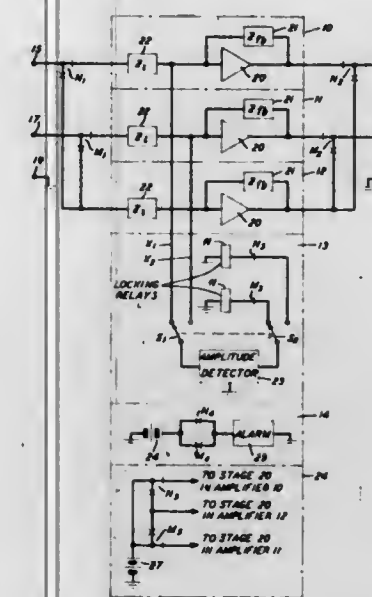
Richard E. Lawson, Burlington, and Charles C. Willhite, Greensboro, N.C., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Sept. 5, 1967, Ser. No. 665,594

Int. Cl. G01r 19/16; H03f 3/68

U.S. Cl. 330—2

1 Claim



Summing point signals in feedback amplifiers are monitored by a threshold-type amplitude detector. When a fault occurs, a summing point signal exceeds a reference

level and the detector produces an output that is effective to replace all or part of the amplifier responsible for the output.

3,519,946

### CLASS A AUDIO AMPLIFIER

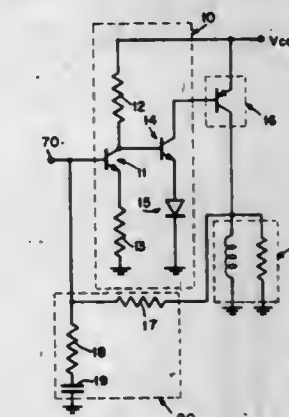
Hans R. Camezind, 862 Springer Road, Los Altos, Calif. 94022

Filed Sept. 30, 1968, Ser. No. 763,605

Int. Cl. H03g 3/30

U.S. Cl. 330—24

3 Claims



A Class A audio amplifier including a driver amplifier and a power amplifier. The driver amplifier includes an amplifying semiconductor means and diode means. The amplifying semiconductor means and the diode means cooperate to provide a diode biased output stage having a gain inversely proportional to the gain of the power stage. The Class A audio amplifier further includes a negative feedback network which feeds back part of the output signal to the input of the audio amplifier.

3,519,947

### ACTIVE RC WAVE TRANSMISSION NETWORK HAVING A 360° NON-MINIMUM PHASE TRANSFER FUNCTION

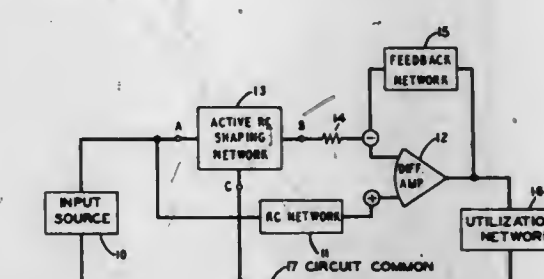
William Thelen, Salem, N.H., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Feb. 23, 1968, Ser. No. 707,667

Int. Cl. H03f 3/68; H03h 11/00

U.S. Cl. 330—30

9 Claims

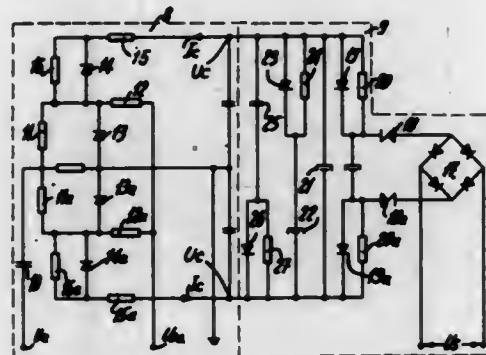


In a resistance/capacitance transmission network the input signal is first applied to two separate filter networks both of which have positive transfer functions. The first network is active and has a second order transfer function, whereas the other network is passive and has a first order transfer function. The individual outputs of the filter networks are subtracted from each other by applying the output of the active network to the inverting input and the output of the passive network through a resistor to the non-inverting input of a differential amplifier. The



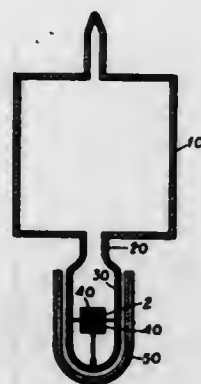
resulting output signal of the differential amplifier has a 360° non-minimum phase transfer function without having required any inductors in the wave transmission network.

**3,519,948**  
**PURELY ELECTRONIC AUTOMATIC GAIN CONTROL FOR AN AUDIO AMPLIFIER**  
Henri Matthey, La Chaux-de-Fonds, and Jean J. Bessire, Bienne, Switzerland, assignors to Erecsa S.A., Bienne, Switzerland, a corporation of Switzerland  
Filed Sept. 15, 1967, Ser. No. 668,139  
Claims priority, application Switzerland, Sept. 29, 1966, 14,088/66  
Int. Cl. H03g 3/22  
U.S. Cl. 330-145 7 Claims



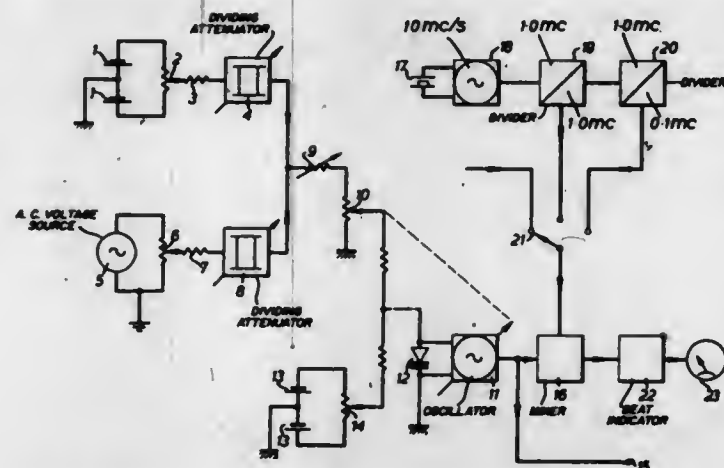
The invention concerns a purely electronic automatic gain control for an audio amplifier comprising an integrating circuit determining the time constant for the gain to return to its nominal value after an overload, said time constant being proportional to the time integral of the part of the input signal laying above its nominal value.

**3,519,949**  
**OPTICAL PUMPING CELLS**  
Léon Malnar, Henri Brun, Albert Lussan, and Jacques Bijak, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France  
Filed Mar. 10, 1966, Ser. No. 533,180  
Claims priority, application France, Mar. 22, 1965, 10,140  
Int. Cl. H03b 3/12  
U.S. Cl. 331-3 8 Claims



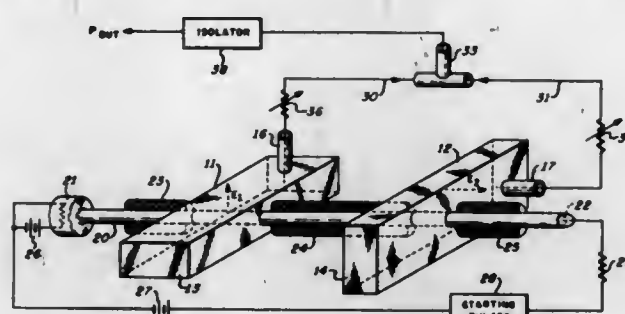
The disclosure is of cells filled with an alkali vapour and used in optical pumping devices. The cell comprises a vessel communicating with a bulb wherein an alkali graphite compound is provided. By means of a heating device, the alkali graphite compound supplies to the vessel an alkali vapour having a pressure substantially lower than the pressure which would be supplied by the alkali metal alone.

**3,519,950**  
**SIGNAL GENERATORS**  
John Michael Parkyn, St. Albans, Hertfordshire, England, assignor to Marconi Instruments Limited, London, England, a British company  
Filed July 8, 1968, Ser. No. 743,210  
Claims priority, application Great Britain, July 10, 1967, 31,684/67  
Int. Cl. H03b 21/00  
U.S. Cl. 331-40 7 Claims



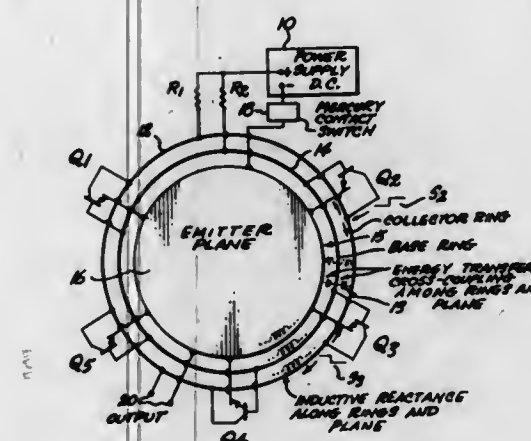
In a signal generator for producing frequency modulated waves with accurate modulation and frequency shift, outputs from calibrated adjustable sources of D.C. voltage and modulating frequency voltage are combined and fed via an attenuator and a potentiometer to a carrier frequency oscillator including a varactor diode, all of which are adjustable. The potentiometer and oscillator are ganged. Signals are superimposed at the oscillator from a further D.C. voltage source. The oscillator and a calibrated standard frequency source feed a mixer, the output of which indicates beats between its inputs on an instrument.

**3,519,951**  
**HIGH POWER, BROADBAND, ELECTRON STREAM-PLASMA NOISE SOURCE**  
Claude D. Lustig, Arlington, Mass., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware  
Filed Sept. 17, 1964, Ser. No. 397,123  
Int. Cl. H03b 29/00  
U.S. Cl. 331-78 12 Claims



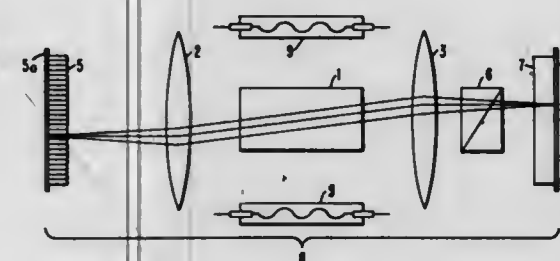
7. A high power noise source comprising: first and second rectangular waveguides having broad and narrow walls and each adapted to propagate electromagnetic waves within a given frequency range in the dominant TE<sub>10</sub> mode, said waveguides being disposed adjacent each other with their respective broad walls orthogonal to each other, an elongated gas discharge tube extending transversely between the narrow walls of the first waveguide and transversely between the broad walls of the second waveguide, and means for extracting and combining electromagnetic waves from said two waveguides to produce a composite electromagnetic wave signal.

**3,519,952**  
**RANDOM NOISE GENERATOR**  
Kenneth F. Buegel, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware  
Filed Mar. 22, 1965, Ser. No. 441,592  
Int. Cl. H03b 29/00  
U.S. Cl. 331-78 13 Claims



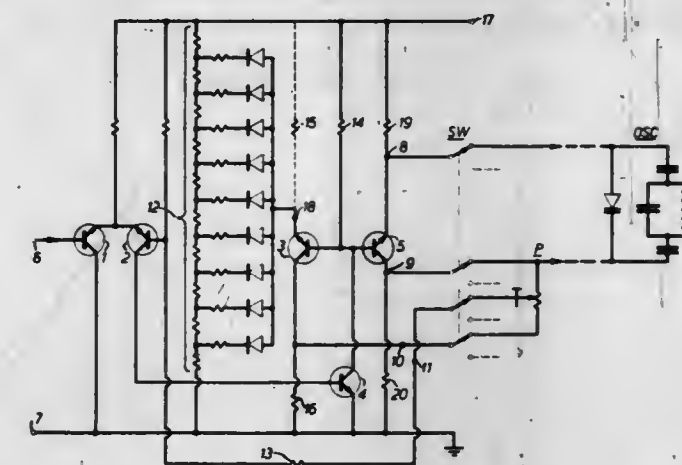
1. A random noise generator comprising a wave propagating structure composed of first conductive means including a conductive surface and second conductive means including a closed loop conductor positioned in relation to said surface to have substantially uniformly distributed mutual energy transfer cross-coupling with said surface when said generator is energized; means for coupling a source of energy to said wave propagating structure to establish potential for energy flow through said generator; a plurality of signal translating devices having first control elements connected to said surface and second control elements connected to said closed loop conductor, each device being operable in response to changes in relative control conditions on said elements to generate a pulse propagated as a travelling wave in one of said conductive means, said wave inducing through said cross-coupling a corresponding travelling wave of magnitude sufficient to cause a pulse producing change in relative control conditions on the control elements of at least one other of said devices, whereby interfering travelling waves are generated in said structure causing random triggering of said devices to generate said pulses; and output means coupled to said structure and responsive to the travelling wave energy propagated therein.

**3,519,953**  
**HIGH SPEED SCANLASER**  
Rodger L. Gamblin, Vestal, and David D. Roshon, Binghamton, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Apr. 28, 1967, Ser. No. 634,702  
Int. Cl. H01s 3/00  
U.S. Cl. 331-94.5 3 Claims



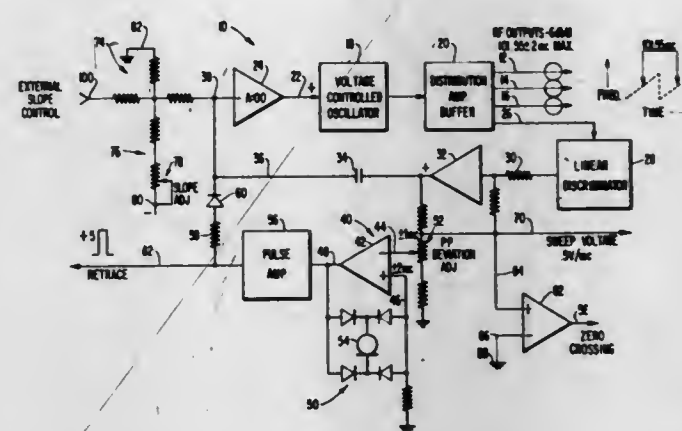
The invention relates to a scanlaser and particularly to a digital scanlaser coupled to an input laser as a means for reducing the switching time of the digital scanlaser.

**3,519,954**  
**LINEARISING CIRCUIT ARRANGEMENTS FOR VOLTAGE-SENSITIVE CAPACITANCE DIODES**  
John Michael Parkyn, Hertfordshire, England, assignor to Marconi Instruments Limited, London, England, a British company  
Filed July 8, 1968, Ser. No. 743,212  
Claims priority, application Great Britain, July 10, 1967, 31,685/67  
Int. Cl. H03j 3/18  
U.S. Cl. 331-177 4 Claims



In an adjustable distorting amplifier for correcting for capacitance/voltage non-linearity in a capacitance diode, input signals are compared with voltage from the variable contact of a variable potentiometer and applied to two phase splitters. One phase splitter has a fixed resistance in each arm, and adjustably distorted output is taken from between their adjacent ends. The other phase-splitter has a fixed resistance in one arm and a voltage-dependent non-linear resistance in its other arm. Voltages across a fixed resistance arm of each phase splitter are applied to the two ends of the potentiometer.

**3,519,955**  
**SWEEP OSCILLATOR SYNCHRONIZING SYSTEM**  
Hansel B. Mead, Jr., Eau Gallie, Fla., assignor to Teltronic Measurement Systems, Inc., New York, N.Y., a corporation of Delaware  
Filed July 5, 1968, Ser. No. 742,914  
Int. Cl. H03b 23/00  
U.S. Cl. 331-178 17 Claims

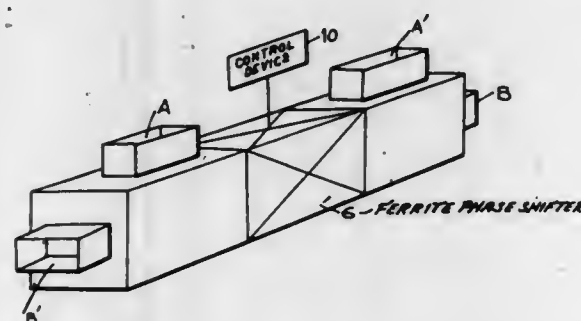


Disclosed is a synchronization system for synchronizing an oscillator with a time reference. The synchronization system comprises a digital automatic frequency control loop utilizing a digital counter or divider, early and late gates, a memory bistable, a resettable timer and an analog-to-digital converter. The system senses the mid-point of an oscillator output cycle and compares its time of occurrence with the occurrence of a predetermined reference time pulse and an error signal corrects the



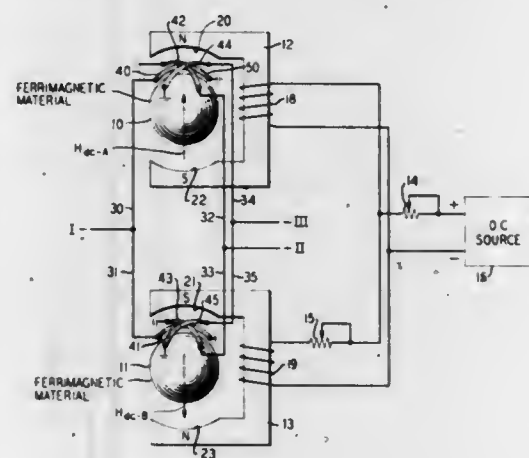
oscillator frequency. The oscillator is swept linearly through a band of frequencies and correction is applied to the sweep slope.

**3,519,956**  
**NONRECIPROCAL FERRITE PHASE-SHIFTER FOR SIMULTANEOUSLY PHASE SHIFTING  $TE_{01}$  AND  $TE_{10}$  MODES IN OPPOSITE DIRECTIONS**  
Thai Ngo Hai and Henri-Francois Bernadet, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France  
Filed Mar. 14, 1968, Ser. No. 713,091  
Claims priority, application France, Mar. 20, 1967, 99,511  
Int. Cl. H01p 1/32; H03h 7/20  
U.S. Cl. 333—1.1 7 Claims



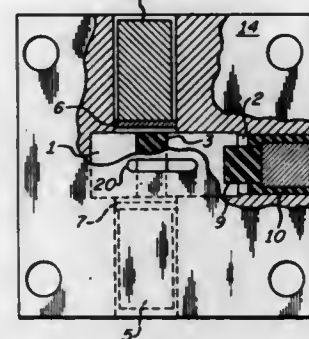
In order to phase-shift simultaneously two ultra-high frequency waves of same nature by opposite phase-shift values, a ferrite phase-shifter is inserted in a square section waveguide portion and couplings are provided at the ends of the guide portion respectively for waves polarized in the  $TE_{01}$  mode and for waves polarized in the  $TE_{10}$  mode.

**3,519,957**  
**TUNABLE NONRECIPROCAL COUPLING NETWORK**  
Masahiro Omori, Palo Alto, Calif., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York  
Filed Sept. 27, 1968, Ser. No. 763,302  
Int. Cl. H01p 1/32; H03h 7/44  
U.S. Cl. 333—1.1 7 Claims



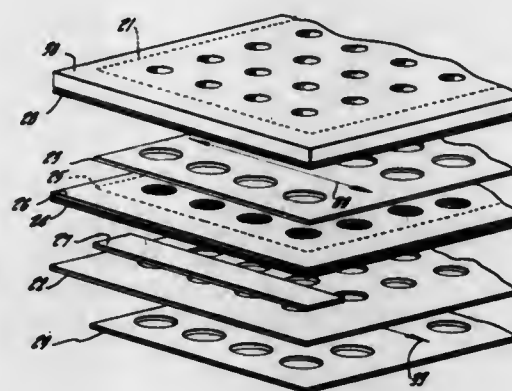
A multiport nonreciprocal coupling network in which the ports are each coupled to two resonators which support rotating electromagnetic fields at different phase angles when excited at an operating frequency intermediate to the resonant frequencies. The coupling is arranged so that the superposition of the two fields results in a null at one port and isolates that port. Independent adjustment of the resonant frequencies allows selection of the operating frequency.

**3,519,958**  
**WAVEGUIDE JUNCTION CIRCULATOR HAVING RESONANT IRIS BROADBANDING PLATES**  
Thomas A. Hagler and William C. Heithaus, Clearwater, Fla., assignors to Sperry Rand Corporation, a corporation of Delaware  
Filed Nov. 7, 1968, Ser. No. 774,162  
Int. Cl. H01p 1/32, 5/12  
U.S. Cl. 333—1.1 4 Claims



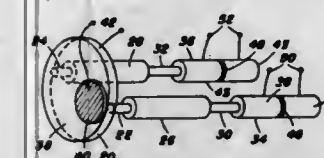
An H-plane waveguide junction circulator-isolator characterized by increased bandwidth of impedance match between the circulator and the input and output waveguide transmission lines resulting from the use of a thin metal plate with a resonant iris opening connected across each said transmission line at the input and output arms of the circulator. The circulator is converted into an isolator by placing a load termination in the third arm of the circulator.

**3,519,959**  
**INTEGRAL ELECTRICAL POWER DISTRIBUTION NETWORK AND COMPONENT MOUNTING PLANE**  
Lawrence L. Bewley, Claremont, Kenneth H. White, West Covina, and Arnold J. Jorgensen, Duarte, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan  
Filed Mar. 24, 1966, Ser. No. 537,049  
Int. Cl. H05k 1/04, 1/14, 3/30  
U.S. Cl. 333—6 2 Claims



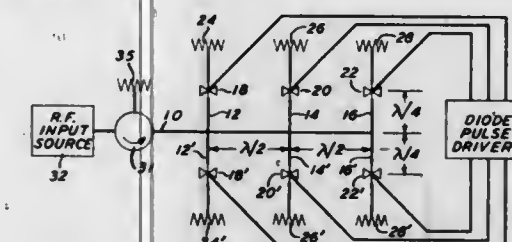
A plurality of conductive sheets are stacked in spaced relationship. A plurality of dielectric sheets are stacked in the space between the conductive sheets. The thickness of the dielectric sheets varies so that pairs of the conductive sheets have different characteristic impedances. Sources of electrical signals with different frequency characteristics are each connected to a pair of conductive sheets having the appropriate characteristic impedance. Dielectric sheets having slightly larger areas than the conductive sheets are disposed on both ends of the stack of conductive sheets such that the edges of the conductive sheets are set in from the edges of the dielectric sheets. The portions of the conductive sheets to which contact is to be made are pressed against a stiff mounting plane to form conductive rings that can be pierced by terminal pins.

**3,519,960**  
**ELECTROMECHANICAL FREQUENCY BAND SEPARATION APPARATUS**  
Morio Onoe and Takeshi Yano, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan  
Filed Dec. 23, 1968, Ser. No. 786,172  
Claims priority, application Japan, Dec. 28, 1967, 43/84,479  
Int. Cl. H03h 7/02, 9/26  
U.S. Cl. 333—6 14 Claims



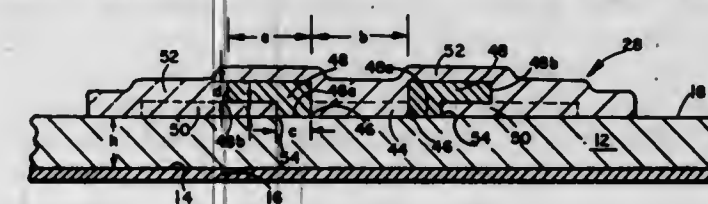
Electromechanical frequency band separation apparatus is provided wherein the multimode vibrations of main electromechanical transducer means are utilized in conjunction with a plurality of frequency selective, mechanical branches to form a frequency division network. The multifurcated structure of the electromechanical frequency band separation apparatus thus formed provides relatively wide spacing between the passbands of the plurality of frequency selective, mechanical branches present therein, whereby the characteristics of the network formed are similar to that of purely electrical frequency band separation apparatus.

**3,519,961**  
**PULSE PARTITIONER**  
Carl G. Bergey, Reading, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York  
Filed Oct. 24, 1967, Ser. No. 677,678  
Int. Cl. H01p 1/10, 3/08, 5/12  
U.S. Cl. 333—7 5 Claims



A pulse partitioner comprises a transmission line having quarter wave shorted stubs spaced at half wavelength intervals along the line. The shorts on the stubs are provided by pair of forward-biased diodes mounted between the center and outer conductors of each stub. By selectively reverse-biasing each pair of diodes, the input power pulse can be partitioned into a plurality of shorter pulses each having a duration equal to the time that its associated pair of diodes was reverse-biased, and having a power amplitude equal to that of the input pulse.

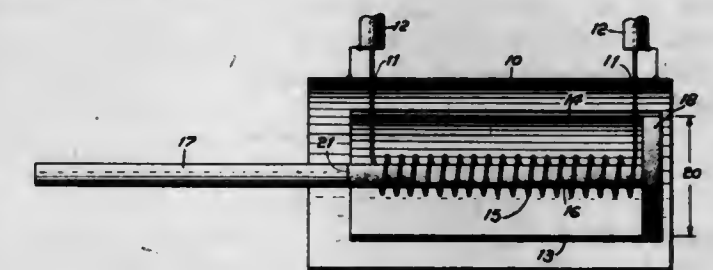
**3,519,962**  
**MICROWAVE TRANSMISSION LINE**  
James N. Lind, Costa Mesa, Calif., assignor to North American Rockwell Corporation  
Filed Mar. 11, 1968, Ser. No. 711,934  
Int. Cl. H01p 3/08; H05k 1/14; H04b 15/00  
U.S. Cl. 333—12 12 Claims



A microwave transmission line adapted for incorporation in an integrated circuit and fabricated on a dielectric

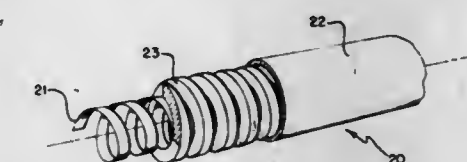
substrate having a ground plane on its lower surface. The transmission line comprises an elongate metal strip disposed atop the substrate. The longitudinal edges of the metal strip abut respectively against first and second elongate, substantially L-shaped dielectric branches which operate as quarter-wave traps preventing undesired propagation away from the line into the substrate.

**3,519,963**  
**VARIABLE DELAY LINE**  
Zeno G. Lyon, Scotch Plains, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware  
Filed Aug. 7, 1968, Ser. No. 750,798  
Int. Cl. H03h 7/36  
U.S. Cl. 333—29 10 Claims



A compact continuously variable delay line is provided which has a constant characteristic impedance over its range of delay. The arrangement maintains a constant L/C ratio by one adjustment which causes a simultaneous change in L and C.

**3,519,964**  
**HIGH POWER SLOW WAVE CIRCUIT**  
Paul Chorney, Norwood, Marion E. Hines, Weston, and Richard J. Madore, Peabody, Mass., assignors to Microwave Associates, Incorporated, Burlington, Mass., a corporation of Massachusetts  
Filed July 26, 1968, Ser. No. 747,973  
Int. Cl. H03h 7/30; H01j 25/36; H03b 9/30  
U.S. Cl. 333—31 5 Claims



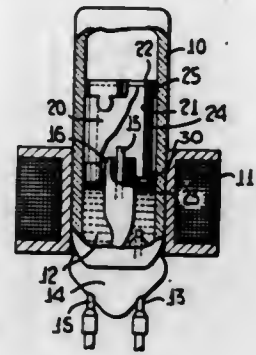
A slow wave circuit for a traveling wave tube is shown, employing a conductive helix secured within a helical ceramic or other insulator which may be continuous or segmented. The ceramic helix may be easily brazed to the conductor, and provides firm support mounted within a guide tube. This structure achieves an optimum combination of easy fabrication, low dispersion and high thermal dissipation. In certain situations, the improved results are further increased by permitting the use of materials which have more favorable characteristics, but which were previously mechanically unsuitable.

**3,519,965**  
**ROTATING PLUNGER FOR MERCURY DISPLACEMENT RELAY**  
Victor Horowitz, Oceanside, N.Y., assignor to Ebert Electronics Corp., New York, N.Y., a corporation of New York  
Filed Nov. 17, 1967, Ser. No. 683,913  
Int. Cl. H01h 29/02  
U.S. Cl. 335—52 10 Claims

A plunger type mercury switch is provided with a ring of Kel-F or Teflon or other low friction plastic, extending about and protruding above the plunger, and a further



ring of the same material extending about and protruding below the plunger. The upper ring contains protrusions which serve to guide the plunger in its envelope. The lower ring includes protrusions so shaped that each



cycle of energization and de-energization of the switch causes a slight net rotation of the plunger, and the rings provide cushioning of the plunger at the ends of its travel.

3,519,966

**ELECTRICAL RELAY**

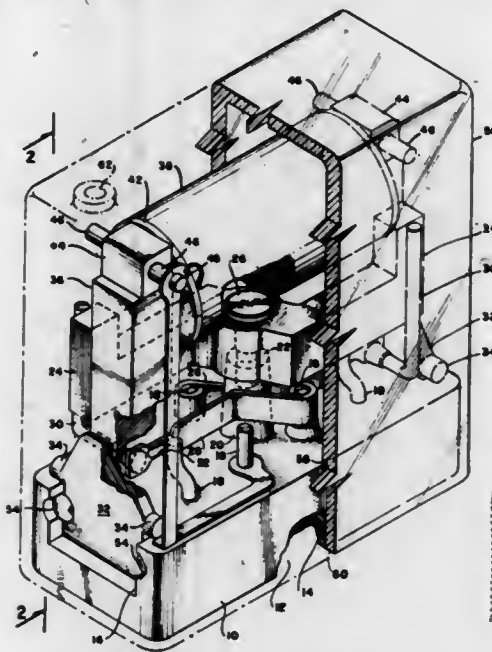
Anthony E. Sprando, Portland, and Richard L. Sollars, Hillsboro, Oreg., assignors to Textronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed Jan. 23, 1967, Ser. No. 611,540

Int. Cl. H01h 1/66, 63/02, 67/02

U.S. Cl. 335—128

3 Claims



An electrical relay including a plastic header or base and a plastic shell hermetically sealed to the header. Electrical terminals are sealed into said header and extend into a recessed under portion, the periphery or skirt of which is sealed to the plastic shell. The header is also formed with an integral boss providing bearing means for a balanced armature. Accurately positioned plastic core supporting members are cast in fastening relation to the relay's core, and a plastic coil bobbin is similarly cast around the core.

3,519,967

**RELAY WITH MODULAR CONTACT ASSEMBLY**  
John H. Mullen, Beaver, and Zelko John Krusic, New Brighton, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 30, 1967, Ser. No. 686,917

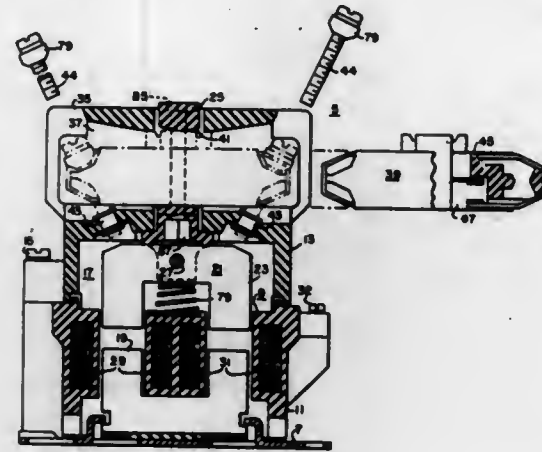
Int. Cl. H01h 67/02

U.S. Cl. 335—132

10 Claims

An improved relay in which modular contact assemblies are reversible to provide normally open and normally

closed operation. The contact assemblies are provided with generally U-shaped terminal conductors. Pole terminal screws extend angularly through the legs of the terminal



connectors to fasten the assemblies in position on the relay and to connect conductive wire to the flat faces on the terminal connectors.

3,519,968

**CONTACTOR WITH IMPROVED ELECTROMAGNETIC OPERATING DEVICE**

Andre Georges Faffart, Nanterre, France, assignor to La Telemecanique Electrique Nanterre, Hauts-de-Seine, France, a joint-stock company of France

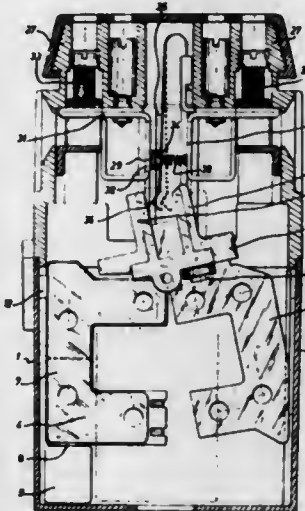
Filed Jan. 17, 1969, Ser. No. 791,976

Claims priority, application France, Jan. 23, 1968, 137,135

Int. Cl. H01h 3/54

U.S. Cl. 335—185

7 Claims



A contactor with electromagnetic control comprising a pivoted electromagnet core provided with a coil and having flat pole faces, and an armature oscillating about an axis, having flat pole faces respectively facing the pole faces of the pivoted core and on which an insulating member is rigidly mounted opposite the pole face with respect of the axis of oscillation and which comprises at least one insulating fork, said oscillating armature being restored by a calibratable elastic means. At least one moving contact, carried by a flexible blade is mounted facing at least one fixed contact, each connected to a terminal, the free extremity of the flexible blade being engaged with play between the arms of the insulating fork, said blade being released by the arms of the fork in closed position of the contact, while a calibrated spring applies said moving contact against said fixed contact.

3,519,969

**ROTATING TRANSFORMER**

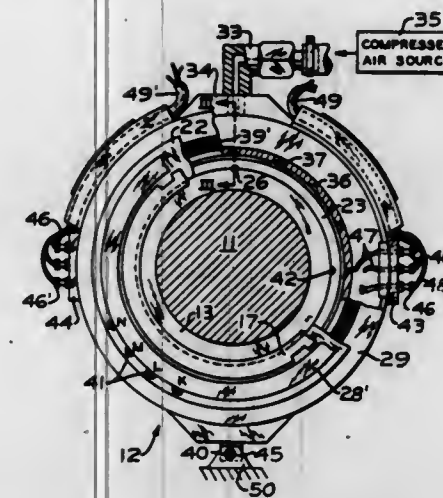
John L. Hoffman, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Nov. 12, 1968, Ser. No. 774,668

Int. Cl. H01f 21/06

U.S. Cl. 336—120

12 Claims



Apparatus for inductively transmitting electrical signals between rotating and stationary structure has a grooved rotor into which a coaxial stator extends, each member having two axially spaced coils whereby a carrier wave signal may be transmitted to the rotating structure by a first pair of coils and a modulated signal may be returned therefrom by another pair. The stator coils are of greater radial extent than the rotor coils whereby signal distortion from radial runout is minimized. The stator is loosely fastened to adjacent stationary structure and air under pressure is forced through the stator into the rotor groove to establish an air bearing action whereby the stator is effectively supported by the rotor without direct contact therewith and without depending on external bearings for support.

3,519,970

**CURRENT LIMITING FUSE OIL SWITCH CUT-OUT ASSEMBLY**

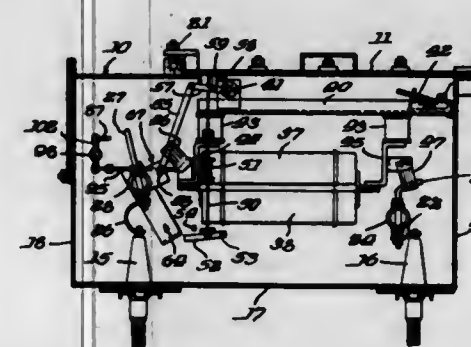
George E. Lusk, Downers Grove, and Clarence L. Welter, Alsip, Ill., assignors to G & W Electric Specialty Company, Blue Island, Ill., a corporation of Illinois

Filed Oct. 31, 1967, Ser. No. 683,082

Int. Cl. H01h 9/20, 85/22, 85/56

U.S. Cl. 337—5

8 Claims



The present switch structure is housed within an oil-filled tank or container and a spring energized toggle mechanism opens the switch when the toggle mechanism is tripped by operation of a current limiting fuse due to overload currents in the circuits being protected. However, the toggle mechanism can be tripped by manual trip means independently of fuse operation. When the current limiting fuse is swung out of the oil-filled tank for fuse replacements or repair both ends of the fuse are disconnected and visually separated from the power ter-

minals. Safety features are also provided, in the form of interlocks between the cover of the oil-filled tank and the toggle mechanism.

3,519,971

**FUSE INCLUDING IMPROVED MEANS RESPONSIVE TO THE OPERATION OF THE FUSE**

Frank L. Cameron, Irwin, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 3, 1969, Ser. No. 803,655

Int. Cl. H01h 37/46, 85/30

U.S. Cl. 337—241

7 Claims



A fuse comprising an electrically insulating casing having spaced terminal means disposed thereon and electrically conducting means including a fusible element disposed in the casing and electrically connected between said terminal means. An additional fuse wire is disposed in the casing and is connected between said terminal means with means provided adjacent to one end of the casing which responds to the fusion or melting of the fusible element and the fuse wire to change position.

3,519,972

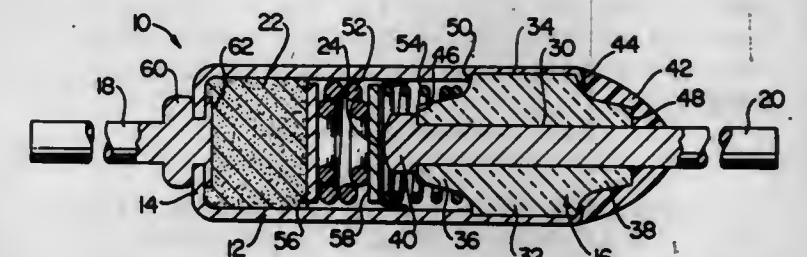
**TEMPERATURE RESPONSIVE ELECTRIC SWITCH**  
Phillip Edward Merrill, Kettering, Ohio, assignor to Micro Devices Corp., Dayton, Ohio, a corporation of Ohio

Filed Mar. 18, 1969, Ser. No. 808,247

Int. Cl. H01h 37/72, 37/76

U.S. Cl. 337—407

33 Claims



A switch construction has a conductive casing with an integral closure at one end and an electrically non-conductive closure at the other end. One conductor contacts the casing and a second conductor extends into the casing through the non-conductive closure. The non-conductive closure is a rigid insulating plug surrounding said second conductor having a large main body engaging the inside of the casing, with two identical smaller diameter inward and outward plug extensions. Either plug



extension is inserted into the casing and the other extension extends out of the casing. The other switch parts are first inserted into the casing before insertion of the plug in the casing. A sealing compound is then applied to the plug, to the adjacent end of the casing, and to the second conductor, which extend out of the plug. Another embodiment has the cylindrical main plug body and the outward plug extension. The plug has an inward conductive pin at the other end that engages a second conductor end head in a cavity in said main body.

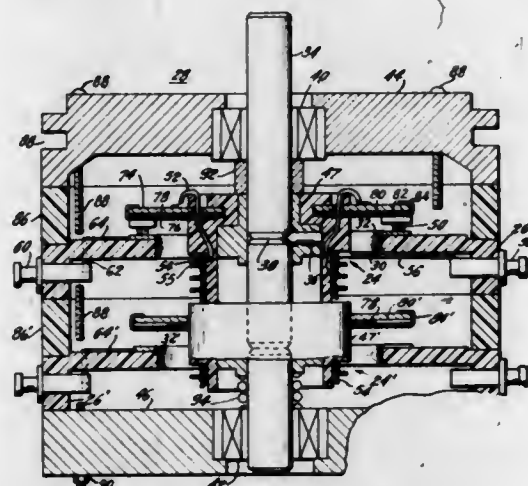
### 3,519,973 CONTACT BLOCK FOR ROTARY POTENTIOMETERS

Arnold S. Louis, Hastings-on-Hudson, N.Y., and S. Frederic Guggenheim, Teaneck, N.J., assignors to Markite Corporation, New York, N.Y., a corporation

Filed July 7, 1967, Ser. No. 651,892  
Int. Cl. H01c 5/02

U.S. Cl. 338—162

12 Claims



A contact block for rotary potentiometers and the method of manufacturing same, including a hub portion insulatingly supporting, with respect to one another, a plurality of wing-like sections on each of which may be carried a conductive contact member intended to engage a resistive track provided on the interior of the potentiometer casing. Each wing-like section comprises an assembly of two wing-like plates between which is sandwiched the conductive contact member for slidable movement therebetween. A third intermediate plate section is located between each pair of plates to provide an inner guide rail for the slidable movement of the conductive contact member while overlapping tab members of one of the exterior plates defines an outer guide rail for the movement of the conductive contact member. During manufacture the plates of the contact assembly are integrally formed with removable perimeter portions which may be detached after the molding of the hub portion such that the wing-like plate sections remain insulatingly imbedded with respect to one another in the thus formed hub portion.

### 3,519,974 VARIABLE RESISTANCE CONTROL WITH MOUNTING MEANS THEREFOR

Edgar F. Hauenstine, Frankfort, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

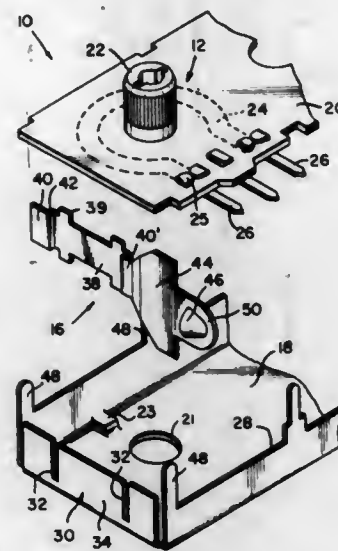
Filed Aug. 14, 1968, Ser. No. 752,613  
Int. Cl. H01c 1/02

U.S. Cl. 338—197

6 Claims

In a control unit, at least one variable resistor means is carried in or by a cup-shaped cover, the cup-shaped cover having means formed in opposed ends thereof for receiving resilient mounting means. A control base closes the open end of the cup-shaped cover thereby forming

a housing for the control unit. The control base traps the mounting means in the cover. The mounting means



provides a plug-in or snap-in mounting for the control unit on a circuit board.

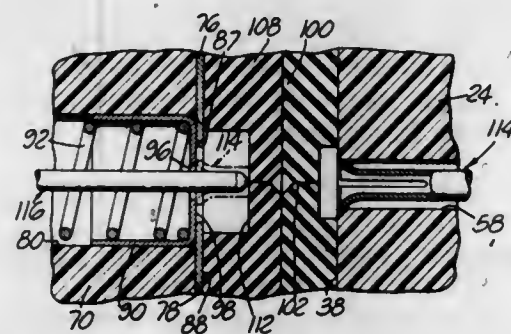
### 3,519,975 ELECTRICAL CONNECTOR

Harold James Frow, Jr., Scottsdale, and Albert Ralph Sedig, Mesa, Ariz., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 25, 1968, Ser. No. 715,901  
Int. Cl. H01r 3/06

U.S. Cl. 339—14

10 Claims



An electrical connector comprising interengageable receptacle and plug members carrying a plurality of axially aligned contact elements which complete a series of electrical circuits through the connector when the members are interengaged. Means are provided for automatically unshorting the receptacle contact elements when the connector members are interengaged and for automatically grounding or shorting said elements when the connector members are disengaged. In addition, means are provided for completely sealing the forward faces of both of the connector members when the latter are disengaged to prevent contamination of the interior of the connector members by moisture, dust, etc., in the atmosphere.

3,519,976  
DISCONNECT FOR ELECTRIC METERS  
Harley J. Orr, Bedford, N.H., assignor to Sola Basic Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin

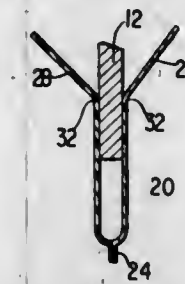
Filed Sept. 8, 1967, Ser. No. 666,273  
Int. Cl. H01r 13/44

U.S. Cl. 339—36

2 Claims

A device for use on blades of meters for temporarily disconnecting the same, there being insulating sheaths for placing on the blades, such sheaths being formed from continuous tubing sealed at one open end.

This invention relates to electric watt-hour meters and leads and terminals. Bosses on one section interlock with the like and more particularly to an improved insulating ribs on the adjacent section to maintain the sections in en-



device for temporarily disconnecting the blades of such meters from their receiving sockets or clips on a base receptacle while the meter is in place.

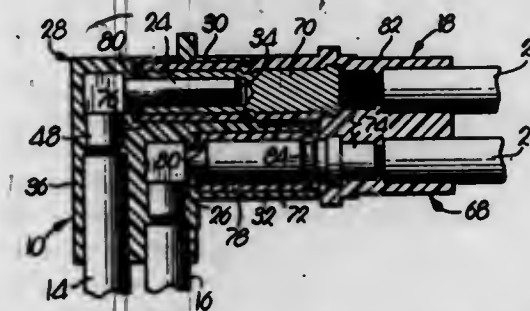
### 3,519,977 HIGH AMPERAGE QUICK DISCONNECT ELECTRIC COUPLING STRUCTURE

Dean D. Swearingen, Liberty, Mo., assignor to Whitaker Cable Corporation, North Kansas City, Mo., a corporation of Delaware

Filed Jan. 11, 1968, Ser. No. 697,092  
Int. Cl. H01r 13/44, 13/52, 11/06

U.S. Cl. 339—36

10 Claims



Male and female electrical connectors are formed from solid metallic stock and are flash welded to the ends of current-carrying members such as stranded electrical conductors. In one embodiment of the invention, the connectors are utilized in conjunction with molded plastic receptacle and plug housings and are arranged therein in longitudinally staggered relationship to preclude cross-connecting of the plug and receptacle. In a second form of the invention, the connectors are utilized in conjunction with a pair of storage battery terminal clamps, a male connector being flash butt-welded to one of the clamps and a female connector being similarly flash butt-welded to the other clamp. Mating connectors are welded to the ends of a pair of conductors to form quick disconnect coupling structures for the battery terminals; insulating sheaths and covers for the connectors are arranged to preclude inadvertent cross-connection of the two conductors and the battery terminals. In a third form of the invention, two identical combination male and female disconnect units are provided for establishing two electrically conductive paths through the units when the latter are brought together with the male and female connectors thereof relatively telescoped.

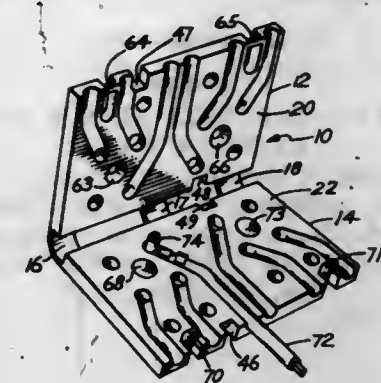
3,519,978  
CONNECTOR CONSTRUCTION  
Anthony J. Taormina, Detroit, and Roman J. Witek, Jr., Romulus, Mich., assignors to Essex International, Inc., Fort Wayne, Ind., a corporation of Michigan

Filed Sept. 15, 1967, Ser. No. 668,106  
Int. Cl. H01r 11/02, 13/50; H05k 7/00

U.S. Cl. 339—59

6 Claims

A terminal housing having a unitary body consisting of two flat, plate shaped sections held together by flexible hinge. A number of passageways, which pass through the plate sections and are connected to channels on inner mating surfaces of the sections, provide pathways for wire leads and terminals. The sections are fitted over the wire



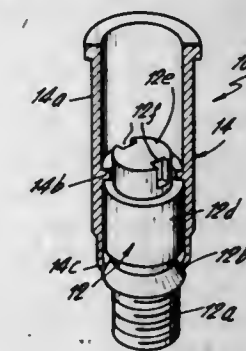
gagement with the wire leads and terminals. The terminal housing is especially useful as a component in automobile electrical systems.

3,519,979  
TAMPER-PROOF ELECTRICAL TERMINATION  
William Bodenstein, Fort Lee, N.J., assignor to Vikoa, Inc., Hoboken, N.J., a corporation of Delaware

Filed July 26, 1968, Ser. No. 748,012  
Int. Cl. H01r 13/54

U.S. Cl. 339—85

4 Claims



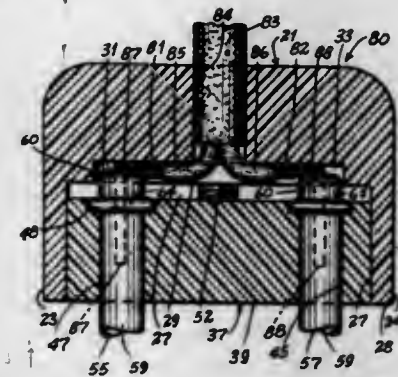
A tamper-proof tap termination for CATV terminal boxes. The tap termination includes a plug, a first end of which is screw-connected to the terminal tap and the second end of which has a configuration for mating with an associated key. A sleeve is attached to the plug and although fixed in longitudinal relation to it is capable of rotation around it. The sleeve projects past the second end of the plug and has a hollow bore for insertion of the key therein. The key has an end which mates with the second end of the plug. The plug can be unscrewed from the terminal box only by the use of the special key which is not available to unauthorized personnel.

3,519,980  
ELECTRICAL CONDUCTOR PLUG  
Jack R. Mosley, St. Louis, Mo., assignor to Mosley Electronics Company, St. Louis, Mo., a corporation of Missouri

Filed Mar. 11, 1968, Ser. No. 712,050  
Int. Cl. H01r 13/58, 33/06

U.S. Cl. 339—105

5 Claims



An electrical conductor plug having separable body components for retaining hollow conductor prongs. Con-



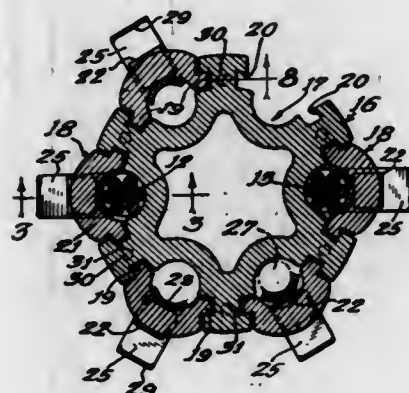
ductor wires extend into the prongs to make electrical connections and are held in place by the clamping action of the separable body parts.

### 3,519,981 MULTITAP CONNECTOR BLOCK FOR HEAVY CONDUCTORS

Peter K. Koletso, Chicago, and Chester E. Pierzchala, Wheaton, Ill., assignors to Reliable Electric Company, Franklin Park, Ill., a corporation of Illinois  
Filed Mar. 20, 1968, Ser. No. 714,641  
Int. Cl. H01r 7/14

U.S. Cl. 339-242

9 Claims



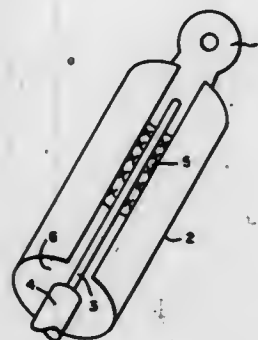
A ring-shaped member has a plurality of U-shaped slots along its edge, each side wall of each slot having an undercut shoulder. A bridge type clamping assembly interlocks with the shoulders to close the slot and exert a clamping pressure on a cable located in the slot. The clamp assembly can be withdrawn from the slot by a longitudinal sliding movement. Each clamp assembly comprises a bridge member, set screws passing through same, and a saddle engaged by the set screws to exert gripping force on the conductor. The saddle has end pieces received within recesses in the end surfaces of the bridge member, thus permitting sliding movement of the saddle with respect to the bridge member.

### 3,519,982 METHOD AND MEANS OF FORMING ELECTRICAL CONNECTIONS WITH CONDUCTORS

Gerome R. White, Jr., 19 Old Stable Road, Demarest, N.J. 07627  
Continuation-in-part of application Ser. No. 697,226, Jan. 11, 1968. This application Nov. 6, 1968, Ser. No. 773,719  
Int. Cl. H01r 5/04

U.S. Cl. 339-275

60 Claims

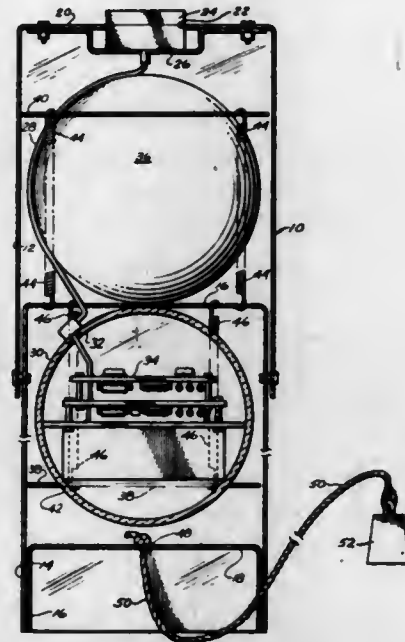


Electrical connectors for conductors and methods of forming the same in which the connectors are precoated with flux and solder and so formed that they may simultaneously be conformed to and soldered with a conductor to form a junction of high reliability. Variations of particular usefulness in back plane wiring are also disclosed.

### 3,519,983 LIGHTWEIGHT UNDERWATER INSTRUMENTATION

James O. Ewing, Granada Hills, Calif., assignor to The Bendix Corporation, a corporation of Delaware  
Filed Dec. 11, 1968, Ser. No. 782,858  
Int. Cl. B63b 21/52, 51/02; G01s 9/66  
U.S. Cl. 340-2

10 Claims



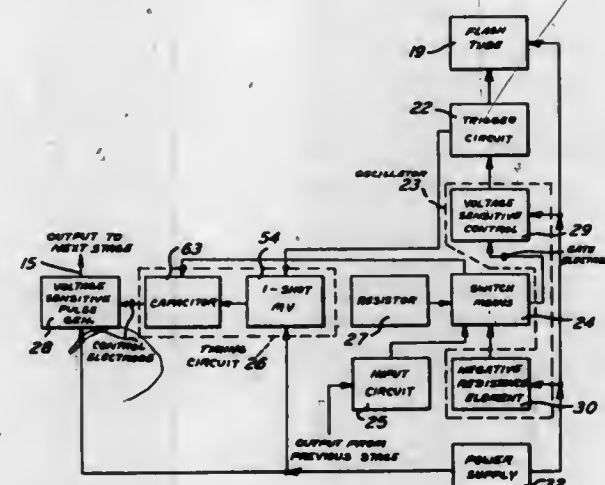
A lightweight, low-cost underwater transponder is described in which a pair of glass spheres are used as floatation means, the spheres being contained within a lightweight, free-flooding housing of glass epoxy material. A receiving and transmitting transducer is attached to the top of the housing, and an anchor is attached near the bottom of the housing and is fastened to the housing by means of a rope. The lower of the two glass spheres contains a battery pack and the electronic assembly necessary for driving the transducer. The housing is formed of a plurality of nesting cylindrical elements to provide for rigidity and to provide internal bulkheads, and various means are provided for protecting the glass spheres against damage through colliding with each other or with the side walls of the housing.

### 3,519,984 AIRCRAFT LANDING BEACON SYSTEM

Edward Zychal, Bucks County, Pa., assignor to Elco Corporation, Willow Grove, Pa., a corporation of Delaware  
Filed Mar. 3, 1967, Ser. No. 620,323  
Int. Cl. B64f 1/18

U.S. Cl. 340-25

14 Claims



A signal light is capable of producing high-intensity flashes in response either to periodically produced internal or external stimuli. A selectivity adjustable switch can be set to establish whether the signal light operates as a

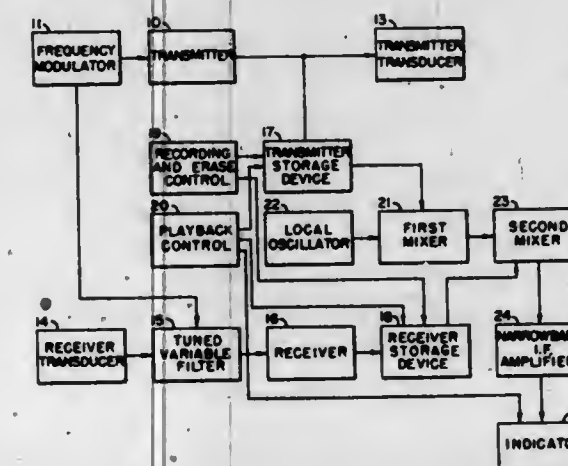
master to produce flashes in response to the internal stimuli, or as a slave to produce flashes in response to externally supplied stimuli. The signal light responds to its own flash by producing a stimulus, which, depending upon the switch setting, can occur with either perceptible or imperceptible delay relative to the flash, and which can be applied as an external stimulus to another slaved signal light. This capability permits a plurality of signal lights to be assembled into a chain to establish a system wherein the signal light at one end of the chain is the master and produces periodic flashes, and the remainder of the signal lights are serially connected to the master and are operated as slaves. A stimulus from the master is propagated along the chain of signal lights selectively causing the latter to produce what appears to an observer as simultaneous flashes or progressive flashes that travel the length of the chain depending upon the switch settings of the signal lights.

### 3,519,985 RANDOM MODULATION OBSTACLE LOCATOR SYSTEM

Robert M. Page, Camp Springs, Md.  
(6672 Shay Lane, Paradise, Calif. 95969)  
Continuation-in-part of application Ser. No. 231,244, June 12, 1951. This application Apr. 12, 1955, Ser. No. 501,009  
Int. Cl. G01s 9/68

U.S. Cl. 340-3

5 Claims



1. In a system for detecting objects disposed in an energy propagational medium, transmission means for delivering oscillatory energy into the medium, a frequency modulation means coupled to said transmission means for modulating said oscillatory energy at a non-uniformly varying frequency, reception means for intercepting oscillatory energy in the medium reflected from objects located in the medium, storage means retaining for a period of time the delivered energy and the intercepted return energy, playback control means connected to the storage means operative to control the reproduction of stored signals in variable time relationship to secure a selected frequency difference between the reproduced delivered energy and the reproduced intercepted energy for selected range, and a narrow bandwidth intermediate frequency amplifier responsive to the selected frequency difference to amplify signals at that frequency.

### 3,519,986 DIRECTIONAL SIGNAL SYSTEM FOR VEHICLES

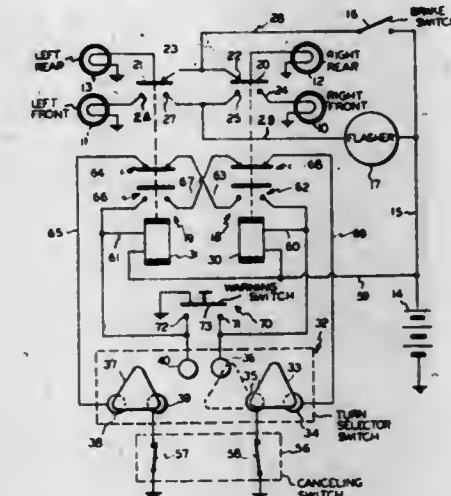
Gideon A. du Rocher, Mount Clemens, Mich., assignor to Essex International, Inc., Fort Wayne, Ind., a corporation of Michigan  
Filed Sept. 6, 1966, Ser. No. 577,556  
Int. Cl. B60q 1/42

U.S. Cl. 340-55

6 Claims

A directional signal system for motor vehicles including right and left signal relays which are selectively en-

ergized by a momentary movement of the operating lever of a turn selector control switch to establish either of right and left signal lamp circuits, the circuit selected being cancelled either automatically by a predetermined rotation of the vehicle steering shaft or manually by



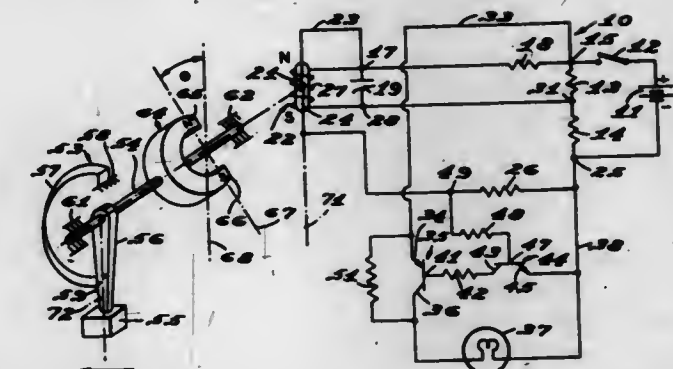
momentary movement of the operating lever of the turn selector control switch in a direction opposite to its initial signaling movement. The directional signal system may additionally include an emergency warning signal switch to permit simultaneous operation of the right and left signal lamps.

### 3,519,987 DECELERATION INDICATOR FOR AN AUTOMOTIVE VEHICLE

Zbigniew J. Jania, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Filed May 2, 1966, Ser. No. 546,742  
Int. Cl. B60q 1/26

U.S. Cl. 340-72

7 Claims



A deceleration indicator for an automotive vehicle in which a rear lamp on the vehicle is flashed at a frequency which is a continuously varying function of the magnitude of vehicle deceleration and in which the duty cycle of the flashing lamp may also be a continuously varying function of the magnitude of the deceleration of the vehicle.

### 3,519,988 ERROR CHECKING ARRANGEMENT FOR DATA PROCESSING APPARATUS

Sherman H. Grossman, Brookline, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware  
Filed May 17, 1965, Ser. No. 456,320  
Int. Cl. G11b 27/22; H03k 13/34

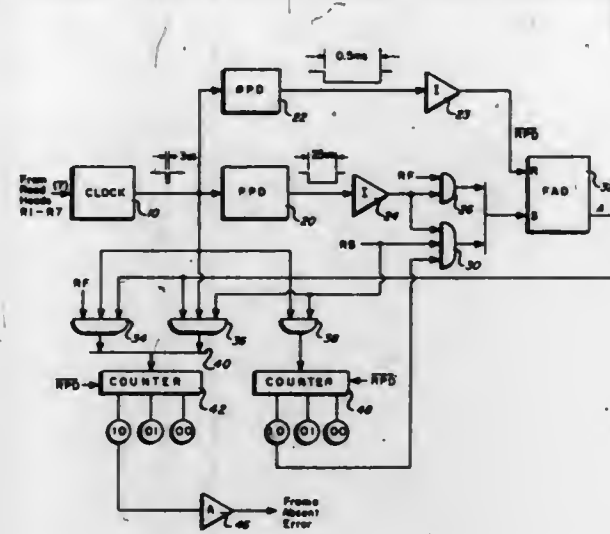
U.S. Cl. 340-146.1

9 Claims

A checking technique for use in a multi-channel magnetic tape recording system is described that detects the dropout of one or more data frames of information. Clock pulses which are generated for each data frame that is successfully read out, initiate a frame present signal of a



duration in excess of one frame period interval. When a data frame is not detected, a frame absent signal is generated that initiates the counting of a frame counter. An



error signal is generated when the frame counter exceeds a predetermined number. Read backward operation is also herein implemented.

3,519,989

### MULTIPLE CODE READER SYSTEM FOR AUTOMATIC CONTROL OF CONTROLLED DEVICES

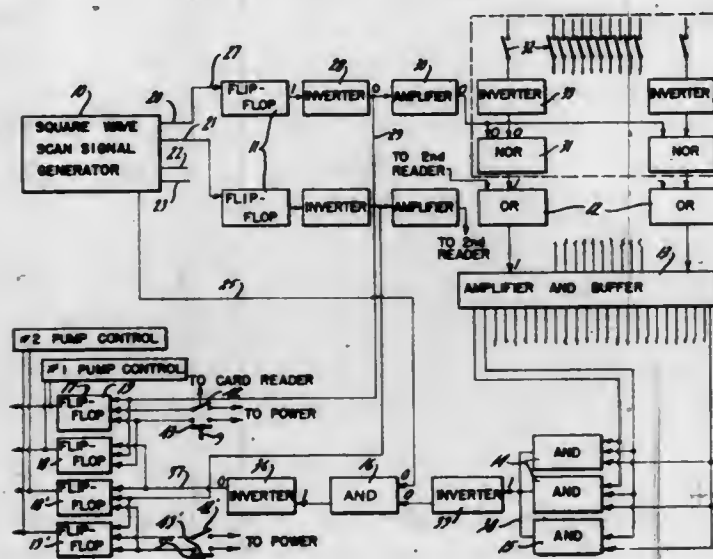
Tim H. Houle, Wauwatosa, and Donald J. Kopydlowski, Milwaukee, Wis., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed July 24, 1967, Ser. No. 655,478

Int. Cl. G06k 5/00; G06f 11/00; G08b 11/00

U.S. Cl. 340-146.1

11 Claims



A petroleum dispensing system includes a plurality of punched card code readers, connected in paralleled scanning channels, to control dispensers from different loading stations. Each card reader produces binary output signals related to a binary input code. An electronic scanner provides a series of time-spaced pulse signals which are applied sequentially to the card reader channels to provide an output from a card reader only during the period of the related scan signal. The binary output is applied in common to a plurality of electronic lookout comparing modules. Each of the lookout modules is encoded to a particular code input and produces a lookout signal only if such input is established. An invalid card results in a lookout signal which is applied to a validity checking module or circuit during the period of the scanning pulse. A validity checking pulse is simul-

taneously applied to the checking circuit such that overlap between readers is eliminated whereby a invalid card in one reader does not effect the dispenser of the next reader. The validity checking circuit applies a signal in common to a plurality of lookout devices, only one of which is made operative as a result of a signal from the scanner.

3,519,990

### RECOGNITION SYSTEM FOR READING MACHINE

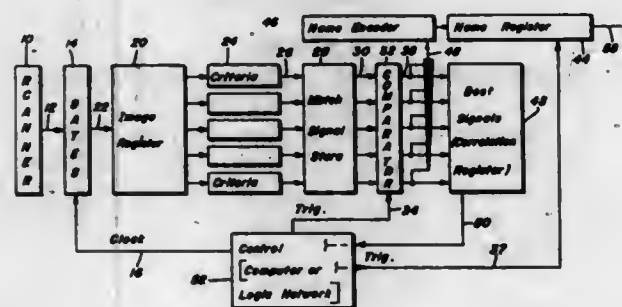
Arthur W. Holt, Annapolis, and James D. Hill, Takoma Park, Md., assignors to Control Data Corporation, Rockville, Md.

Filed Sept. 15, 1966, Ser. No. 579,680

Int. Cl. G06k 7/00, 9/00

U.S. Cl. 340-146.3

5 Claims



An optical character reading machine capable of reading characters in a line of print, which touch and/or overlap. This is accomplished by a scanner examining a small area progressively along the line and noting the positions at which the optimum correlation signals occur. From this information the nominal pitch of the printed characters is determined and trigger signals corresponding to the nominal pitch are provided to the machine to read the characters of the line.

3,519,991

### OPTICAL CHARACTER READING APPARATUS

Hirao Kobayashi, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan

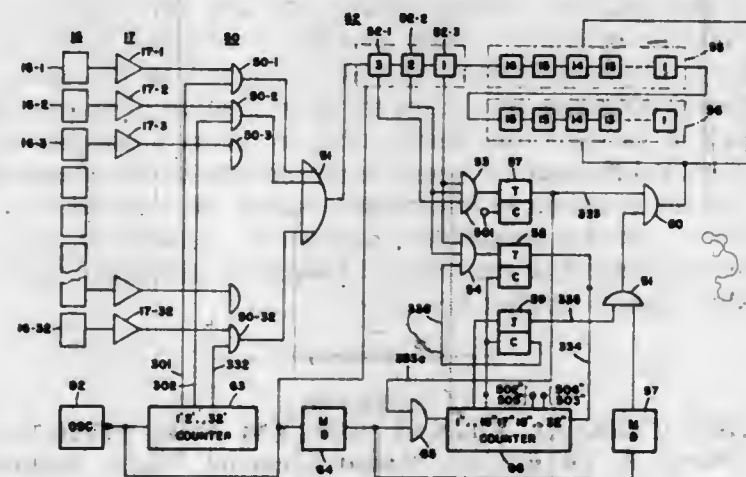
Filed Feb. 2, 1968, Ser. No. 702,585

Claims priority, application Japan, Feb. 9, 1967, 42/8,500

Int. Cl. G06k 9/10

U.S. Cl. 340-146.3

14 Claims



Optical apparatus for reading intelligence characters included in a document, comprising means moving the document at a constant speed in one direction, scanning

each of the characters in turn via a plurality of solar battery cells disposed to extend beyond the length of the longest character in a direction transverse to the document moving direction for providing electric signals indicating dark sections of the scanned characters, first logic means translating the electric signals into first logic 1 and 0 signals, second logic means shifting successive groups of the latter logic 1-signals into two shift registers one group at a time, third logic means utilizing the successive groups of the logic signals in the upper and lower halves of the latter two registers to provide logic 1 and 0 signals to represent the upper and lower vertical lengths of each of the scanned characters in turn, and fourth logic means simultaneously utilizing three groups of different 1-signals of the successive groups of logic 1-signals shifted into one of the two registers to provide simultaneously three groups of logic 1 and 0 signals to represent either short or long widths at each of three different longitudinal sections of each of the scanned characters and a recognition circuit utilizing the logic 1 and 0 signals to re-establish each of the characters in turn as scanned. This apparatus employs a minimum number of shift registers and OR gates to correct deformed signal waveforms due to a vibrating belt carrying the document.

3,519,992

### PHOTOINTERPRETATION SYSTEM

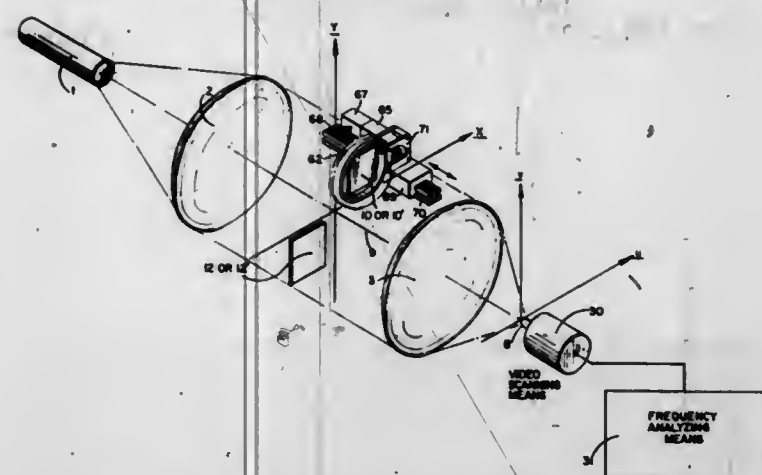
James E. Rau, Stamford, Conn., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Aug. 10, 1966, Ser. No. 571,627

Int. Cl. G02b 27/00; G06k 9/08

U.S. Cl. 340-146.3

5 Claims



The invention is directed to a photointerpretation system for comparing a first transparency having images thereon comprising a reference transparency having a desired image thereon which desired image is to be compared with a first transparency which may or may not have a similar image thereon for purposes of determining if such an image is in fact on the first transparency. The system is comprised of a means for coherently illuminating and mutually projecting images of both transparencies, with optical transforming means being concomitantly illuminated by the coherent illuminating means to project a transformed image to the optical transforming means output focal plane to create an interference pattern. An image recording means is provided to record the interference pattern of the focal plane and to provide an output signal indicative of the recorded image. A spatial frequency analyzing means receives the output from the image recording means and determines the presence or absence of a preselected range of spatial frequencies in the output signal which presence indicates a match of the images from the reference and first transparency thereby indicating that the pattern object or image that was displayed by the reference transparency exists in the first transparency.

3,519,993

### AUTOMATIC GATE

Kiyoshi Sakai, Osaka, and Takeo Asada, Kyoto, Japan, assignors to Omron Tateisi Electronics Co., Kyoto, Japan, a company of Japan

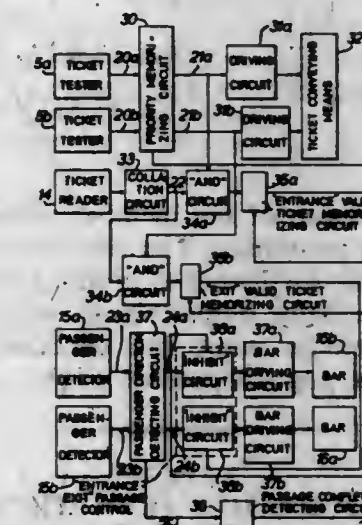
Filed Mar. 3, 1967, Ser. No. 620,539

Claims priority, application Japan, Mar. 8, 1966, 41/14,533

Int. Cl. E05b 65/00; H04q 3/02

U.S. Cl. 340-149

10 Claims



An automatic ticket gate providing for bi-directional passage. The gate structure defines a gateway and includes entrance and exit ticket slots at each end, a ticket tester at each slot, a conveyor belt connecting both slots, a stopper and a pair of rollers interposed between each slot and the belt, one roller of each pair engaging the belt, a centrally-located ticket reader, and a passenger detector and a barrier at each end of the gateway. The passengers deposit coded tickets into the slots. A priority memorizing circuit determines from the outputs of the genuineness detectors which genuine ticket was first inserted and supplies an appropriate output signal which lowers the stoppers, and actuates the roller pairs and belt to convey the first-inserted ticket from the insertion slot to the other slot. During the conveyance, the ticket information is sensed by the ticket reader and supplied to a collation circuit which provides an output if the information on the ticket is valid. Any output is gated to either an entrance or an exit memorizing circuit by the signal from the priority memorizing circuit to provide an appropriate inhibit signal. Depending on which direction through the gateway the passenger is traveling, the passenger detectors are actuated to provide an appropriate output signal from a passenger direction detecting circuit. An entrance and an exit inhibit circuit are provided which have as inputs the outputs from the passenger direction detecting circuit and the outputs from the entrance and exit memorizing circuits. Each inhibit circuit actuates its corresponding barrier upon occurrence of the appropriate output signal from the passenger direction detecting circuit unless an inhibit signal is also supplied thereto.

3,519,994

### TELEMETERING SYSTEM AND DIAL READING DEVICE

John Morton, Disley, England, assignor to The General Electric Company Limited, London, England, a British company

Filed Nov. 29, 1967, Ser. No. 686,506

Claims priority, application Great Britain, Nov. 30, 1966, 53,593/66

Int. Cl. H04q 9/00

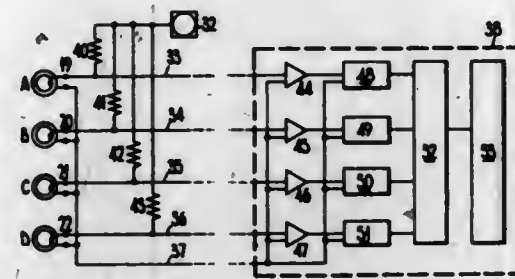
U.S. Cl. 340-150

11 Claims

An arrangement for indicating in one-tenth revolution steps the angular position of a rotatable member having a number of circumferentially spaced magnets carried by



the member which cooperate with four stationary cored-coils so that each core permeability state is momentarily varied each time a magnet is carried past the coil, the magnet and coil circumferential spacings being such as to produce ten different combinations of core permeability



states per revolution of the member which combinations repeat for each revolution. The coils can control the outputs of electronic oscillators to produce binary code combinations of oscillator output signals which can be transmitted to a remote point and decoded for indicating at that point the angular position of the member.

3,519,995

### BIAS RESTORATION ARRANGEMENT FOR DIGITAL CIRCUIT MATRIX

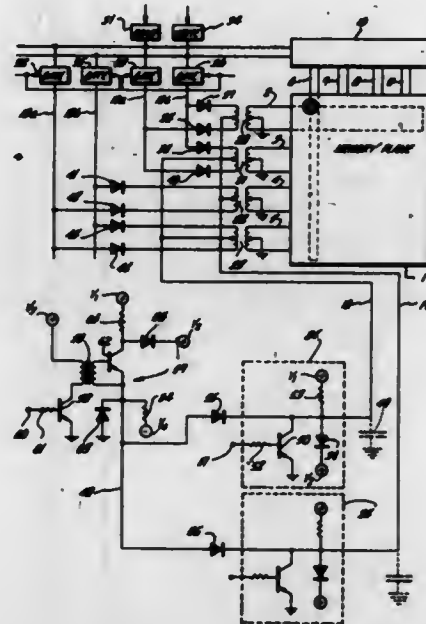
Charles P. Gerrard, Pasadena, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Feb. 15, 1967, Ser. No. 616,364

Int. Cl. H04q 1/28

U.S. Cl. 340—166

13 Claims



A common bias restoration switch to serve a plurality of row or column leads of a circuit matrix. The restoration switch is coupled to the leads through diodes that isolate the leads from one another. The diode is biased so it will conduct current only during the time period in which the restoration switch is actuated and then only between the restoration switch and the lead to be restored.

3,519,996

### RADIATION-SENSING MATRIX CIRCUIT

David H. R. Vilkomerson, Princeton, and Reuben S. Mezrich, Hightstown, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed Oct. 13, 1967, Ser. No. 675,161

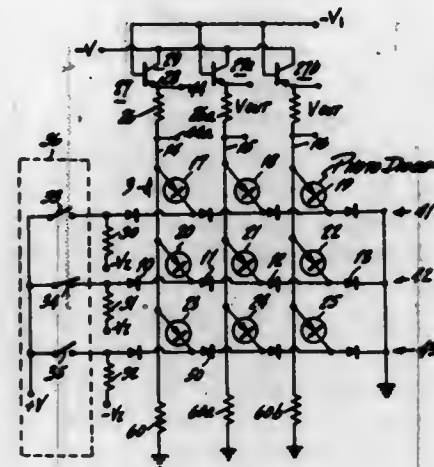
Int. Cl. H04q 3/00

U.S. Cl. 340—166

6 Claims

An array of radiation-sensing elements useful, for example, for reading the information stored in an optical

memory. Asymmetrically conducting coupling elements in the array permit the array to be operated a row at a time



without excessive leakage through sneak paths of the currents it is desired to sense.

3,519,997

### PLANAR ILLUSTRATION METHOD AND APPARATUS

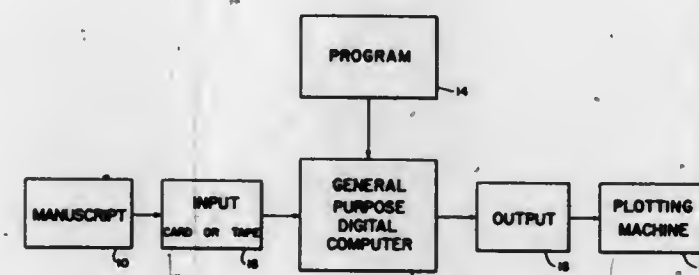
Walter D. Bernhart and William A. Fetter, Wichita, Kans., assignors, by mesne assignments, to Computer Graphics, Inc., Wichita, Kans., a corporation of Kansas

Filed Nov. 13, 1961, Ser. No. 151,999

Int. Cl. G06f 7/00, 9/12

U.S. Cl. 340—172.5

3 Claims



1. A system for providing a drawing of an object comprising in combination: electronic digital computer means programmed to respond to applied signals  $(x_e, y_e, z_e)$  and a series of groups of signals  $(x_i, y_i, z_i)$  to provide a corresponding series of pairs of output signals  $(v_i, w_i)$  with the relationship between signals  $(x_i, y_i, z_i)$  and  $(x_e, y_e, z_e)$  to the signals  $(v_i, w_i)$  being defined as follows:

$$v_i = \frac{k(x_e^2 + y_e^2 + z_e^2)(-y_e x_i + x_e y_i)}{\sqrt{(x_e^2 + y_e^2)[(x_e^2 + y_e^2 + z_e^2) - (x_e x_i + y_e y_i + z_e z_i)]}}$$

$$w_i = \frac{k\sqrt{(x_e^2 + y_e^2 + z_e^2)}(-x_e z_e x_i - y_e z_e y_i + z_i(x_e^2 + y_e^2))}{\sqrt{(x_e^2 + y_e^2)[(x_e^2 + y_e^2 + z_e^2) - (x_e x_i + y_e y_i + z_e z_i)]}}$$

where  $k$  is a selectable variable; signal means coupled with said computer means and providing said signals  $(x_i, y_i, z_i)$  and  $(x_e, y_e, z_e)$  thereto with said signals  $(x_i, y_i, z_i)$  representing the three dimensional co-ordinates of selected points on the object and with said signals  $(x_e, y_e, z_e)$  representing the three dimensional co-ordinates of the location of the observation point from which the object is seen; and planar plotting means coupled with said computer means and responsive to said signals  $(v_i, w_i)$  to make a drawing of the object.

3,519,998

### SELF-ORGANIZING CONTROL SYSTEM FOR PROVIDING MULTIPLE-GOAL, MULTIPLE-ACTUATOR CONTROL

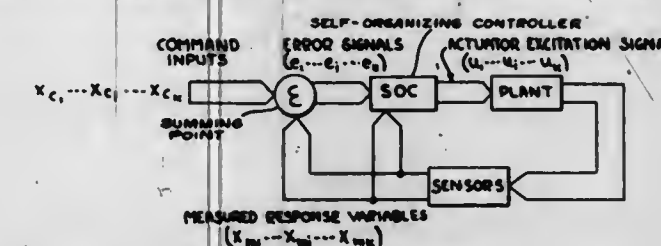
Roger L. Barron, Burke, Va., assignor to Adaptronics, Inc., McLean, Va., a corporation of Virginia

Continuation-in-part of application Ser. No. 565,162, July 14, 1966. This application Sept. 29, 1967, Ser. No. 671,743

Int. Cl. G05b 13/00

U.S. Cl. 340—172.5

10 Claims



The disclosure relates to a self-organizing control system capable of accomplishing simultaneous, multiple-goal, multiple-actuator control of a plant in which the instantaneous influence of each actuator on multiple system error signals is identified and the self-organizing controller compensates for changing polarities of actuator effects, both direct and cross-coupled. The control is provided using pulse density coding techniques.

3,519,999

### THIN POLYMERIC FILM MEMORY DEVICE

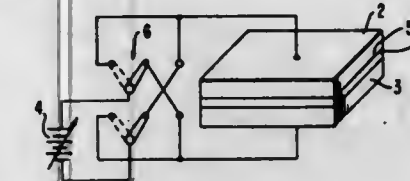
Lawrence V. Gregor, Croupond, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 20, 1964, Ser. No. 412,726

Int. Cl. G11c 11/24; H01g 1/00

U.S. Cl. 340—173

15 Claims



This invention relates to thin film polymeric memory devices and, more particularly, to memory arrays formed in laminate fashion wherein each memory device is formed of a thin polymeric film interpositioned between two metallic electrodes. The memory, or binary, condi-

tions of the memory device are indicated by the polarized state of the polymeric film resulting from application of electrical fields in excess of a critical intensity. When polarized, the polymeric film exhibits a nondestructive breakdown-like increased conduction in response to electrical fields within a critical intensity range and of opposite polarity with respect to previously applied polarizing electrical fields.

3,520,000

### TWO-DIMENSIONAL DELAY LINE MEMORY

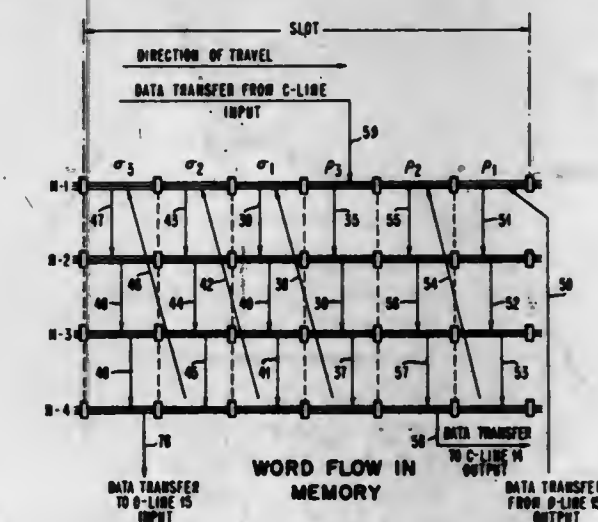
Wilhelm G. Spruth, Boeblingen, Germany, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Feb. 15, 1965, Ser. No. 432,519

Int. Cl. G11c 21/00

U.S. Cl. 340—173

17 Claims



A memory arrangement utilized in remote multiplexers for concentrating traffic of low-speed input/output digital data terminals on to a high-speed communications line is disclosed. More specifically, a self-organizing magnetostrictive delay line memory arrangement which is two dimensional wherein blocks of data are transferable from one delay line to another delay line or from one location within the same delay line to another is disclosed.

### ERRATUM

For Class 343—18 see:  
Patent No. 3,519,221



# DESIGNS

JULY 7, 1970

217,948

## MOLDED FOOD PRODUCT

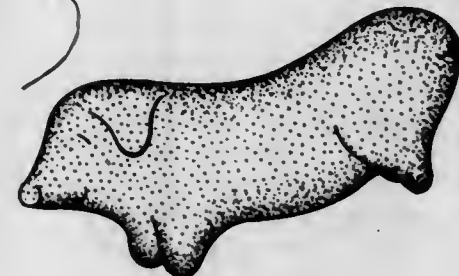
Orville M. Smith and Kenneth S. Wiscamb, Houston, Tex., assignors, by direct and mesne assignments, of eighty percent to Orville M. Smith, Houston, Tex., and twenty percent to Coast Properties Company, Houston, Tex., a corporation of Texas

Filed Mar. 24, 1969, Ser. No. 16,410

Term of patent 14 years

Int. Cl. D1-01

U.S. Cl. D1-16



217,949

## PAPER CHEF'S HAT

Samuel Seskin, 248 NE. 1st St., Dania, Fla. 33004

Filed June 5, 1969, Ser. No. 17,527

Term of patent 14 years

Int. Cl. D2-03

U.S. Cl. D2-253



217,950

## SHOE

Arthur W. Einstein, Jr., New York, N.Y., assignor to Lord, Geller, Federico & Partners, Inc., New York, N.Y.

Filed Dec. 3, 1968, Ser. No. 14,772

Term of patent 14 years

Int. Cl. D2-04

U.S. Cl. D2-269



217,951

## BRUSH HANDLE

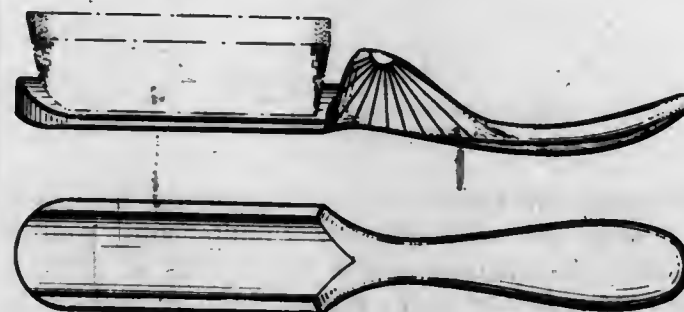
Murray Schotland, New York, N.Y., assignor to Gibson Thomsen Co., Inc., a corporation of New York

Filed Apr. 2, 1969, Ser. No. 16,557

Term of patent 14 years

Int. Cl. D4-02

U.S. Cl. D4-35



217,952

## ABRASIVE TYPE HANDTOOL

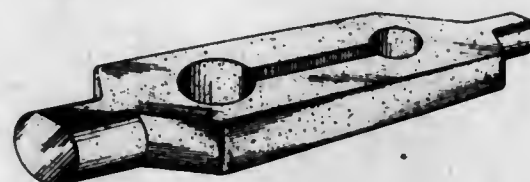
Robert W. Martin, 1057 Pennington Road, Trenton, N.J. 08618

Filed Apr. 1, 1969, Ser. No. 16,541

Term of patent 14 years

Int. Cl. D8-02

U.S. Cl. D8-90



217,953

## DOOR LATCH HANDLE

Henry Kartarik, White Bear Lake, Minn., assignor to Ideal Security Hardware Corporation, St. Paul, Minn., a corporation of Minnesota

Filed Aug. 15, 1969, Ser. No. 18,696

Term of patent 14 years

Int. Cl. D8-03

U.S. Cl. D8-163



JULY 7, 1970

U. S. PATENT OFFICE

327

217,954

## SHOWER CURTAIN HOOK

Helmut Nathanson, 160 5th Ave., New York, N.Y. 10010

Filed May 16, 1969, Ser. No. 17,179

Term of patent 14 years

Int. Cl. D8-03

U.S. Cl. D8-248



217,957

## BUILDING

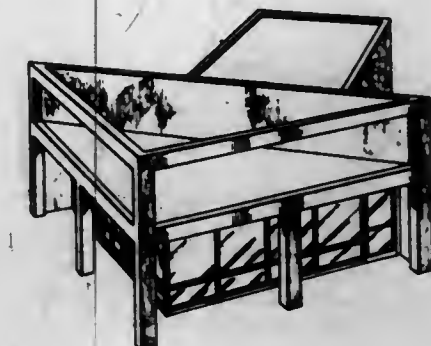
Cesar Pelli, Los Angeles, Calif., assignor to American Snacks, Inc., Chelsea, Mass., a corporation of Delaware

Filed Sept. 17, 1969, Ser. No. 19,188

Term of patent 14 years

Int. Cl. D25-04

U.S. Cl. D13-1



217,955

## CONTAINER CAP

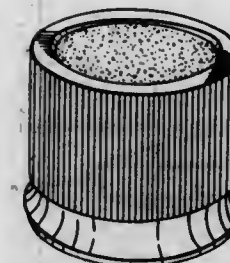
John R. Howard, Lombard, and Conrad Thatcher Schwartz, Jr., Wheaton, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed June 2, 1969, Ser. No. 17,443

Term of patent 14 years

Int. Cl. D9-02

U.S. Cl. D9-284



217,956

## CONTAINER CAP

John R. Howard, Lombard, and Conrad Thatcher Schwartz, Jr., Wheaton, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Apr. 25, 1969, Ser. No. 16,893

Term of patent 14 years

Int. Cl. D9-02

U.S. Cl. D9-285



217,958

## MOBILE HIGH-PRESSURE LIQUID SPRAYER UNIT

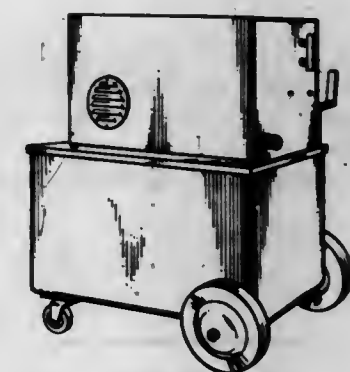
John H. Studinger, Aurora, Colo., assignor to Aqua Engineering Corporation, Aurora, Colo., a corporation of Colorado

Filed Aug. 12, 1968, Ser. No. 13,098

Term of patent 14 years

Int. Cl. D12-99; D15-06

U.S. Cl. D14-3



217,959

## AUTOMOTIVE TRIM UNIT

John A. Bott, 931 Lake Shore Drive, Grosse Pointe Shores, Mich. 48236

Filed June 9, 1969, Ser. No. 17,582

Term of patent 14 years

Int. Cl. D12-14

U.S. Cl. D14-6



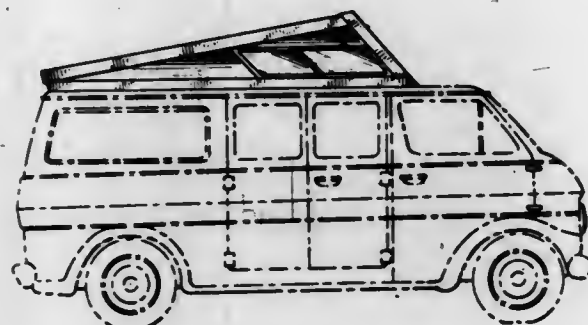


217,960

**ROOF MOUNTED ENCLOSURE FOR  
AN AUTOMOTIVE VAN CAMPER**

Lorell John Schilling, Galesville, Wis., assignor to  
Schilling Industries Inc., a corporation of Wisconsin  
Filed Mar. 19, 1969, Ser. No. 16,325  
Term of patent 14 years  
Int. Cl. D12-14

U.S. Cl. 14-27



217,961

**OTTOMAN**

Alex Strässle, 533 Kirchberg, St. Gallen, Switzerland  
Original design application Sept. 13, 1968, Ser. No.  
13,532. Divided and this application Apr. 8, 1969,  
Ser. No. 16,629

Term of patent 14 years  
Int. Cl. D6-01

U.S. Cl. D15-8



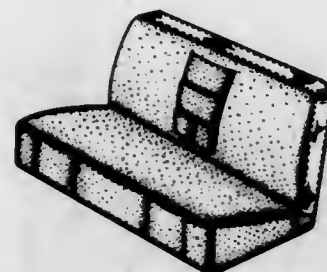
217,962

**AUTOMOBILE SEAT COVER  
OR SIMILAR ARTICLE**

Arlene K. Bucher, 336 S. 8th St.,  
Lebanon, Pa. 17042  
Filed Aug. 21, 1968, Ser. No. 13,225

Term of patent 14 years  
Int. Cl. D6-01

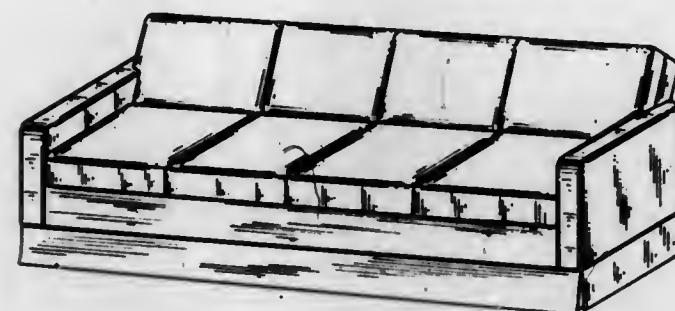
U.S. Cl. D15-8

**217,963  
COMBINED CONVERTIBLE SOFA  
AND NIGHT TABLE**

Jack Rozett, Levittown, Pa., assignor to Eclipse Sleep  
Products, Inc., Brooklyn, N.Y., a corporation of New  
York

Filed June 26, 1969, Ser. No. 17,905  
Term of patent 14 years  
Int. Cl. D6-01

U.S. Cl. D15-11



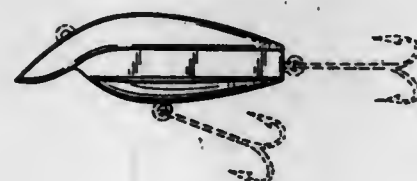
217,964

**FISH LURE**

Bruce M. Lluska, 617 E. Brockton St.,  
Madison Heights, Mich. 48071  
Filed Sept. 9, 1968, Ser. No. 13,445

Term of patent 14 years  
Int. Cl. D22-08

U.S. Cl. D22-28



217,965

**HANDLE**

Stanley F. Korol, Mansfield, Ohio, assignor to Borg-  
Warner Corporation, Chicago, Ill., a corporation of  
Delaware

Filed July 16, 1969, Ser. No. 18,233  
Term of patent 14 years  
Int. Cl. D23-01; D8-03

U.S. Cl. D23-29



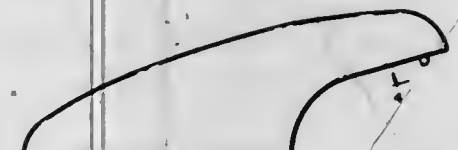
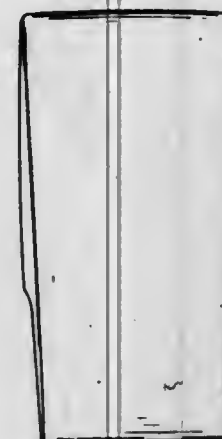
217,966

**SPOUT**

Stanley F. Korol, Mansfield, Ohio, assignor to Borg-  
Warner Corporation, Chicago, Ill., a corporation of  
Delaware

Filed Apr. 1, 1969, Ser. No. 16,519  
Term of patent 14 years  
Int. Cl. D23-01

U.S. Cl. D23-32



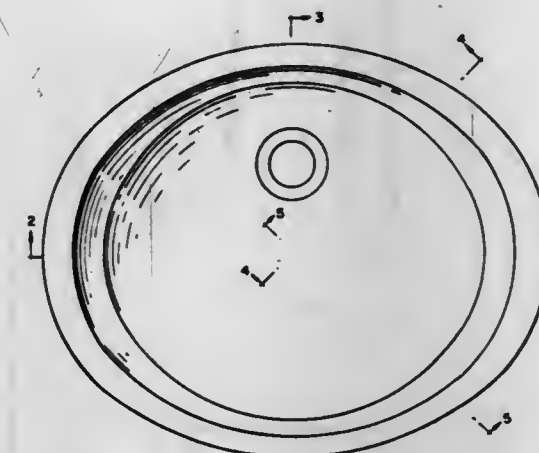
217,968

**LAVATORY**

William H. Armstrong, Bloomfield Hills, Mich., assignor  
to Borg-Warner Corporation, Chicago, Ill., a corpora-  
tion of Delaware

Filed Apr. 28, 1969, Ser. No. 16,927  
Term of patent 14 years  
Int. Cl. D23-02

U.S. Cl. D23-58



217,969

**COMBINED LAVATORY AND COUNTERTOP**

Howard M. Edgar, Torrance, Calif., assignor to Borg-  
Warner Corporation, Chicago, Ill., a corporation of  
Delaware

Filed May 7, 1969, Ser. No. 17,047  
Term of patent 14 years  
Int. Cl. D23-02

U.S. Cl. D23-58

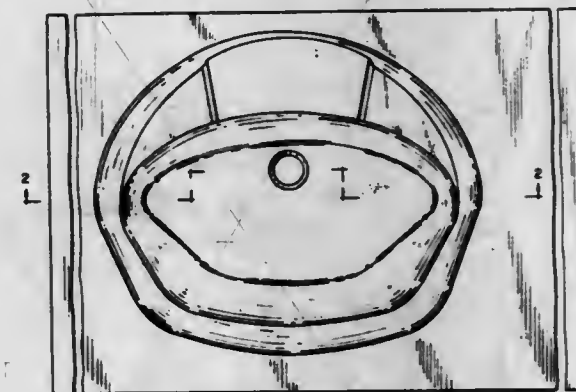
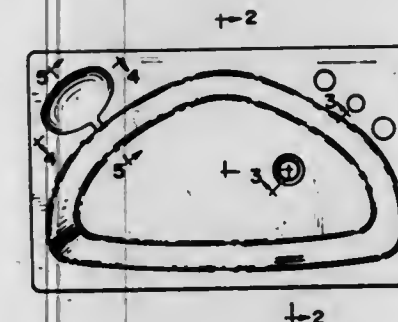
217,967

**LAVATORY**

Stanley F. Korol, Mansfield, Ohio, assignor to Borg-  
Warner Corporation, Chicago, Ill., a corporation of  
Delaware

Filed Dec. 26, 1968, Ser. No. 15,110  
Term of patent 14 years  
Int. Cl. D23-02

U.S. Cl. D23-58





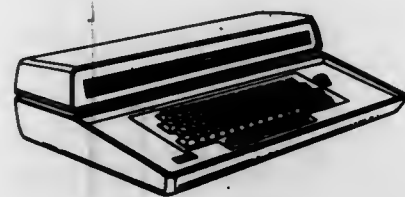
**217,970**  
**DISPENSER FOR ALLOY PELLETS AND MERCURY**  
 John M. Gardella, Matawan and Earl E. Hoyt, Northvale, N.J., assignors to Pennwalt Corporation, Philadelphia, Pa., a corporation of Pennsylvania  
 Filed Oct. 27, 1969, Ser. No. 19,721  
 Term of patent 14 years  
 Int. Cl. D24—03

U.S. Cl. D24—1



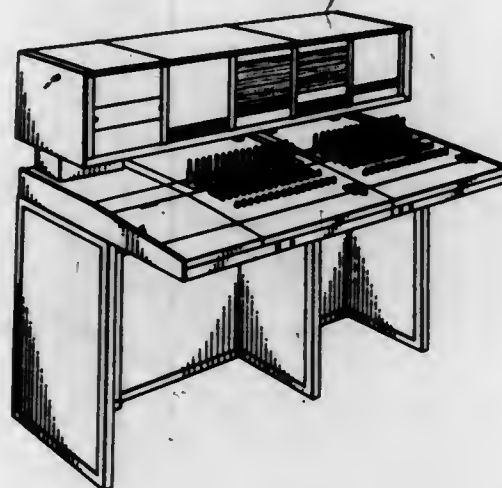
**217,971**  
**KEYBOARD ENCODER**  
 Edward E. Salter, Fairport, and Hugh M. Lee, Rochester, N.Y., assignors to The Singer Company, a corporation of New Jersey  
 Filed Mar. 3, 1969, Ser. No. 15,983  
 Term of patent 14 years  
 Int. Cl. D14—02

U.S. Cl. D26—5



**217,972**  
**TELEPHONE SWITCHBOARD**  
 John Thomas, Kenilworth, England, assignor to The General Electric and English Companies Limited, London, England  
 Filed July 22, 1969, Ser. No. 18,335  
 Claims priority, application Great Britain Jan. 21, 1969  
 Term of patent 7 years  
 Int. Cl. D14—03

U.S. Cl. D26—14



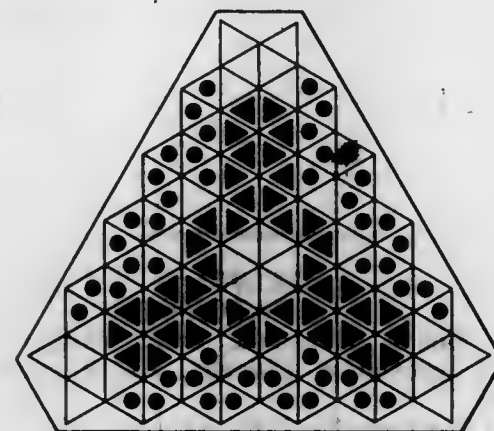
**217,973**  
**GAME BOARD**  
 Frank Kohner and Natalie Donna, New York, N.Y., assignors to Kohner Bros., Inc., Paterson, N.J., a corporation of New York  
 Filed Jan. 27, 1969, Ser. No. 15,509  
 Term of patent 7 years  
 Int. Cl. D21—01

U.S. Cl. D34—5



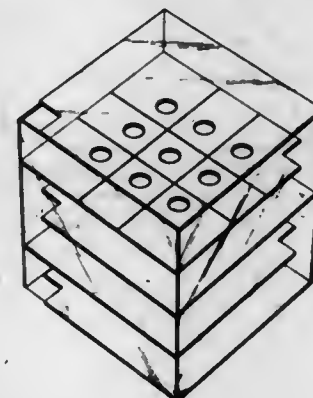
**217,974**  
**GAME BOARD**  
 James C. Deltch, 5606 Browne St., Omaha, Nebr. 68104  
 Filed Feb. 14, 1969, Ser. No. 15,781  
 Term of patent 14 years  
 Int. Cl. D21—01

U.S. Cl. D34—5



**217,975**  
**THREE-DIMENSIONAL TICK-TACK-TOE GAME BOARD**  
 George Lewis Pruett, 11010 Lamplighter Lane, Potomac, Md. 20854  
 Filed Mar. 11, 1969, Ser. No. 16,184  
 Term of patent 14 years  
 Int. Cl. D21—01

U.S. Cl. D34—5



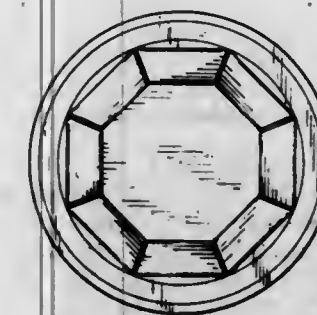
**217,976**  
**FLYING SAUCER-TYPE TOY**  
 Henry Allen Wilson, 4630 Leona St., Tampa, Fla. 33609  
 Filed Nov. 7, 1967, Ser. No. 9,308  
 Term of patent 14 years  
 Int. Cl. D21—02

U.S. Cl. D34—15



**217,977**  
**FLYING TOY**  
 David F. O'Brien, Waltham, and Thomas A. Mason, Woburn, Mass., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware  
 Filed Mar. 10, 1969, Ser. No. 16,165  
 Term of patent 14 years  
 Int. Cl. D21—02

U.S. Cl. D34—15



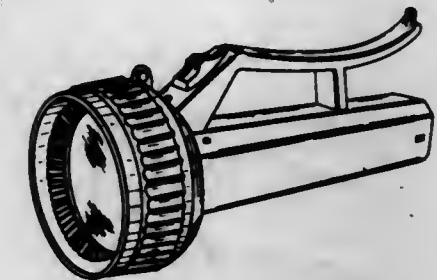
**217,978**  
**RIDABLE BOUNCING TOY**  
 Peter Ian Raphael, Cheadle Hulme, and John William Sutton, Macclesfield, England, assignors to Peter Raphael Limited, Stockport, Cheshire, England  
 Filed June 23, 1969, Ser. No. 17,828  
 Claims priority, application Great Britain Dec. 27, 1968  
 Term of patent 14 years  
 Int. Cl. D21—02

U.S. Cl. D34—15



**217,979**  
**HAND LANTERN**  
 Yau Yau Chee, Kwai Chung, New Territories, Hong Kong, assignor to Practical Products Manufactory Limited, Des Voeux Road Central, Hong Kong, a company of Hong Kong  
 Filed Apr. 3, 1969, Ser. No. 16,565  
 Claims priority, application Great Britain Dec. 4, 1968  
 Term of patent 3½ years  
 Int. Cl. D26—04

U.S. Cl. D48—24



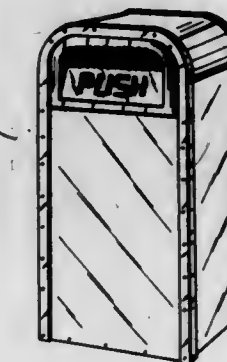
**217,980**  
**PORTABLE CAR SPOTLIGHT**  
 Yau Yau Chee, Kwai Chung, New Territories, Hong Kong, assignor to Practical Products Manufactory Limited, Des Voeux Road Central, Hong Kong, a company of Hong Kong  
 Filed Apr. 3, 1969, Ser. No. 16,572  
 Term of patent 3½ years  
 Claims priority, application Great Britain Dec. 4, 1968  
 Int. Cl. D26—04

U.S. Cl. D48—24



**217,981**  
**WASTE RECEPTACLE OR THE LIKE**  
 Floyd H. Panning, 3146 N. Frederic St., Burbank, Calif. 91504  
 Filed Mar. 4, 1969, Ser. No. 16,031  
 Term of patent 14 years  
 Int. Cl. D7—99

U.S. Cl. D49—35





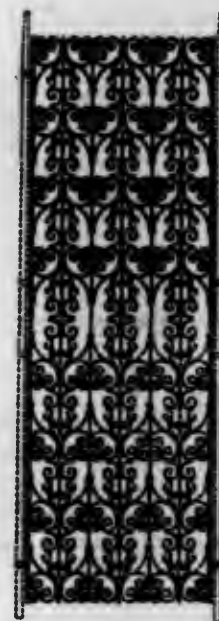
**217,982**  
**WALL-MOUNTED TISSUE DISPENSER**  
 Leslie R. Stewart, Haskell Road, R.D. 1,  
 North East, Pa. 16428  
 Filed May 9, 1968, Ser. No. 11,868  
 Term of patent 14 years  
 Int. Cl. D6—01

U.S. Cl. D52—2



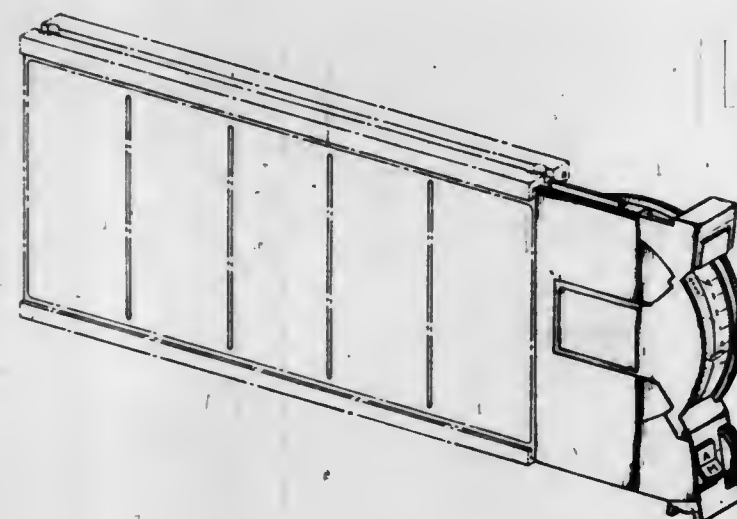
**217,984**  
**DECORATOR PANEL**  
 Daniel M. Pearl, Skokie, Ill., assignor, by mesne assignments, to Bolen International, Inc., Niles, Ill., a corporation of Illinois  
 Filed Jan. 27, 1969, Ser. No. 15,519  
 Term of patent 14 years  
 Int. Cl. D25—01

U.S. Cl. D54—2



**217,983**  
**PROCESS CONTROL INSTRUMENT**  
 Robert F. Wall, Chesterfield, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
 Continuation-in-part of design application Ser. No. 12,629, July 5, 1968. This application Sept. 9, 1969, Ser. No. 19,076  
 Term of patent 14 years  
 Int. Cl. D10—10

U.S. Cl. D52—6



**217,985**  
**STRINGED MUSICAL INSTRUMENT**  
 Walter J. Pelensky, 19C Manheim Gardens,  
 Philadelphia, Pa. 19144  
 Filed May 13, 1969, Ser. No. 17,131  
 Term of patent 14 years  
 Int. Cl. D17—03

U.S. Cl. D56—1



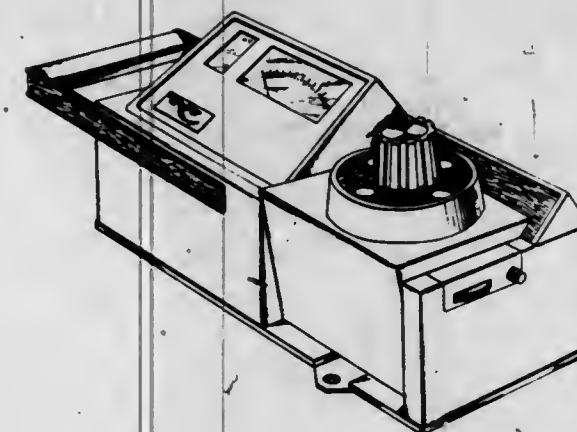
**217,986**  
**RADIO CABINET**  
 Robert W. Becker, Naperville, and David P. Chuboff, North Barrington, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware  
 Filed Aug. 18, 1969, Ser. No. 18,738  
 Term of patent 14 years  
 Int. Cl. D14—03

U.S. Cl. D56—4



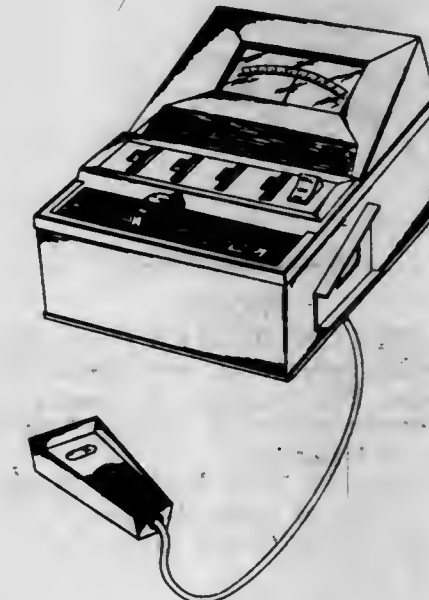
**217,987**  
**PHOTOMETRIC INSTRUMENT**  
 James H. Casterlin, Binghamton, N.Y., assignor to Kollmorgen Corporation, Holyoke, Mass., a corporation of New York  
 Filed May 16, 1969, Ser. No. 17,180  
 Term of patent 7 years  
 Int. Cl. D10—11

U.S. Cl. D61—1



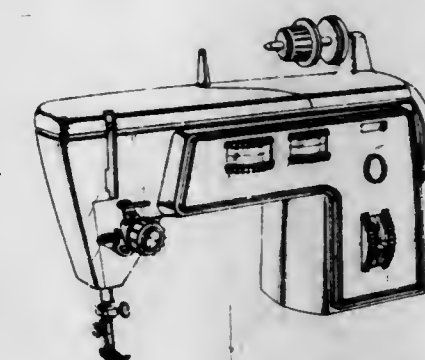
**217,988**  
**COLOR ANALYZER INSTRUMENT**  
 James H. Casterlin, Binghamton, N.Y., assignor to Kollmorgen Corporation, Holyoke, Mass., a corporation of New York  
 Filed May 16, 1969, Ser. No. 17,189  
 Term of patent 7 years  
 Int. Cl. D10—11

U.S. Cl. D61—1



**217,989**  
**SEWING MACHINE BRACKET ARM**  
 Jan Szostak, Linden, and George D. La Police, Somerville, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey  
 Filed Feb. 27, 1969, Ser. No. 15,944  
 Term of patent 14 years  
 Int. Cl. D15—09

U.S. Cl. D70—1





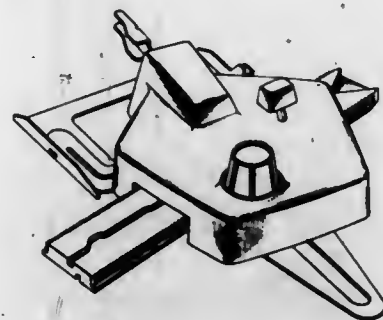
217,990

**EMBROIDERY ATTACHMENT FOR A SEWING MACHINE OR SIMILAR ARTICLE**

Donald M. Genaro, Haworth, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 30, 1969, Ser. No. 15,565  
Term of patent 14 years  
Int. Cl. D15-08

U.S. Cl. D70-2



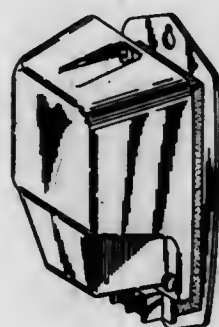
217,991

**ALARM CONTROLLER HOUSING**

Marilyn Calderoni, Springfield, and Edward P. Cheslock, Kennett Square, Pa., assignors, by mesne assignments, to Gulf & Western Systems Company, New York, N.Y., a corporation of Delaware

Filed July 17, 1969, Ser. No. 18,245  
Term of patent 14 years  
Int. Cl. D29-99; D13-03

U.S. Cl. D72-1



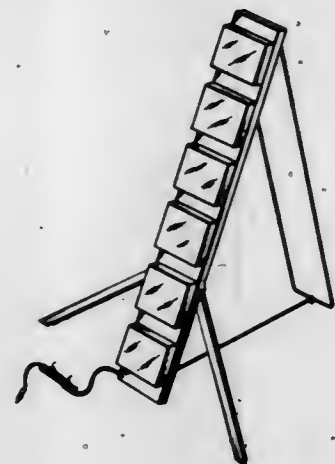
217,992

**EMERGENCY ROAD FLASHER**

Leonard Osrow, Glen Cove, N.Y., assignor to Osrow Products Company, Inc., New York, N.Y., a corporation of New York

Filed Aug. 7, 1969, Ser. No. 18,571  
Term of patent 3½ years  
Int. Cl. D29-99

U.S. Cl. D72-1



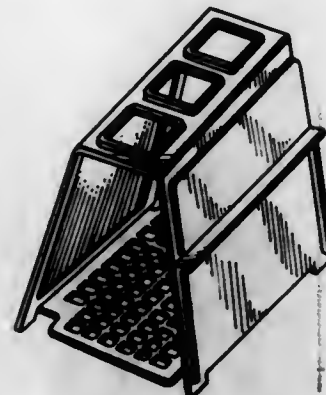
217,993

**COMBINED CALENDAR AND PENHOLDER**

Cecil B. Woofler, Newton, Iowa, assignor to The Vernon Company

Filed Sept. 5, 1969, Ser. No. 19,037  
Term of patent 14 years  
Int. Cl. D19-03

U.S. Cl. D74-5



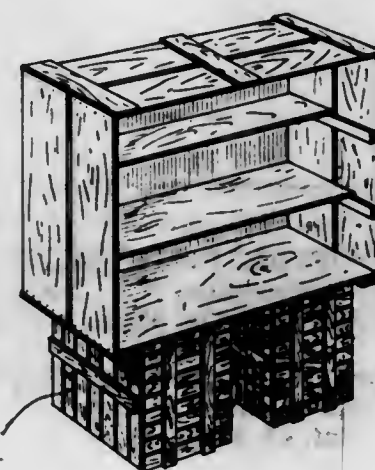
217,994

**DISPLAY STAND**

Maurice J. McDonald, Rte. 1, Pfafftown, N.C. 27040

Filed July 11, 1969, Ser. No. 18,184  
Term of patent 14 years  
Int. Cl. D6-01

U.S. Cl. D80-9



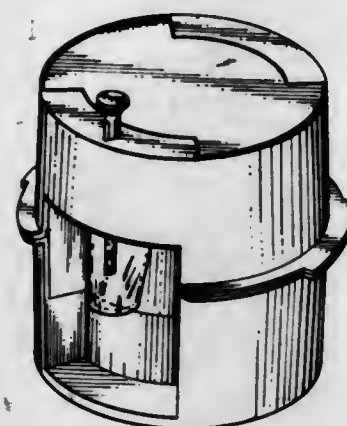
217,995

**RADIONUCLIDE APPARATUS**

James R. Montgomery, St. Louis County, Mo., assignor to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri

Filed May 2, 1969, Ser. No. 17,001  
Term of patent 14 years  
Int. Cl. D24-02; G21k 1/00

U.S. Cl. D83-1



217,996

**COMBINED FRAME AND HOLDER FOR MOUNTING X-RAY FILMS**

Herman C. Spranger, 923 S. 48th St., Philadelphia, Pa. 19143

Filed May 26, 1969, Ser. No. 17,344  
Term of patent 7 years  
Int. Cl. D24-02

U.S. Cl. D83-1



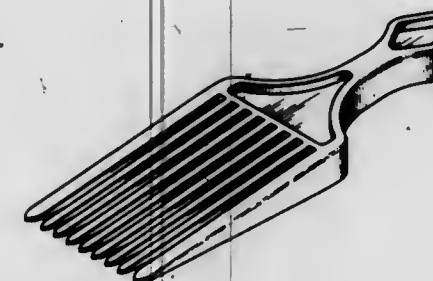
217,997

**COMB**

Samuel H. Bundles, Jr., and Henry M. Childrey, Indianapolis, Ind., assignors to Summit Laboratories Inc., a corporation of Indiana

Filed Apr. 4, 1969, Ser. No. 16,584  
Term of patent 14 years  
Int. Cl. D28-03

U.S. Cl. D86-8



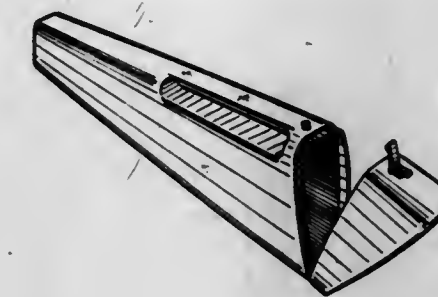
217,998

**HAND GUN CASE**

Paul Belokin, Jr., 6919 W. 43rd St., Berwyn, Ill. 60402

Filed Mar. 24, 1969, Ser. No. 16,401  
Term of patent 14 years  
Int. Cl. D3-01

U.S. Cl. D87-1



217,999

**GUN CASE**

Paul Belokin, Jr., 6919 W. 43rd St., Berwyn, Ill. 60402

Filed Mar. 24, 1969, Ser. No. 16,404  
Term of patent 14 years  
Int. Cl. D3-01

U.S. Cl. D87-1



218,000

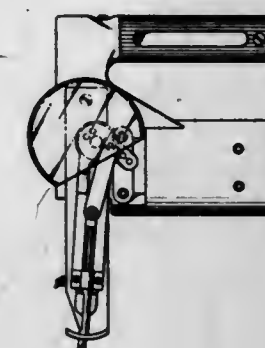
**PORTABLE HAND-TUFTING MACHINE**

Fred A. Thaheld, Minden, Nev., assignor to Evert Wilkerson, Fairfield, Calif.

Continuation-in-part of design application Ser. No. 12,684, July 10, 1968. This application Feb. 3, 1969, Ser. No. 15,612

Term of patent 7 years  
Int. Cl. D15-08

U.S. Cl. D92-15





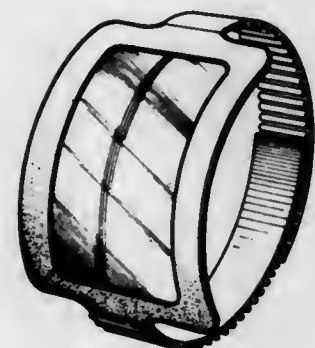
**218,001**  
**HANDLE FOR A SAFETY RAZOR OR THE LIKE**  
 Leonard F. Goyke, Chicago, and Richard B. Farb, Des Plaines, Ill., assignors to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware  
 Filed Mar. 17, 1969, Ser. No. 16,285  
 Term of patent 14 years  
 Int. Cl. D28—03

U.S. Cl. D95—3



**218,002**  
**REGISTRATION CERTIFICATE HOLDER**  
 Gordon R. Cobbs, Des Moines, Iowa, assignor to Cobbs Manufacturing Company, Des Moines, Iowa, a corporation of Iowa  
 Filed Aug. 11, 1969, Ser. No. 18,644  
 Term of patent 14 years  
 Int. Cl. D20—03

U.S. Cl. D96—3



## LIST OF PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF JULY, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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- Abbott Laboratories: See—  
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- Abcor, Inc.: See—  
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- Timmins, Robert S., and de Filippi, Richard P., 3,518,982.
- Abe, Shuya: See—  
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- Abel, Irving R., and Gordon, Jason M., to United Aircraft Corporation. High aperture wide field varifocal scanning system. 3,519,325, Cl. 350-6.
- ACF Industries, Incorporated: See—  
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- Achermann, Franz: See—  
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- Achermann, Werner, and Achermann, Franz. Collapsible palette box made of corrugated cardboard and the like. 3,519,190, Cl. 229-37.
- Acton, Daniel D.: See—  
 Foss, George J., Acton, Daniel D., and Hart, Alexander W., 3,519,159.
- Adair, James Richard, to United Engineering and Foundry Company. Vertical roll arrangement and removal thereof in a universal beam mill. 3,518,863, Cl. 72-239.
- Adam, Gunter, and Schreiber, Klaus, to Deutsche Akademie der Wissenschaften Zu Berlin. Chloro-pregnane compounds and process of making the same. 3,519,658, Cl. 260-397.4
- Adams, Edward F., McTaggart, George D., and Norman, Emmerson K., to Corhart Refractories Company, mesne. Ceramic refractory. 3,519,447, Cl. 106-57.
- Adams, Samuel F., Guerin, Edmond H., Jr., and Birch, Edin L., to American Paper Tube Company. Yarn-relief bobbin-spindle units. 3,518,823, Cl. 57-131.
- Adaptronics, Inc.: See—  
 Barron, Roger L., 3,519,998.
- Addor, Roger Williams, to American Cyanamid Company. Phosphorus containing dithiocarbamate. 3,519,709, Cl. 260-455.
- Adenis, Daniel: See—  
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- Chua, James G. S., and Okey, Bernard J., 3,519,735.
- Agfa-Gevaert Aktiengesellschaft: See—  
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- Hofmann, Wilfried, and Pfeifer, Josef, 3,519,213.
- Thieme, Hans, and von Wasielewski, Erwin, 3,518,930.
- Ahn, Kie Y., to International Business Machines Corporation. Ferromagnetic film. 3,519,498, Cl. 148-31.55
- Air Products and Chemicals, Inc.: See—  
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- Airetron Engineering Corporation: See—  
 Werner, Hermann C., 3,518,813.
- Aisin Seiki Kabushiki Kaisha: See—  
 Ohira, Atsuo, 3,518,955.
- Akamatsu, Akiyuki, to Toyo Kako Co., Ltd. Method for color printing thermoplastic or rubber articles. 3,519,466, Cl. 117-38.
- Akashi, Tsuneo: See—  
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- Akmenkalns, Ivars G., to International Business Machines Corporation. Electro-optical logic circuits performing NOR functions. 3,519,844, Cl. 307-206.
- Aktiebolaget Kamyr: See—  
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- Aktiebolaget Motala Verkstad: See—  
 Book, Nils Evert Erling, 3,518,724.
- Aktiebolaget Svenska Kullagerfabriken: See—  
 Gothberg, Karl Evald Andreas, 3,519,316.
- Albert, Charles G.: See—  
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- Albrektson, Helge Ragnar, Apparatus for making a tubular article. 3,518,906, Cl. 83-1.
- Alexander, Earl L.: See—  
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- Alfa-Laval AB: See—  
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- Allen, Geoffrey, Bryan, Victor, and Darrall, Robert Alfred, to Imperial Chemical Industries Limited. Cellular compositions. 3,519,578, Cl. 260-2.5
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 Gallagher, Francis B., and Feazel, Charles E., 3,519,533.
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- Joris, George G., Fuhrmann, Robert, and Jerolamon, David, 3,519,690.
- Pietrusza, Edward W., and Pedersen, Jack R., 3,519,699.
- Rast, Gustav E., and Steiner, Russell I., 3,519,617.
- Allmanna Svenska Elektriska Aktiebolaget: See—  
 Brinkeborn, Bertram, and Henze, Michael, 3,518,859.
- Allum, Robin Devenish, Rous, Ronald Frank, and Maurer, Cecil John, to General Electric Company Limited, The, and Her Majesty's Postmaster General. Automatic switching arrangement for telephone exchanges providing rerouting facility. 3,519,755, Cl. 179-18.
- Alper, Allen M., and McNally, Robert N., to Corhart Refractories Company. Zirconia-alumina fused refractory materials and structures. 3,519,448, Cl. 106-57.
- Alpert, Seymour B.: See—  
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- Altekruze, John L., and Buxton, Albert C., to Goodyear Aerospace Corporation. Augmented gravity gradient satellite stabilization system. 3,519,222, Cl. 244-1.
- Altounyan, Roger Edward Collingwood, Howell, Harry, and Rowlands, Martyn Omar, to Fisons Pharmaceuticals Limited. Oral inhaler with spring biased, cam driven piercing device. 3,518,992, Cl. 128-208.
- Ambler, Edward Curtis, and Conlon, William J., to Stanley Works, The. Commutator lead mounting. 3,519,863, Cl. 310-234.
- American Can Company: See—  
 Hawley, Harry R., 3,519,165.
- American Cyanamid Company: See—  
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- Beachem, Michael Thomas, and Megson, Frederic Houghton, 3,519,625.
- Beachem, Michael Thomas, and Megson, Frederic Houghton, 3,519,626.
- Bristol, Alexander Christian, and Sherr, Allan Ellis, 3,519,462.
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- Hulliger, Fritz, 3,519,402.
- Meriwether, Lewis Smith, and Breitner, Edith Clara, 3,519,635.
- Merlin, Hanno Maria, Goulondris, George Constantine, and Grethlein, Hans Erich, 3,519,636.
- American Home Products Corporation: See—  
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- American Hospital Supply Corporation: See—  
 Blake, Lawrence W., 3,518,993.
- American Motors Corporation: See—  
 McKey, Thomas J., 3,519,300.
- American Optical Corporation: See—  
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- American Paper Tube Company: See—  
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- American Standard, Inc.: See—  
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- American Stinda'd, Inc.: See—  
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- Amicon Corporation: See—  
 Bolger, Justin C., 3,519,591.
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- Amos, Lynn G., to Corning Glass Work. Deformable ring fluidic memory device. 3,519,013, Cl. 137-112.
- AMP Incorporated: See—  
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- Ampex Corporation: See—  
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- Anaconda Wire and Cable Company: See—  
 Olson, Emil H., 3,518,755.
- Anchor Hocking Corporation: See—  
 Foss, George J., Acton, Daniel D., and Hart, Alexander W., 3,519,159.
- Andersen, Johan M., to Dupicon Company, Inc. Industrial truck. 3,519,286, Cl. 280-33.99
- Anderson, Douglas W., to Dave Chapman, Goldsmith & Yamasaki, Inc. Aseptic connector and closure. 3,519,158, Cl. 215-37.
- Anderson, Dwight Dean. Fish holding rack. 3,518,719, Cl. 17-70.
- Anderson, Harold P., Flavin, Michael A., Grandmaison, John P., Sal-tus, George E., and Simon, James L., to Bell Telephone Laboratories, Incorporated. Electronic key telephone system. 3,519,757, Cl. 179-18.



Anderson, James H. Heat pump. 3,519,066, Cl. 165-29.  
 Anderson, Norman G., to United States of America, Atomic Energy Commission. Method of centrifugal separation and recovery of chemical species utilizing a liquid medium. 3,519,400, Cl. 23-309.  
 Andrews, Harry N.: See—  
 French, Robert J., and Andrews, Harry N. 3,519,535.  
 Anello, John, Sr., and Anello, Joseph L. Building blocks with means for loosely connecting same. 3,518,787, Cl. 46-26.  
 Anello, Joseph L.: See—  
 Anello, John, Sr., and Anello, Joseph L. 3,518,787.  
 Angold, Edward Barnabas. Snap-action electric switch. 3,519,772, Cl. 200-67.  
 Angus, James W., to Kollsman Instrument Corporation. Extreme environment pressure sensor. 3,518,885, Cl. 73-398.  
 Anner, Arthur W., to Procter & Gamble Company, The. Textile lubricant. 3,519,562, Cl. 252-8.8.  
 Anson, Howard G.: See—  
 Long, George E., and Anson, Howard G. 3,519,770.  
 Anstey, Nigel Allister, and Lerwill, William Edward, to Seismograph Service Corporation, mesne. Methods of and apparatus for the correlation of time variables and for the filtering, analysis and synthesis of waveforms. 3,519,925, Cl. 324-77.  
 Anthony Pools, Inc.: See—  
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 Remane, Roger, 3,519,035.  
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 Arch, Andrew E., and Paananen, Eugene E., to Burroughs Corporation. Sensing head for reflective marks on tape. 3,519,833, Cl. 250-219.  
 Ardolino, Edward J., Bova, Joseph D., and Hoover, Donald P. Formation of structural honeycomb. 3,519,510, Cl. 156-197.  
 Arensmeyer, Elmar: See—  
 Winter, Karl, and Arensmeyer, Elmar 3,519,391.  
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 Armo Steel Corporation: See—  
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 Arthur, Jett C., Jr., Blouin, Florine A., Mares, Trinidad, Stanonis, David J., Phillips, Glyn O., and Sarkar, Ila M., to United States of America, Agriculture. High energy radiation stabilization of cellulose obtained by esterifying with benzoyl chloride. 3,519,382, Cl. 8-120.  
 Arzig, Edward C., and Sciacero, Rinaldo, to Duncan Parking Meter Corporation. Parking meter with token dispensing means. 3,519,113, Cl. 194-2.  
 Asada, Takeo: See—  
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 Asahi Kogaku Kogyo Kabushiki Kaisha: See—  
 Hidaka, Tsuneo, and Watanabe, Koichiro, 3,519,361.  
 Aser, Gilbert A., Del Vecchio, George D., Hallagan, John A., and Schwartz, Edward A., to Xerox Corporation. Selective xerographic fuser. 3,519,253, Cl. 263-6.  
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 Takahashi, Yasuo, 3,519,333.  
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Audouze, Bernard, and Labat, Yves, to Société Nationale des Petroles d'Aquitaine. Process for the preparation of polythioether diols. 3,519,689, Cl. 260-609.  
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 Ault, Cyrus F., to Bell Telephone Laboratories, Incorporated. Arrangement for comparing two frequencies by alternate comparison with a controllable local frequency. 3,519,929, Cl. 324-79.  
 Austin, William C.: See—  
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 Avins, Jack, to RCA Corporation. Angle modulation discriminator-detector circuit. 3,519,944, Cl. 329-103.  
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 Badger Meter Manufacturing Company: See—  
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- Wiemel, Eugene L.: See—  
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- Wiest, Hubert, Heckmaier, Joseph, and Bergmeister, Eduard, to Wacker-Chemie G.m.b.H. Pressure sensitive adhesives of vinyl acetate/vinyl laurate copolymers. 3,519,587, Cl. 260-28.5
- Wiest, James A. 50% to Rice-Farr Music House, Inc. Sustain tone device for electrical musical instrument. 3,519,723, Cl. 84-1.26
- Wilh. Jackstadt & Co.: See—  
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- Wingrove, Richard John: See—  
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- Winslow, Joseph D., Jr., and Wilson, Homer M., to Petrolite Corporation. Apparatus for creating high-voltage pulses. 3,519,550, Cl. 204-305.
- Winstead, Thomas W. Cutting mechanism for use with apparatus for forming and cutting three-dimensional plastic articles. 3,518,912, Cl. 83-344.
- Winter, Karl-Heinz, and Krach, Ottwin, to Deutsche Gold-und-Silber-Scheideanstalt vormals Roessler. Process for the treatment of surfaces of workpieces in an annealing furnace. 3,519,257, Cl. 263-52.
- Winter, Karl, and Arémsmeyer, Elmar. Method of and apparatus for measuring combustible constituents of gas samples. 3,519,391, Cl. 23-232.
- Winterburn, John Alexander: See—  
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- Witt, Enrique Roberto, Zee-Cheng, Kwang Yuen, and Cave, James Patrick. Preparation of aromatic disubstituted carboxylic acids. 3,519,684, Cl. 260-524.
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- Wolf, Gunter, and Winsel, August, to Varta Aktiengesellschaft. Vented porous fuel cell element and process. 3,519,487, Cl. 136-86.
- Wolf, Hans, Spoor, Herbert, Ruemens, Wilhelm, and Pohlmann, Heinz, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Sizing cellulosic and acrylic staple fiber yarns with acrylonitrile/acrylic acid copolymer. 3,519,477, Cl. 117-139.5
- Wolf, Lester J., to Gas-Guard Corporation of America. Protective device for vending machines. 3,518,951, Cl. 109-32.
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- Yamamoto, Kenich, to Toyo Kogyo Company Limited. Rotary piston internal combustion engine. 3,519,373, Cl. 418-61.
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- Yerzley, Felix L., Collier, Alan, Ward, Denis Sidney, Pout, Christopher Ronald, Nicholson, Firl W., and RUBERTS, Gifford E., to Yerzley & Co. British Petroleum Company Limited, The Jeffrey Galion Manufacturing company. Mechanical oscillograph Apparatus for testing plastic materials in which the side bars are formed with curved bearing surfaces. 3,518,876, Cl. 74-250.
- Yeske, Laurel R. Chain in which the side bars are formed with curved
- Hydraulic drive for side-delivery rake. 3,518,820, Cl. 56-377.
- Yingst, Thomas O., and Whiteaker, Donald L., to UMC Industries, Inc. Drinking straw dispenser. 3,519,166, Cl. 221-13.
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- Young, Charles H. Extendable and retractable support member. 3,519,306, Cl. 296-27.
- Young, Lester C., to SPO, Incorporated. Molding method. 3,519,058, Cl. 164-40.
- Young, Richard C.: See—  
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- Zelnick, Charles, to Cooper Industries, Inc., mesne. Tape measure construction incorporating a tape hook bumper. 3,519,219, Cl. 242-84.8
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- Zetzmann, Lutz-Volker: See—  
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- Zhinkin, Dmitry Yakovlevich, Medvedeva, Antonina Matveevna, Nudelman, Zinoviy Naumovich, and Iliina, Tatiana Borisovna. Method for bonding siloxane rubber-base vulcanizates using a polysilazane adhesive. 3,519,516, Cl. 156-329.
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- Ziegler, Karl, and Lehmkuhl, Herbert, said Lehmkuhl assor. to said Ziegler. Process for separating aluminum triethyl from other metal ethyl compounds. 3,519,669, Cl. 260-448.
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- Zollinger, Howard A.: See—  
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- Zychal, Edward, to Elco Corporation. Aircraft landing beacon system. 3,519,984, Cl. 340-25.



# LIST OF REISSUE PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF JULY, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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| Brogle, Albert P., Jr., to United States of America, Army. Biterary pulse code system. Re. 26,930, 7-7-70, Cl. 178-68. | United States of America<br>Army: See—<br>Brogle, Albert P., Jr. Re. 26,930.   |
| Carlson, Walter S., to Textron Inc. Wrist band linkage. Re. 26,932, 7-7-70, Cl. 59-79.                                 | Valdespino, Joe M., to Water Pollution Controls, Inc. Aerobic waste treatment system. Re. 26,931, 7-7-70, Cl. 210-195. |
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| Boerner, Eugene S., deceased, by Lincoln Rochester Trust Co. and R. L. Boerner, executors, to Jackson & Perkins Co. Rose plant. 2,980, 7-7-70, Cl. 11. | Jackson & Perkins Co.: See—<br>Boerner, Eugene S. 2,979.<br>Boerner, Eugene S. 2,980.       |
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| Becker, Robert W., and D. P. Chuboff, to Zenith Radio Corp. Radio cabinet. 217,986, 7-7-70, Cl. D56-4.   | Gulf & Western Systems Co.: See—<br>Calderoni, Marilyn, and Cheslock. 217,991.  |
| Belokin, Paul, Jr. Hand gun case. 217,998, 7-7-70, Cl. D87-1.  | Howard, John R., and C. T. Schwartz, Jr. to Container Corp. of America. Container cap. 217,955, 7-7-70, Cl. D8-264.               |
| Belokin, Paul, Jr. Gun case. 217,999, 7-7-70, Cl. D87-1.   | Howard, John R., and C. T. Schwartz, Jr. to Container Corp. of America. Container cap. 217,956, 7-7-70, Cl. D8-285.               |
| Belen International, Inc.: See—<br>Pearl, Daniel M. 217,984.   | Hoyt, Earl E.: See—<br>Gardella, John M., and Hoyt. 217,970.  |
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| Bott, John A. Automotive trim unit. 217,959, 7-7-70, Cl. D14-6.  | Kartarik, Henry, to Ideal Security Hardware Corp. Door latch handle. 217,953, 7-7-70, Cl. D8-163.                                 |
| Butcher, Arlene K. Automobile seat cover or similar article. 217,962, 7-7-70, Cl. D15-8.   | Kohner, Frank, and N. Donna, to Kohner Bros., Inc. Game board. 217,973, 7-7-70, Cl. D34-5.  |
| Bundles, Samuel H., Jr., and H. M. Childrey, to Summit Laboratories, Inc. Comb. 217,997, 7-7-70, Cl. D86-8.  | Kohner Bros., Inc.: See—<br>Kohner, Frank, and Donna. 217,973.  |
| Calderoni, Marilyn, and E. P. Cheslock, to Gulf & Western Systems Co. Alarm controller housing. 217,991, 7-7-70, Cl. D72-1.  | Kollmorgen Corp.: See—<br>Casterlin, James H. 217,987.<br>Casterlin, James H. 217,988.  |
| Casterlin, James H., to Kollmorgen Corp. Photometric instrument. 217,987, 7-7-70, Cl. D81-1.   | Korol, Stanley F., to Borg-Warner Corp. Handle. 217,965, 7-7-70, Cl. D23-29.  |
| Casterlin, James H., to Kollmorgen Corp. Color analyzer instrument. 217,988, 7-7-70, Cl. D81-1.  | Korol, Stanley F., to Borg-Warner Corp. Spout. 217,966, 7-7-70, Cl. D23-32.   |
| Chee, Yau Y., to Practical Products Mfg. Ltd. Hand lantern. 217,979, 7-7-70, Cl. D48-24.   | Korol, Stanley F., to Borg-Warner Corp. Lavatory. 217,967, 7-7-70, Cl. D23-58.  |
| Chee, Yau Y., to Practical Products Mfg. Ltd. Portable car spotlight. 217,980, 7-7-70, Cl. D48-24.   | La Police, George D.: See—<br>Szostak, Jan, and La Police. 217,989.   |
| Cheslock, Edward P.: See—<br>Calderoni, Marilyn, and Cheslock. 217,991.  | Lee, Hugh M.: See—<br>Salter, Edward E., and Lee. 217,971.  |
| Coast Properties Co.: See—<br>Smith, Orville M., and Wiscamb. 217,948.   | Linska, Bruce M. Fish lure. 217,964, 7-7-70, Cl. D22-28.  |
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| Cobbs Mfg. Co.: See—<br>Cobbs, Gordon R. 218,002.  | Mallinckrodt Chemical Works: See—<br>Montgomery, James R. 217,995.  |
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| Deitch, James C. Game board. 217,974, 7-7-70, Cl. D34-5.   | Mason, Thomas A.: See—<br>O'Brien, David F., and Mason. 217,977.  |
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| Eclipse Sleep Products, Inc.: See—<br>Rozett, Jack. 217,963.   | Monsanto Co.: See—<br>Wall, Robert F. 217,983.  |
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| Einstein, Arthur W., Jr., to Lord, Geller, Federico & Partners, Inc. Shoe. 217,950, 7-7-70, Cl. D2-269.  | Nathanson, Heinz. Shower curtain hook. 217,954, 7-7-70, Cl. D8-248.   |
| Gardella, John M., and E. E. Hoyt, to Pennwalt Corp. Dispenser for alloy pellets and mercury. 217,970, 7-7-70, Cl. D24-1.  | O'Brien, David F., and T. A. Mason, to Container Corp. of America. Flying toy. 217,977, 7-7-70, Cl. D34-15.                       |
| Genaro, Donald M., to The Singer Co. Embroidery attachment for a sewing machine or similar article. 217,990, 7-7-70, Cl. D70-2.  | Osrow, Leonard, to Osrow Products Co., Inc. Emergency road flasher. 217,992, 7-7-70, Cl. D72-1.                                   |

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| Pearl, Daniel M., to Bolen International, Inc. Decorator panel. 217,984, 7-7-70, Cl. D54-2.  | Salter, Edward E., and Lee. 217,971.   |
| Pelensky, Walter J. Stringed musical instrument. 217,985, 7-7-70, Cl. D56-1.   | Szostak, Jan, and La Police. 217,989.  |
| Pelli, Cesar, to American Snacks, Inc. Building. 217,957, 7-7-70, Cl. D18-1.   | Smith, Orville M., and K. S. Wiscamb; 80% to said Smith and 20% to Coast Properties Co. Molded food product. 217,948, 7-7-70, Cl. D1-16. |
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| Practical Products Mfg. Ltd.: See—<br>Chee, Yau Y. 217,979.  | Stewart, Leslie R. Wall-mounted tissue dispenser. 217,982, 7-7-70, Cl. D52-2.  |
| Pruett, George L. Three dimensional tick-tack-toe game board. 217,978, 7-7-70, Cl. D34-5.  | Strassie, Alex. Ottoman. 217,961, 7-7-70, Cl. D15-8.   |
| Raphael, Peter I., and J. W. Sutton, to Peter Raphael Ltd. Ridable bouncing toy. 217,978, 7-7-70, Cl. D34-15.                        | Studinger, John H., to Aqua Engineering Corp. Mobile high-pressure liquid sprayer unit. 217,958, 7-7-70, Cl. D14-3.                      |
| Raphael, Peter, Ltd.: See—<br>Raphael, Peter I., and Sutton. 217,978.  | Summit Laboratories, Inc.: See—<br>Bundles, Samuel H., Jr., and Childrey. 217,997.   |
| Rozett, Jack, to Eclipse Sleep Products, Inc. Combined convertible sofa and night table. 217,963, 7-7-70, Cl. D15-11.                | Sutton, John W.: See—<br>Raphael, Peter I., and Sutton. 217,978.   |
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| Schilling Industries Inc.: See—<br>Schilling, Lorell J. 217,960.   | Thaheld, Fred A., to E. Silkerson. Portable hand-tufting machine. 218,000, 7-7-70, Cl. D92-15.   |
| Schilling, Lorell J., to Schilling Industries Inc. Roof mounted enclosure for an automotive van camper. 217,960, 7-7-70, Cl. D14-27. | Thomas, John, to The General Electric and English Companies Ltd. Telephone switchboard. 217,972, 7-7-70, Cl. D26-14.                     |
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| Schwartz, Conrad T., Jr.: See—<br>Howard, John R., and Schwartz. 217,955.  | Wall, Robert F., to Monsanto Co. Process control instrument. 217,983, 7-7-70, Cl. D52-6.   |
| Howard, John R., and Schwartz. 217,956.  | Wilson, Henry A. Flying saucer-type toy. 217,976, 7-7-70, Cl. D34-15.  |
| Seekin, Samuel. Paper chef's hat. 217,949, 7-7-70, Cl. D2-253.   | Wiscamb, Kenneth S.: See—<br>Smith, Orville M., and Wiscamb. 217,948.  |
| Silkerson, Evert: See—<br>Thaheld, Fred A. 218,000.  | Woolter, Cecil B., to The Vernon Co. Combined calendar and penholder. 217,993, 7-7-70, Cl. D74-5.  |



# CLASSIFICATION OF PATENTS

ISSUED JULY 7, 1970

NOTE.—First number, class; second number, subclass; third number, patent number

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3,519,148	234 : 3,519,182	235-61.11 : 3,519,257	17.2 : 3,519,312	658 : 3,519,742	3,519,915
3,519,149	234 : 3,519,183	235-61.11 : 3,519,258	17.2 : 3,519,313	658 : 3,519,743	3,519,916
3,519,150	234 : 3,519,184	235-61.11 : 3,519,259	17.2 : 3,519,314	658 : 3,519,744	3,519,917
3,519,151	234 : 3,519,185	235-61.11 : 3,519,260	17.2 : 3,519,315	658 : 3,519,745	3,519,918
3,519,152	234 : 3,519,186	235-61.11 : 3,519,261	17.2 : 3,519,316	658 : 3,519,746	3,519,919
3,519,153	234 : 3,519,187	235-61.11 : 3,519,262	17.2 : 3,519,317	658 : 3,519,747	3,519,920
3,519,154	234 : 3,519,188	235-61.11 : 3,519,263	17.2 : 3,519,318	658 : 3,519,748	3,519,921
3,519,155	234 : 3,519,189	235-61.11 : 3,519,264	17.2 : 3,519,319	658 : 3,519,749	3,519,922
3,519,156	234 : 3,519,190	235-61.11 : 3,519,265	17.2 : 3,519,320	658 : 3,519,750	3,519,923
3,519,157	234 : 3,519,191	235-61.11 : 3,519,266	17.2 : 3,519,321	658 : 3,519,751	3,519,924
3,519,158	234 : 3,519,192	235-61.11 : 3,519,267	17.2 : 3,519,322	658 : 3,519,752	3,519,925
3,519,159	234 : 3,519,193	235-61.11 : 3,519,268	17.2 : 3,519,323	658 : 3,519,753	3,519,926
3,519,160	234 : 3,519,194	235-61.11 : 3,519,269	17.2 : 3,519,324	658 : 3,519,754	3,519,927
3,519,161	234 : 3,519,195	235-61.11 : 3,519,270	17.2 : 3,519,325	658 : 3,519,755	3,519,928
3,519,162	234 : 3,519,196	235-61.11 : 3,519,271	17.2 : 3,519,326	658 : 3,519,756	3,519,929
3,519,163	234 : 3,519,197	235-61.11 : 3,519,272	17.2 : 3,519,327	658 : 3,519,757	3,519,930
3,519,164	234 : 3,519,198	235-61.11 : 3,519,273	17.2 : 3,519,328	658 : 3,519,758	3,519,931
3,519,165	234 : 3,519,199	235-61.11 : 3,519,274	17.2 : 3,519,329	658 : 3,519,759	3,519,932
3,519,166	234 : 3,519,200	235-61.11 : 3,519,275	17.2 : 3,519,330	658 : 3,519,760	3,519,933
3,519,167	234 : 3,519,201	235-61.11 : 3,519,276	17.2 : 3,519,331	658 : 3,519,761	3,519,934
3,519,168	234 : 3,519,202	235-61.11 : 3,519,277	17.2 : 3,519,332	658 : 3,519,762	3,519,935
3,519,169	234 : 3,519,203	235-61.11 : 3,519,278	17.2 : 3,519,333	658 : 3,519,763	3,519,936
3,519,170	234 : 3,519,204	235-61.11 : 3,519,279	17.2 : 3,519,334	658 : 3,519,764	3,519,937
3,519,171	234 : 3,519,205	235-61.11 : 3,519,280	17.2 : 3,519,335	658 : 3,519,765	3,519,938
3,519,172	234 : 3,519,206	235-61.11 : 3,519,281	17.2 : 3,519,336	658 : 3,519,766	3,519,939
3,519,173	234 : 3,519,207	235-61.11 : 3,519,282	17.2 : 3,519,337	658 : 3,519,767	3,519,940
3,519,174	234 : 3,519,208	235-61.11 : 3,519,283	17.2 : 3,519,338	658 : 3,519,768	3,519,941
3,519,175	234 : 3,519,209	235-61.11 : 3,519,284	17.2 : 3,519,339	658 : 3,519,769	3,519,942
3,519,176	234 : 3,519,210	235-61.11 : 3,519,285	17.2 : 3,519,340	658 : 3,519,770	3,519,943
3,519,177	234 : 3,519,211	235-61.11 : 3,519,286	17.2 : 3,519,341	658 : 3,519,771	3,519,944
3,519,178	234 : 3,519,212	235-61.11 : 3,519,287	17.2 : 3,519,342	658 : 3,519,772	3,519,945
3,519,179	234 : 3,519,213	235-61.11 : 3,519,288	17.2 : 3,519,343	658 : 3,519,773	3,519,946
3,519,180	234 : 3,519,214	235-61.11 : 3,519			



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## PATENTS

1 : 3,518,953	6 : 3,519,117	6 : 3,519,774	9 : 3,519,462	17 : 3,518,887	17 : 3,519,887
2 : 3,518,728	3,519,160	3,519,800	3,519,469	3,518,902	3,519,889
3 : 3,518,753	3,519,172	3,519,801	3,519,543	3,518,915	3,519,913
4 : 3,519,529	3,519,182	3,519,803	3,519,557	3,518,920	3,519,969
3,519,749	3,519,194	3,519,823	3,519,574	3,518,931	3,519,970
3,519,771	3,519,202	3,519,833	3,519,601	3,518,965	3,519,981
3,519,810	3,519,212	3,519,849	3,519,635	3,518,966	3,519,988
3,519,828	3,519,223	3,519,851	3,519,779	3,518,962	3,519,997
3,519,845	3,519,224	3,519,859	3,519,858	3,519,001	3,519,999
3,519,896	3,519,233	3,519,868	3,519,863	3,519,349	3,519,999
3,519,900	3,519,255	3,519,870	3,519,923	3,519,409	3,519,999
3,519,975	3,519,276	3,519,888	3,519,992	3,519,737	3,519,999
5 : 3,519,142	3,519,290	3,519,890	10 : 3,518,866	3,519,060	3,519,999
6 : 3,518,715	3,519,291	3,519,897	11 : 3,518,941	3,519,113	3,519,999
3,518,745	3,519,294	3,519,902	3,519,145	3,519,118	3,519,999
3,518,748	3,519,303	3,519,917	12 : Rk. 26,931	3,519,122	3,519,999
3,518,750	3,519,318	3,519,926	3,518,766	3,519,126	3,519,999
3,518,751	3,519,322	3,519,946	3,519,016	3,519,139	3,519,999
3,518,779	3,519,339	3,519,957	3,519,037	3,519,155	3,519,999
3,518,787	3,519,359	3,519,959	3,519,069	3,519,158	3,519,999
3,518,797	3,519,360	3,519,962	3,519,288	3,519,163	3,519,999
3,518,807	3,519,381	3,519,983	3,519,387	3,519,165	3,519,999
3,518,828	3,519,390	3,519,995	3,519,503	3,519,170	3,519,999
3,518,849	3,519,399	3,519,999	3,519,513	3,519,171	3,519,999
3,518,867	3,519,404	3,519,999	3,519,769	3,519,210	3,519,999
3,518,872	3,519,407	3,519,999	3,519,837	3,519,234	3,519,999
3,518,886	3,519,416	3,519,999	3,519,854	3,519,246	3,519,999
3,518,900	3,519,434	3,519,999	3,519,955	3,519,279	3,519,999
3,518,903	3,519,465	3,519,999	3,519,958	3,519,280	3,519,999
3,518,914	3,519,500	3,519,999	3,519,958	3,519,433	3,519,999
3,518,916	3,519,505	3,519,999	3,519,924	3,519,438	3,519,999
3,518,918	3,519,506	3,519,999	9 : 3,518,713	3,519,440	3,519,999
3,518,963	3,519,524	3,519,999	3,518,737	3,519,442	3,519,999
3,518,976	3,519,530	3,519,999	3,518,758	3,519,453	3,519,999
3,518,986	3,519,556	3,519,999	3,518,769	3,519,470	3,519,999
3,518,993	3,519,560	3,519,999	3,518,933	3,519,499	3,519,999
3,518,996	3,519,563	3,519,999	3,518,974	3,519,508	3,519,999
3,519,000	3,519,568	3,519,999	3,519,021	3,519,602	3,519,999
3,519,002	3,519,573	3,519,999	3,519,173	3,519,618	3,519,999
3,519,005	3,519,595	3,519,999	3,519,193	3,519,706	3,519,999
3,519,006	3,519,622	3,519,999	3,519,207	3,518,747	3,519,999
3,519,008	3,519,724	3,519,999	3,519,238	3,518,792	3,519,999
3,519,039	3,519,727	3,519,999	3,519,274	3,518,798	3,519,999
3,519,043	3,519,728	3,519,999	3,519,311	3,518,799	3,519,999
3,519,050	3,519,739	3,519,999	3,519,352	3,518,820	3,519,999
3,519,052	3,519,742	3,519,999	3,519,357	3,518,829	3,519,999
3,519,064	3,519,760	3,519,999	3,519,365	3,518,834	3,519,999
3,519,083	3,519,761	3,519,999	3,519,405	3,518,841	3,519,999
3,519,085	3,519,764	3,519,999	3,519,449	3,518,852	3,519,999
3,519,116	3,519,767	3,519,999	3,519,451	3,518,861	3,519,999

24 : 3,519,891	26 : 3,519,787	34 : 3,519,619	36 : 3,519,447	39 : 3,519,368	42 : 3,519,622
3,519,985	3,519,804	3,519,625	3,519,448	3,519,386	3,519,629
3,519,990	3,519,816	3,519,626	3,519,450	3,519,389	3,519,630
25 : Rk. 26,932	3,519,835	3,519,636	3,519,474	3,519,418	3,519,666
3,518,729	3,519,843	3,519,637	3,519,480	3,519,432	3,519,680
3,518,730	3,519,860	3,519,647	3,519,481	3,519,463	3,519,692
3,518,742	3,519,942	3,519,651	3,519,498	3,519,464	3,519,698
3,518,793	3,519,978	3,519,681	3,519,504	3,519,471	3,519,700
3,518,794	3,519,986	3,519,690	3,519,507	3,519,486	3,519,714
3,518,806	3,519,987	3,519,699	3,519,522	3,519,489	3,519,730
3,518,810	3,518,709	3,519,701	3,519,538	3,519,493	3,519,732
3,518,926	3,518,815	3,519,709	3,519,569	3,519,496	3,519,733
3,518,942	3,519,067	3,519,712	3,519,572	3,519,501	3,519,736
3,518,943	3,519,206	3,519,717	3,519,579	3,519,518	3,519,750
3,518,995	3,519,576	3,519,741	3,519,597	3,519,523	3,519,790
3,519,003	3,519,577	3,519,744	3,519,605	3,519,532	3,519,805
3,519,031	3,519,627	3,519,746	3,519,611	3,519,562	3,519,825
3,519,033	3,519,609	3,519,757	3,519,617	3,519,564	3,519,838
3,519,144	3,519,920	3,519,766	3,519,662	3,519,565	3,519,848
3,519,188	3,518,710	3,519,782	3,519,670	3,519,570	3,519,866
3,519,201	3,518,782	3,519,792	3,519,671	3,519,583	3,519,873
3,519,286	3,518,870	3,519,793	3,519,685	3,519,584	3,519,881
3,519,292	3,518,879	3,519,840	3,519,697	3,519,585	3,519,885
3,519,295	3,519,010	3,519,855	3,519,711	3,519,612	3,519,895
3,519,315	3,519,041	3,519,928	3,519,716	3,519,665	3,519,915
3,519,325	3,519,166	3,519,929	3,519,745	3,519,667	3,519,961
3,519,328	3,519,168	3,519,932	3,519,776	3,519,688	3,519,967
3,519,347	3,519,208	3,519,935	3,519,788	3,519,702	3,519,971
3,519,354	3,519,232	3,519,936	3,519,791	3,519,720	3,519,984
3,519,393	3,519,312	3,519,937	3,519,799	3,519,721	44 : 3,519,249
3,519,423	3,519,369	3,519,941	3,519,802	3,519,726	45 : 3,518,823
3,519,452	3,519,415	3,519,944	3,519,812	3,519,783	3,519,086
3,519,488	3,519,546	3,519,963	3,519,813	3,519,789	3,519,383
3,519,510	3,519,559	3,519,979	3,519,818	3,519,796	3,519,581
3,519,517	3,519,713	3,519,982	3,519,819	3,519,839	3,519,723
3,519,527	3,519,797	3,519,996	3,519,824	3,519,876	46 : 3,519,429
3,519,558	3,519,977	3,519,999	3,519,827	3,519,905	47 : 3,518,934
3,519,591	3,519,980	3,518,702	3,519,830	3,519,918	3,519,013
3,519,593	3,518,719	3,518,705	3,519,832	3,519,927	3,519,268
3,519,594	3,518,819	3,518,789	3,519,844	3,519,972	3,519,385
3,519,657	3,518,960	3,518,746	3,519,857	3,518,791	3,519,400
3,519,664	3,519,265	3,518,749	3,519,861	3,518,932	3,519,511
3,519,775	3,519,509	3,518,756	3,519,872	3,519,161	3,519,561
3,519,820	3,519,947	3,518,763	3,519,874	3,519,169	3,519,599
3,519,841	3,519,976	3,518,774	3,519,883	3,519,335	3,519,609
3,519,864	26 : Rk. 26,930	3,518,775	3,519,893	3,519,336	3,519,623
3,519,907	3,518,704	3,518,781	3,519,894	3,519,765	48 : 3,518,761
3,519,934	3,518,773	3,518,783	3,519,903	3,519,040	3,518,788
3,519,951	3,518,785	3,518,811	3,519,909	3,519,044	3,518,833
3,519,964	3,518,789	3,518,818	3,519,930	3,519,097	3,518,840
3,519,988	3,518,790	3,518,857	3,519,931	3,519,473	3,518,873
26 : 3,518,755	3,518,801	3,518,864	3,519,953	3,519,725	3,518,924
3,518,784	3,518,804	3,518,885	3,519,965	3,519,966	3,518,980
3,518,808	3,518,813	3,518,898	3,519,973	3,518,720	3,519,004
3,518,843	3,518,816	3,518,908	3,519,999	3,518,722	3,519,022
3,518,868	3,518,830	3,518,925	3,518,991	3,518,727	3,519,034
3,518,882	3,518,876	3,518,929	3,519,175	3,518,733	3,519,036
3,518,890	3,518,940	3,518,957	3,519,220	3,518,752	3,519,053
3,518,895	3,518,951	3,518,969	3,519,794	3,518,770	3,519,071
3,518,897	3,518,954	3,519,007	3,519,850	3,518,780	3,519,074
3,518,899	3,518,959	3,519,009	3,519,945	3,518,795	3,519,075
3,518,901	3,518,982	3,519,024	3,518,735	3,518,802	3,519,077
3,518,913	3,518,994	3,519,055	3,518,711	3,518,822	3,519,078
3,518,946	3,519,014	3,519,057	3,518,712	3,518,838	3,519,088
3,518,961	3,519,054	3,519,079	3,518,725	3,518,844	3,519,094
3,518,977	3,519,070	3,519,095	3,518,741	3,518,863	3,519,176
3,519,011	3,519,093	3,519,101	3,518,754	3,518,881	3,519,228
3,519,042	3,519,100	3,519,110	3,518,786	3,518,891	3,519,252
3,519,046	3,519,102	3,519,115	3,518,796	3,518,896	3,519,305
3,519,073	3,519,103	3,519,123	3,518,812	3,518,938	3,519,431
3,519,098	3,519,104	3,519,124	3,518,854	3,518,939	3,519,550
3,519,114	3,519,106	3,519,132	3,518,856	3,518,973	3,519,573
3,519,131	3,519,128	3,519,135	3,518,878	3,519,038	3,519,588
3,519,134	3,519,148	3,519,150	3,518,884	3,519,066	3,519,684
3,519,178	3,519,151	3,519,162	3,518,892	3,519,081	3,519,687
3,519,179	3,519,189	3,519,183	3,518,917	3,519,092	3,519,708
3,519,180	3,519,209	3,519,192	3,518,936	3,519,105	3,519,815
3,519,199	3,519,216	3,519,217	3,518,945	3,519,119	3,519,886
3,519,219	3,519,259	3,518,981	3,518,981	3,519,181	3,519,901
3,519,236	3,519,283	3,519,253	3,518,989	3,519,204	49 : 3,518,983
3,519,244	3,519,298	3,519,264	3,518,990	3,519,229	3,519,076
3,519,251	3,519,323	3,519,272	3,519,012	3,519,230	3,519,129
3,519,260	3,519,324	3,519,299	3,519,058	3,519,237	3,519,277
3,519,261	3,519,332	3,519,329	3,519,082	3,519,245	3,519,353
3,519,262	3,519,342	3,519,341	3,519,108	3,519,254	50 : 3,519,908
3,519,300	3,519,348	3,519,343	3,519,109	3,519,270	3,519,998
3,519,320	3,519,364	3,519,344	3,519,121	3,519,302	51 : 3,518,701
3,519,331	3,519,388	3,519,346	3,519,125	3,519,309	3,518,734
3,519,398	3,519,396	3,519,350	3,519,140	3,519,314	3,518,736
3,519,408	3,519,414	3,519,355	3,519,149	3,519,317	3,519,531
3,519,439	3,519,419	3,519,356	3,519,157	3,519,321	3,519,693
3,519,476	3,519,443	3,519,372	3,519,159	3,519,330	3,519,710
3,519,492	3,519,454	3,519,380	3,519,164	3,519,362	3,519,778
3,519,495	3,519,478	3,519,406	3,519,177	3,519,366	3,519,904
3,519,519	3,519,512	3,519,411	3,519,211	3,519,374	3,519,906
3,519,520	3,519,533	3,519,420	3,519,214	3,519,375	53 : 3,518,744
3,519,566	3,519,548	3,519,421	3,519,221	3,519,455	3,518,937
3,519,600	3,519,552	3,519,422	3,519,222	3,519,460	3,518,952
3,519,639	3,519,553	3,519,424	3,519,225	3,519,461	3,518,985
3,519,675	3,519,554	3,519,425	3,519,267	3,519,483	3,518,988
3,519,679	3,519,555	3,519,426	3,519,275	3,519,484	3,519,045
3,519,694	3,519,592	3,519,430	3,519,282	3,519,535	3,519,154
3,519,703	3,519,596	3,519,435	3,519,285	3,519,537	3,519,156
3,519,777	3,519,598	3,519,437	3,519,301	3,519,539	3,519,196
3,519,785	3,519,606	3,519,441	3,519,313	3,519,575	3,519,468
3,519,786	3,519,608	3,519,445	3,519,319	3,519,610	3,519,770



53 : 3,519,795	55 : 3,518,759	55 : 3,518,923	55 : 3,519,018	55 : 3,519,376	55 : 3,519,836
3,519,821	3,518,760	3,518,949	3,519,089	3,519,436	3,519,878
3,519,952	3,518,800	3,518,964	3,519,152	3,519,491	3,519,911
54 : 3,519,526	3,518,814	3,518,970	3,519,240	3,519,528	3,519,912
3,519,607	3,518,817	3,518,978	3,519,263	3,519,763	3,519,989
55 : 3,518,726	3,518,880	3,518,979	3,519,293	3,519,811	56 : 3,519,138
3,518,757	3,518,889	3,518,998			

## Design Patents

6 : 217,957	17 : 217,986	26 : 217,959	34 : 217,952	36 : 217,973	42 : 217,962
217,969	217,998	217,964	217,970	217,987	217,963
217,981	217,999	217,968	217,989	217,988	217,982
8 : 217,958	218,001	27 : 217,953	217,990	217,992	217,985
12 : 217,949	18 : 217,997	29 : 217,983	36 : 217,950	37 : 217,994	217,991
217,976	19 : 217,993	217,995	217,951	39 : 217,965	217,996
17 : 217,955	218,002	31 : 217,974	217,954	217,966	48 : 217,948
217,956	24 : 217,975	32 : 218,000	217,971	217,967	55 : 217,960
217,984	25 : 217,977				

## Plant Patents

18 : 2,978	36 : 2,979	36 : 2,980			
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# U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

July 7, 1970

Volume 876

Number 1

## TRADEMARKS NOTICES

### Examination

Pursuant to the provisions of Rule 341(c), an examination for persons seeking registration before the United States Patent Office as patent attorneys or agents will be held on Tuesday, September 15, 1970.

With the exception of those former patent examiners for whom the examination is waived, all persons recognized for practice before the Patent Office in patent cases must, pursuant to the noted rule, pass the examination. Those passing the examination do not thereby qualify for recognition for practice before the Patent Office in trademark cases. Recognition for practice in trademark cases is governed by Rule 2.12 of the Trademark Rules of Practice, which does not require the passing of an examination.

This examination will be given under the supervision of the Civil Service Commission, and may be taken in any of the cities in which the Civil Service Commission regularly conducts examinations. Applications to take the examination must be filed in the Patent Office together with a \$35 fee not later than August 10, 1970.

Application blanks may be obtained from the Clerk of the Patent Office Committee on Enrollment, Bldg. 3, 11th Floor, Room C16, Crystal Plaza, Arlington, Va., or by mail addressed to the Commissioner of Patents, Washington, D.C. 200231, and directed to the attention of the Clerk of the Committee on Enrollment.

S. WM. COCHRAN,  
Acting Chairman, Committee on Enrollment.

### Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 375,163 (DOLLY MADISON), Interstate Bakeries Corporation, Bakery sweet goods—namely, cakes, soft cakes, angel food cakes, fruit cakes, doughnuts, cookies, and sweet rolls, filed Nov. 25, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2436, *Interstate Brands Corporation v. Dolly Madison Industries, Inc.* On motion by plaintiff, dismissed without prejudice, Jan. 28, 1970.

Reg. No. 400,974. (See Reg. No. 606,539.)

Reg. No. 417,568 (KENT OF LONDON AND DESIGN), G. B. Kent & Sons, Limited, Toothbrushes, hairbrushes, nail brushes, hand brushes, bath brushes, cloth brushes, hat brushes, shaving brushes, complexion brushes, and military brushes, filed June 14, 1963, D.C., S.D.N.Y., Doc. 63-C-1768, *G. B. Kent & Sons, Ltd. et al. v. Elizabeth Kent Cosmetics, Inc. et al.* Stipulation and order, action dismissed with prejudice, Feb. 24, 1970.

Reg. No. 531,700. (See Reg. No. 606,539.)

Reg. No. 532,027 (SENCO), Senco Products, Inc., Staples; Reg. No. 532,028, same, Staplers and pneumatic tackers, filed Feb. 13, 1970, D.C., S.D. Ohio (Cincinnati), Doc. 7409, *Senco Products, Inc. v. International Union of Electrical, Radio and Machine Workers AFL-CIO-OLC and its local union IUE Local 678 and Larry Williams (International Representative).*

Reg. No. 582,028. (See Reg. No. 582,027.)

### CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 24,830  
Date of oldest new application..... June 18, 1969  
Date of oldest amended application (filing date)..... October 20, 1966

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....		8-29-69	10-13-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....		10-1-69	10-20-66
(III) C. E. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36, 44.....		9-4-69	2-17-67
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29, Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....		6-18-69	5-18-67
Renewals (All Classes).....		4-6-70	
Sec. 12(c) Publications (All Classes).....		4-10-70	

Applications filed during the month of May 1970—2,798

Registrations Issued ..... 417—No. 893,947 to No. 894,363  
Renewals Issued ..... 140

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.



Reg. No. 606,539 (YWCA), National Board of the Young Women's Christian Association of the U.S.A., Building a fellowship of women and girls devoted to the task of realizing in their common life those ideals of personal and social living to which they are committed by their faith as Christians; Reg. No. 763,279, same, Indicating membership in applicant's association; Reg. No. 632,427 (YWCA AND DESIGN), same, Building a fellowship of women and girls devoted to the task of realizing in their common life those ideals of personal and social living to which they are committed by their faith as Christians; Reg. No. 756,556, same, Indicating membership in applicant's association; Reg. No. 561,700 (T-TEEN), same, Building a fellowship of women and girls devoted to the task of realizing in their common life those ideals of personal and social living to which they are committed by their faith as Christians; Reg. No. 659,639 (Y-TEEN AND DESIGN), same, Indicating membership in applicant's association; Reg. No. 446,974, same, Women's sport clothes—namely, scarves, hats, and sport shirts, filed Mar. 6, 1970, D.C.S.C. (Charleston), Doc. 70-180, *The National Board of the YWCA of United States v. Young Women's Christian Association of Charleston, S.C.*

Reg. No. 617,131 (VOLKSWAGEN), Volkswagenwerk, GmbH, Vehicles—namely, automobiles and trucks, aircraft, boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; Reg. No. 631,649 (VW IN CIRCLE), same; Reg. No. 653,695 (VW), same; Reg. No. 790,950 (VOLKSWAGEN), same, Automobiles and trucks, aircraft, and boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, and anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; Reg. No. 790,950 (VW AND DESIGN), same; Reg. No. 791,511, (VW), same; Reg. No. 804,500 (VW AND DESIGN), same, Repair and reconditioning of motor vehicles, aircraft and boats; Reg. No. 806,381 (VOLKSWAGEN), same, Vehicles—namely, automobiles and trucks, aircraft, and boats; and parts and accessories for automobiles and trucks, aircraft and boats—namely, radiators, direction indicators, windshield wipers, shock absorbers, brakes, and baggage racks; Reg. No. 815,632 (VW), same, Repair, reconditioning and replacement of motors and accessories and parts thereof, and repair and reconditioning of motor vehicles, aircraft, and boats; Reg. No. 819,397 (VOLKSWAGEN), same, filed Apr. 1, 1970, D.C., E.D. Calif. (Sacramento), Doc. 8-1578, *Volkswagenwerk Aktiengesellschaft v. Danny Hooper, doing business as Danny's Automotive*.

Reg. No. 631,649. (See Reg. No. 617,131.)

Reg. No. 632,427. (See Reg. No. 606,539.)

Reg. No. 653,695. (See Reg. No. 617,131.)

Reg. No. 659,639. (See Reg. No. 606,539.)

Reg. No. 756,556. (See Reg. No. 606,539.)

Reg. No. 763,279. (See Reg. No. 606,539.)

Reg. No. 784,934 (JADE EAST), Swank, Inc., Cologne, after-shave lotion and deodorant, filed Sept. 26, 1967, D.C., S.D.N.Y., Doc. 67-C-3726, *Swank, Inc. v. Norman Levy, doing business as Global Imports et al.* Dismissed on plaintiff's voluntary dismissal, Mar. 13, 1970.

Reg. No. 790,921. (See Reg. No. 617,131.)

Reg. No. 790,950. (See Reg. No. 617,131.)

Reg. No. 791,511. (See Reg. No. 617,131.)

Reg. No. 792,341. (See Reg. No. 792,653.)

Reg. No. 792,653 (MAGIC), Basic Vegetable Products, Inc., Dehydrated onions and dehydrated potatoes; Reg. No. 792,341, same, Dehydrated vegetable—namely, granulated garlic, filed Sept. 23, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69-1886-R, *Basic Vegetable Products, Inc. and American Potato Company v. Service Foods, Inc.* Consent decree, plaintiff owner of above trademarks; defendant has infringed; perpetual injunction shall issue restraining defendants, Jan. 6, 1970.

Reg. No. 794,000 (CLUB INTERNATIONALE AND DESIGN), Club Internationale, Indicating membership in applicant's vacation club, filed Mar. 9, 1970, D.C., N.D. Tex. (Dallas), Doc. CA-3-3700-C, *Club Internationale Management Corp. et al. v. Club Internationale, Inc., and Top-Four, Inc.*

Reg. No. 804,500. (See Reg. No. 617,131.)

Reg. No. 806,381. (See Reg. No. 617,131.)

Reg. No. 815,632. (See Reg. No. 617,131.)

Reg. No. 816,704 (CHRIS' & PITTS), The Glidden Company, Barbecue sauce, filed Mar. 18, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70-570-DWW, *SCM Corporation v. Cal Hearth Products, Inc. and Marshall V. Pittman*.

Reg. No. 817,132 (P.P.T. "8-77"), Redken Laboratories, Inc., Hair conditioner, filed Mar. 19, 1970, D.C. Colo. (Denver), Doc. C-2143, *Redken Laboratories, Inc. v. Denver Chemical Corporation*.

Reg. No. 819,397. (See Reg. No. 617,131.)

Reg. No. 831,656 (MAGNA-TRAN), Mid-States Welder Manufacturing Company, Electric welders, filed Mar. 18, 1970, D.C. Ariz. (Phoenix), Doc. C-70-146 Phx., *Eutetic Corporation v. Construction & Mining Supply Co.*

Reg. No. 834,629 (TRAM), Tram Electronics Incorporated, Electronic communication equipment—namely, transceivers, filed Dec. 26, 1968, D.C.N.J. (Camden), Doc. 1385-68, *Tram Corporation v. Tram Electronics, Inc.* Order of dismissal without prejudice, Mar. 12, 1970.

## MARKS PUBLISHED FOR OPPOSITION

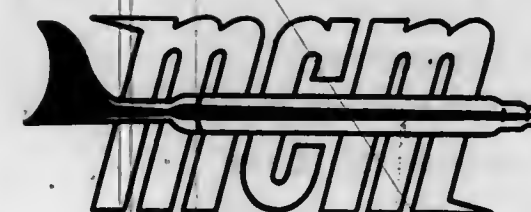
### SECTION 1

The following marks are published in compliance with section 13(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 709. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.103. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 265,834. M-Line, Inc., Whittier, Calif., assignee of M.C.M. Mfg. Co., Inc., Whittier, Calif. Filed Mar. 2, 1967.

SN 316,163. Goodway Copy Centers, Inc., Philadelphia, Pa. Filed Jan. 9, 1969.



#### Class 19—Vehicles

For Fender Braces, Headlight Covers, Coil Covers, Battery Box Covers, Reducers, End Clamps, Body Clamps, Header Clamps, Registration Holders, Leg Shields, Throttle Extensions, and Handle Bars (Int. Cl. 12).

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Mufflers, Drive Plates, Clutch Plates, and Exhaust Pipes (Int. Cl. 12).

First use Jan. 1, 1958.

SN 270,110. Artesania Limited, London, England. Filed Apr. 27, 1967.



The words "Casa Pupo" translated into English mean "house of Pupo." Owner of British Reg. No. B864,749, dated May 26, 1964.

#### Class 30—Crockery, Earthenware, and Porcelain

For Articles of Earthenware and Porcelain—Namely, Jardinières, Flower Pots, Dishes, Plates, Cups and Saucers, Tiles for Hot Mats, Vases, and Boxes (Int. Cl. 21).

#### Class 33—Glassware

For Articles of Glassware—Namely, Goblets, Dishes, Vases, Tumblers, Plates, Jugs, Boxes, Bowls, and Decanters (Int. Cl. 21).



No claim is made to the words "Copy Center", apart from the mark as shown, without disclaiming any common law rights therein. The mark is composed of a fanciful letter "G" and the words "Goodway Copy Center."

#### Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Lighting Fixtures (Int. Cl. 11).

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Typewriters, Paper Cutters, Paper Collators, Mechanical Blueprint and Whiteprint Machines, Paper Booklet Binding Machines, and Offset Printing Process Duplicators (Int. Cls. 7 and 16).

#### Class 26—Measuring and Scientific Appliances

For Photocopy Machines, and Supplies Therefor—Namely, Sensitized Copy Paper (Int. Cls. 1 and 9).

#### Class 27—Horological Instruments

For Electric Clocks (Int. Cl. 14).

#### Class 32—Furniture and Upholstery

For Store Fixtures in the Nature of Furniture (Int. Cl. 20).

First use Apr. 30, 1966.

SN 317,418. University Laboratories, Incorporated, Berkeley, Calif. Filed Jan. 24, 1969.

University Laboratories

Any exclusive right to the word "Laboratories" is disclaimed apart from the mark as shown.

#### Class 21—Electrical Apparatus, Machines, and Supplies

For Devices for Generating Coherent Light Radiation—Namely, Laser Plasma Tubes and Power Supplies Therefor (Int. Cl. 9).

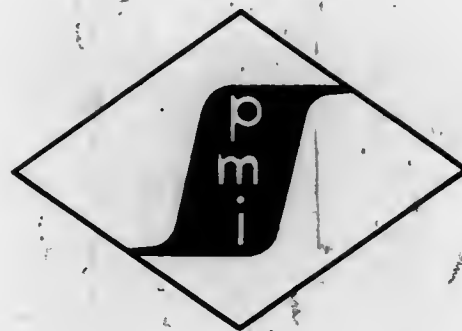
#### Class 26—Measuring and Scientific Appliances

For Devices for Modifying or Using Coherent Light Radiation—Namely, Lenses, Telescopes, Filters, and Holography Kits (Int. Cl. 9).

First use in or about June 1967.



SN 322,616. Pioneer Magnetics Incorporated, Santa Monica, Calif. Filed Mar. 24, 1969.



Owner of Reg. No. 729,671.

### Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Amplifiers, Frequency to Voltage Converters, Inverters, Power Supplies, and Voltage to Frequency Converters (Int. Cl. 9).

### Class 26—Measuring and Scientific Appliances

For Frequency Comparators, Frequency Indicators, and Pulse Rate Meters (Int. Cl. 9).

First use June 5, 1958.

SN 335,638. Broadway-Hale Stores, Inc., Los Angeles, Calif. Filed Aug. 19, 1969.

## CRADLE CROWD

Owner of Reg. No. 879,135.

### Class 39—Clothing

For Infants' Apparel—Namely, Underwear, Sleep Wear, Coveralls, Bathrobes, and Shirts; and Diapers (Int. Cl. 25). First use March 1962.

### Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Infants' Bedding—Namely, Sheets and Blankets; and Towels and Washcloths (Int. Cl. 24). First use September 1967.

SN 339,628. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

## PEN PAL

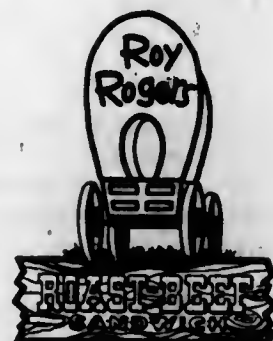
### Class 51—Cosmetics and Toilet Preparations

For Bubble Bath, Cologne, Lip Pomade, and Dusting Powder (Int. Cl. 3).

### Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3). First use June 17, 1969.

SN 341,877. Marriott Corporation, Washington, D.C. Filed Oct. 27, 1969.



Applicant disclaims the words "Roast Beef Sandwich" apart from the mark as shown, but the applicant waives none of its common law rights in said mark or in any feature thereof. Owner of Reg. No. 882,909.

### Class 100—Miscellaneous

For Serving of Foods and Beverages in Restaurants (Int. Cl. 42).

First use on or about Apr. 6, 1968.

### Class 101—Advertising and Business

For Aiding in the Establishment and Operation of Restaurants for Others in the Restaurant Management and Operation Field (Int. Cl. 35).

First use at least as early as June 1968.

SN 342,346. Chadbourn Inc., Charlotte, N.C. Filed Nov. 3, 1969.

## QUAIL HOLLOW

### Class 39—Clothing

For Men's and Ladies' Hosiery, and Men's Sportshirts (Int. Cl. 25).

First use July 22, 1969.

### Class 43—Thread and Yarn

For Yarn (Int. Cl. 23). First use Oct. 8, 1969.

SN 351,746. Duncan Industries, Inc., Elk Grove Village, Ill. Filed Feb. 19, 1970.



### Class 2—Receptacles

For Deposit Boxes for Parking Fines for Overtime Parking in a Parking Metered Zone, and Fare Boxes for Public Transportation Vehicles (Int. Cl. 6).

### Class 25—Locks and Safes

For Locks (Int. Cl. 6).

### Class 26—Measuring and Scientific Appliances

For Parking Meters, and Radar Units for Detecting Vehicle Speed (Int. Cl. 9).

First use at least as early as Jan. 19, 1970.

## SECTION 2

This following marks are published in compliance with section 13(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105. A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

### Class 1—Raw or Partly Prepared Materials

SN 319,723. Owens-Corning Fiberglass Corporation, Toledo, Ohio. Filed Feb. 20, 1969.

## S GLASS

The descriptive word "Glass" is disclaimed apart from the mark as shown.

For Glass Filaments, Strands and Rovings (Int. Cl. 21). First use Jan. 14, 1963.

SN 326,465. Donald Reed Crawl, d.b.a. Maple Hill Farms, Wellsboro, Pa. Filed May 5, 1969.



The drawing is lined for the color red. Applicant Disclaims the words "Brand" and "Christmas Tree" apart from the mark as shown.

For Christmas Trees (Int. Cl. 31). First use Nov. 1, 1966.

SN 331,853. Pat Barrett, d.b.a. Barrett Enterprises, Carbon-dale, Colo. Filed July 7, 1969.



For Charcoal Lighter Composition (Int. Cl. 4). First use on or about July 1, 1965.

SN 335,245. Mikkelsen, Inc., Ashtabula, Ohio. Filed Aug. 13, 1969.

## MIKKEL

For Poinsettias (Int. Cl. 31). First use on or about Apr. 29, 1969.

SN 338,765. FMC Corporation, New York, N.Y. Filed Sept. 24, 1969.

## N-71

For Alfalfa Seed (Int. Cl. 31). First use Oct. 24, 1968.

SN 342,703. Pandel, Inc., Lowell, Mass. Filed Nov. 5, 1969.

## PANDA

For Vinyl-Coated Fabrics as Leather Substitute Material (Int. Cl. 18). First use June 20, 1969.

SN 345,084. J. Mayer & Sohn-Cornelius Heyl Lederfabrik AG, Worms, Germany. Filed Dec. 2, 1969.



Priority claimed under Sec. 44(d) on German Application filed July 7, 1969; Reg. No. 861,494, dated Sept. 30, 1969. For Kid Leather (Int. Cl. 18).

SN 345,437. W. D. Byron & Sons, Inc., Williamsport, Md. Filed Dec. 5, 1969.

## CORDILLERA

For Finished Leather (Int. Cl. 18). First use Oct. 15, 1969.

SN 345,502. Fred Rueping Leather Company, Fond Du Lac, Wis. Filed Dec. 5, 1969.

## HOPI

For Leathers (Int. Cl. 18). First use Feb. 21, 1949.

SN 345,607. Copolymer Rubber & Chemical Corporation, Baton Rouge, La. Filed Dec. 8, 1969.



Owner of Reg. No. 843,459. For Synthetic Polymer—Namely, Synthetic Rubbers (Int. Cl. 1). First use March 1968.

### Class 2—Receptacles

SN 328,831. Dart Industries Inc., d.b.a. Tupperware, Los Angeles, Calif. Filed June 2, 1969.

## STOW-N-GO

For Plastic Household Containers and Covers Therefor With Compartments and Removable Trays (Int. Cl. 21). First use Apr. 7, 1969.



SN 330,297. Nyman Mfg. Co., East Providence, R.I. Filed June 17, 1969. SN 335,462. New Concepts, Inc., Colorado Springs, Colo. Filed Aug. 15, 1969.



Applicant disclaims the representation of the cup and lids apart from the mark as shown, but reserves all common law rights in the representation of the cup and lids as applied to the goods indicated.

For Disposable Drinking Cups and Lids for Use Therewith (Int. Cl. 21).

First use in or about April 1965.

SN 330,768. Lee S. Pemberton, Jr., d.b.a. Dusorb Products Company, Lenexa, Kans. Filed June 23, 1969.

## DUSTSORB

Owner of Reg. No. 416,250.  
For Vacuum Cleaner Bags (Int. Cl. 21).  
First use May 14, 1969.

SN 336,421. Continental Can Company, Inc., New York, N.Y. Filed Aug. 27, 1969.

## HI-TEX

For Metal Containers—Namely, Cans (Int. Cl. 6).  
First use Jan. 20, 1968.

SN 352,679. Forrest B. Stannard, Fort Lauderdale, Fla. Filed Feb. 27, 1970.

## STRIPER

For Plastic Bags (Int. Cl. 20).  
First use Oct. 29, 1969.

## Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 315,967. United States Luggage Corp., Fall River, Mass., by change of name from United States Trunk Company, Inc., Fall River, Mass. Filed Jan. 6, 1969.



The words "U.S. Luggage" are disclaimed apart from the mark as shown, subject to the reservation of all rights as permitted by law. Owner of Reg. Nos. 748,597, 764,492, and 773,017.

For Luggage—Namely, Trunks, Suitcases, Weekend Cases, Hat Cases, Shoe Cases, Travelling Bags, Tote Bags, Pullman Cases, Foot Lockers, Attaché Cases, Wardrobe Cases, Empty Men's and Women's Vanity Cases, and Toilet Accessory Cases (Int. Cls. 18 and 20).

First use Apr. 3, 1967.

# Comfor-Tote

For Luggage Straps (Int. Cl. 18).  
First use on or about June 25, 1969.

SN 336,428. Dante, Inc., New York, N.Y. Filed Aug. 27, 1969.

## PIC-POCKET

For Leather Credit Card Cases and Combined Leather Credit Card Cases and Wallets (Int. Cl. 18).  
First use on or about May 29, 1969.

SN 338,814. Sirco International Corp. Mount Vernon, N.Y. Filed Sept. 24, 1969.

## INSIDE STORY

For Handbags and Wallets (Int. Cl. 18).  
First use June 6, 1969.

## Class 4—Abrasives and Polishing Materials

SN 322,965. The Cello Chemical Company, Baltimore, Md. Filed Mar. 27, 1969.



The drawing is lined for the colors red and yellow. The word "Lemon" and the representation of a lemon are disclaimed apart from the mark as shown.

For Furniture Polish (Int. Cl. 3).  
First use on or about Mar. 17, 1969.

SN 331,778. South Eastern Cordage Co., Cleveland, Ohio. Filed July 3, 1969.



No registration rights are claimed for the representation of the goods apart from the mark shown, but applicant waives none of its common law rights in the mark or any feature thereof. The portrait in the mark is fanciful and does not represent any particular individual.

For Abrasive Pads for Use With Mops and Mop Swabs (Int. Cl. 21).

First use at least November 1965.

## Class 5—Adhesives

SN 333,123. Gentle Industries, Inc., Kansas City, Mo. Filed July 22, 1969.



"Hosiery Adhesive" is disclaimed apart from the mark as shown.

For Roll-On Water Soluble Adhesive for Holding Up Hosiery and Shoulder Straps (Int. Cl. 1).

First use June 27, 1969.

SN 340,959. United Artists Theatre Circuit, Inc., San Francisco, Calif. Filed Oct. 16, 1969.

## CREST-O-SEAL

For Cold Setting Adhesive (Int. Cl. 1).  
First use July 1, 1969.

## Class 6—Chemicals and Chemical Compositions

SN 313,775. Lea-Ronal, Inc., Freeport, N.Y. Filed Dec. 16, 1968.

## ZINC-AL

For Zinc Electroplating Baths (Int. Cl. 1).  
First use June 1967.

SN 332,504. Milchem Incorporated, Houston, Tex. Filed July 14, 1969.

## OCP-7

For Drilling Mud Additive—Namely, an Organic Polyelectrolyte Useful for Filtration Control and Bore Hole Stabilization (Int. Cl. 1).

First use June 20, 1969.

SN 335,258. R.I.T.A. Chemical Corporation, Chicago, Ill. Filed Aug. 13, 1969.

## LANOSIZE

For Lanolin Derivative Used as a Softener for Paper and Toilet Tissues (Int. Cl. 1).  
First use July 1, 1968.

SN 340,538. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany. Filed Oct. 13, 1969.

## LICOMER

Owner of German Reg. No. 854,915, dated May 20, 1967.  
For Chemical Products for Industrial Purposes—Namely, Polymer Dispersions Used as Raw Materials for the Manufacture of Polishes, Especially Dry-Bright Emulsions for Floor Polishing (Int. Cl. 1).

SN 341,749. K-O-K Cleanser Company, Columbus, Ohio. Filed Oct. 27, 1969.

## K-O-K

For Laundry Bleach-Disinfectant-Deodorant, and Ammonia (Int. Cl. 3).  
First use Sept. 1, 1926.

SN 342,185. Technic, Inc., Cranston, R.I. Filed Oct. 30, 1969.

## TRUSHADE

For Gold Plating Solution (Int. Cl. 1).  
First use prior to December 1944.

SN 343,489. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Nov. 14, 1969.

## LEPTON

For Dyestuffs (Int. Cl. 2).  
First use May 5, 1969; in commerce June 15, 1962.

SN 351,755. Gulf Oil Corporation, Pittsburgh, Pa. Filed Feb. 19, 1970.

## PROTECT

For Selective Pre-Emergence Herbicide for Corn (Int. Cl. 5).  
First use on or about Jan. 28, 1970.

SN 355,844. Philadelphia Quartz Company, Philadelphia, Pa. Filed Apr. 3, 1970.

## KASIL SS

Owner of Reg. No. 398,704.  
For Potassium Silicate (Int. Cl. 1).  
First use on or about June 24, 1942.

SN 355,987. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Apr. 6, 1970.



Owner of Reg. Nos. 79,840, 836,967, and others.  
For Hydrated Lime for General Use (Int. Cl. 1).  
First use as early as 1957.

SN 356,329. Baird Chemical Industries, Inc., Fair Lawn, N.J. Filed Apr. 9, 1970.

## BAIRCAT

For Industrial Chemicals—Namely, Alkyl Morpholine Catalysts (Int. Cl. 1).  
First use Jan. 18, 1965.



**Class 7—Cordage**

SN 330,908. Columbian Rope Company, Auburn, N.Y. Filed June 25, 1969.



"Wm. Penn" is not the name of a particular living individual. Owner of Reg. Nos. 252,682, 518,484, and others. For Manila Rope (Int. Cl. 22). First use Dec. 23, 1968; Sept. 21, 1928, as to "Wm. Penn."

SN 333,160. Metaverpa N.V., Maartensdijk, Netherlands. Filed July 22, 1969.

**NYLOPROP**

Owner of Dutch Reg. No. 166,237, dated Feb. 9, 1968. For Non-Metallic Strapping for Packaging Purposes (Int. Cl. 22).

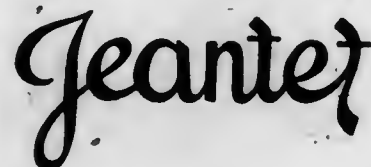
**Class 8—Smokers' Articles, Not Including Tobacco Products**

SN 326,764. Hirota Glass Co., Ltd., Sumida-ku, Tokyo, Japan. Filed May 8, 1969.

**BURON**

For Smokers' Articles—Namely, Ash Trays, Cigarette Containers, Cigarette Lighters and Trays Therefor (Int. Cl. 34). First use Oct. 1, 1966; in commerce Nov. 15, 1967.

SN 343,978. Bernard Hochstein, New York, N.Y. Filed Nov. 19, 1969.



For Smokers' Products—Namely, Pipes, Lighters, and Tobacco Pouches (Int. Cl. 34). First use Feb. 11, 1969.

**Class 9—Explosives, Firearms, Equipments, and Projectiles**

SN 336,088. Colt's Inc., Hartford, Conn. Filed Aug. 25, 1969.

**ACCRO**

For Firearm Parts—Namely, a Firearm Sight Assembly (Int. Cl. 13). First use Aug. 18, 1969.

SN 336,090. Colt's Inc., Hartford, Conn. Filed Aug. 25, 1969.

**PERMA-TIMING**

For Hand Gun Parts—Namely, Firing Mechanism (Int. Cl. 13). First use Aug. 18, 1969.

SN 336,238. Firearms International Corporation, Washington, D.C. Filed Aug. 19, 1969.

**BUCCANEER**

For Pistols (Int. Cl. 13). First use May 1967.

SN 336,283. Firearms International Corporation (New Jersey corporation), Washington, D.C. assignee of Firearms International Corporation (Delaware corporation), Washington, D.C. Filed Aug. 12, 1969.

**OVERLAND**

For Shotguns (Int. Cl. 18). First use Mar. 19, 1969.

SN 336,284. Firearms International Corporation (New Jersey corporation), Washington, D.C., assignee of Firearms International Corporation (Delaware corporation), Washington, D.C. Filed Aug. 12, 1969.

**GALLERY**

For Rifles (Int. Cl. 13). First use Apr. 1, 1969.

SN 336,633. Firearms International Corporation (New Jersey corporation), Washington, D.C., assignee of Firearms International Corporation (Delaware corporation), Washington, D.C. Filed Aug. 29, 1969.

**GAUCHO**

For Pistols (Int. Cl. 18). First use Nov. 28, 1967.

**Class 11—Inks and Inking Materials**

SN 326,602. Standard Products Corporation, New Rochelle, N.Y. Filed May 7, 1969.

**UNIFILM**

For Ink Transfer Impression Making Films (Int. Cl. 16). First use Nov. 8, 1967.

SN 327,351. Bowers Printing Ink Company, Chicago, Ill. Filed May 15, 1969.

**CRYSTAL-AIRE**

Owner of Reg. Nos. 804,119, 850,486, and others. For Printing Ink (Int. Cl. 2). First use Feb. 13, 1969.

**Class 12—Construction Materials**

SN 314,330. Farmaster Products, Inc., Shenandoah, Iowa. Filed Dec. 12, 1968.



For Hog Farrowing Stalls and Parts Therefor, and Anchor Stakes (Int. Cl. 6). First use Jan. 2, 1968.

SN 321,190. Stratco Inc., Elkhart, Ind. Filed Feb. 26, 1969.

**INSERT-A-PANEL**

For Sliding Door Frame and Hardware Assembly (Int. Cl. 6). First use July 1968.

SN 330,693. Bau-Stahlgewebe G.m.b.H., Dusseldorf-Ober Kassel, Germany. Filed June 23, 1969.

**CARI**

Owner of German Reg. No. 844,789, dated Feb. 23, 1968. For Steel, Iron and Reinforcing Mats for Use in Concrete Construction (Int. Cl. 6).

SN 342,932. Burke Concrete Accessories, Inc., Burlingame, Calif. Filed Nov. 7, 1969.

**SNAPPLUGS**

For Cement Plugs Used To Fill Constructional Voids in Cement Surfaces (Int. Cl. 19). First use November 1965.

SN 343,304. Johns-Manville Corporation, New York, N.Y. Filed Nov. 12, 1969.

**QUADRETTE**

For Acoustical Ceiling Panels (Int. Cl. 19). First use at least on or about Nov. 22, 1968.

SN 344,617. Hemi Industries, Ltd., Southbridge, Mass. Filed Nov. 26, 1969.

**CHITT**

For Automobile Body Filler (Int. Cl. 19). First use at least as early as Aug. 30, 1969.

SN 344,717. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Nov. 26, 1969.

**KAL-LINE**

For Asphalt Shingles (Int. Cl. 19). First use at least as early as Apr. 8, 1969.

SN 344,888. Russ Stonier, Inc., Chicago, Ill. Filed Nov. 28, 1969.

**MURA-CORK**

For Cork Panels (Int. Cl. 19). First use at least as early as Sept. 2, 1969.

SN 345,986. Societe d'Outillage et de Mecanique du Faucigny, Thyez, France. Filed Dec. 11, 1969.

**SOMFY**

Owner of French Reg. No. 760,777, dated Mar. 31, 1969. For Automatic and Sliding Doors, Windows, Blinds, and Shutters (Int. Cl. 19).

SN 346,654. H. H. Robertson Company, Pittsburgh, Pa. Filed Dec. 18, 1969.

**ACRYLOY**

For Glass Fiber-Reinforced Plastic Construction Sheets (Int. Cl. 19). First use Oct. 2, 1969.

SN 347,917. GAF Corporation, New York, N.Y. Filed Jan. 7, 1970.

**KICK-STRIP**

For Extruded Vinyl Undercoursing Used With Composition Siding (Int. Cl. 19). First use June 17, 1969.

SN 348,361. T. G. & Y. Stores Company, Oklahoma City, Okla. Filed Jan. 12, 1970.

**GOLDEN T**

For Caulking Compound (Int. Cl. 17). First use Oct. 10, 1969.

**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

SN 275,317. Stoneman Engineering & Manufacturing Co., Inglewood, Calif. Filed July 8, 1967.

**STORMTITE**

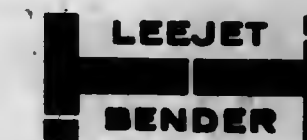
For Roof Flashing Assembly (Int. Cl. 6). First use March 1964.

SN 336,251. The Lee Company, Westbrook, Conn. Filed Aug. 15, 1969.



For Hydraulic Inserts—Namely, Fluid Restrictors (Int. Cl. 6). First use on or before Jan. 1, 1964.

SN 336,253. The Lee Company, Westbrook, Conn. Filed Aug. 15, 1969.



For Hydraulic Inserts—Namely, Fluid Restrictors (Int. Cl. 6). First use on or before Jan. 1, 1964.



SN 341,635. Cyclops Corporation, Pittsburgh, Pa. Filed Oct. 24, 1969.

## INTRA-WALL

For Entrance Sleeves (Int. Cl. 6).  
First use Sept. 2, 1969.

SN 342,152. Elyria Manufacturing Corp., Elyria, Ohio, Filed Oct. 30, 1969.

# EMC

For Machine Screw Products (Int. Cl. 6).  
First use Nov. 3, 1967.

SN 347,266. Hancor, Inc., Findlay, Ohio. Filed Dec. 29, 1969.

## CHANNEL-FLOW

For Corrugated Plastic Tubing and Fittings Therefor (Int. Cl. 17).  
First use Oct. 1, 1969.

SN 348,415. Flexigrip, Inc., Orangeburg, N.Y. Filed Jan. 13, 1970.

## MAXIGRIP

For Plastic Slide Fasteners and Plastic Zippers (Int. Cl. 26).  
First use Sept. 26, 1969.

SN 348,567. Nibco, Inc., Elkhart, Ind. Filed Jan. 14, 1970.



Owner of Reg. Nos. 632,522, 794,323, and others.  
For Pipe Fittings, Valves for Fluid Conduits and Fluid Systems, and Pipe Hangers (Int. Cl. 6).  
First use in or about January 1968.

SN 355,992. Shepherd Casters, Inc., St. Joseph, Mich. Filed Apr. 6, 1970.

## VEGA

For Furniture Casters (Int. Cl. 6).  
First use Mar. 17, 1970.

SN 356,462. Robinson Industries, Inc., Miami, Fla. Filed Apr. 10, 1970.

## ROBIN

For Slide Fasteners (Int. Cl. 6).  
First use in 1954.

SN 356,923. Robinson Industries, Inc., Miami, Fla. Filed Apr. 15, 1970.



For Slide Fasteners (Int. Cl. 26).  
First use January 1967.

## Class 15—Oils and Greases

SN 343,401. Gulf Oil Corporation, Pittsburgh, Pa. Filed Nov. 13, 1969.

## HALF HALF

Owner of Reg. No. 798,031.  
For Motor Fuel—Namely, Gasoline (Int. Cl. 4).  
First use on or about Aug. 16, 1963.

SN 347,773. Ozark Petroleum Company, Inc., Potosi, Mo. Filed Jan. 5, 1970.



For Automotive Petroleum Products—Namely, Gasoline and Motor Oil (Int. Cl. 4).  
First use on or about Aug. 6, 1969.

## Class 16—Protective and Decorative Coatings

SN 338,426. Paint Producers Inc., St. Louis, Mo. Filed Sept. 19, 1969.

## PRO-SPREAD

For Latex Wall Paint (Int. Cl. 2).  
First use July 22, 1969.

SN 338,805. The O'Brien Corporation, South Bend, Ind. Filed Sept. 24, 1969.

## TEK-NEEK

For Protective and Decorative Paint Coatings (Int. Cl. 2).  
First use Aug. 1, 1969.

## Class 17—Tobacco Products

SN 322,744. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed Mar. 25, 1969.

## WORLD LEADER

For Cigarettes (Int. Cl. 34).  
First use Jan. 30, 1969; in commerce Jan. 30, 1969.

SN 323,127. Rembrandt Tobacco Corporation (Overseas) Limited, Zurich, Switzerland. Filed Mar. 28, 1969.



Applicant makes no claim to the words "Luxury Length" apart from the mark as shown. Owner of U.S. Reg. No. 853,522.

For Cigarettes (Int. Cl. 34).  
First use before May 2, 1968; in commerce before May 2, 1968.

SN 326,436. Rembrandt Tobacco Corporation (Overseas) Limited, Zurich, Switzerland. Filed May 5, 1969.

SN 329,674. Algemeene Tabakonderneming "Alto," N.V., Turnhout, Belgium. Filed June 11, 1969.



Owner of U.S. Reg. Nos. 604,422, 854,522, and others.  
For Cigarettes (Int. Cl. 34).  
First use prior to Oct. 1, 1966; in commerce prior to Oct. 1, 1966.

SN 326,934. Alvaro Gonzalez Gonzalez, d.b.a. Fabrica de Tabacos Alvaro, La Laguna de Tenerife, Islas Canarias, Spain. Filed May 9, 1969.

## SALUDOS

The term "Saludos" is of Spanish origin and means "greetings."  
For Cigars (Int. Cl. 34).  
First use at least as early as Apr. 21, 1968; in commerce at least as early as Apr. 21, 1968.

SN 326,936. Alvaro Gonzalez Gonzalez, d.b.a. Fabrica de Tabacos Alvaro, La Laguna de Tenerife, Islas Canarias, Spain. Filed May 9, 1969.

## DON ALVARO

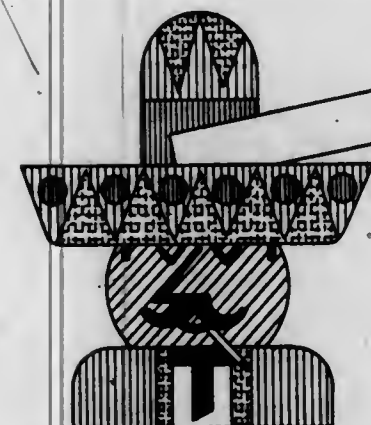
For Cigars (Int. Cl. 34).  
First use at least as early as Apr. 21, 1968; in commerce at least as early as Apr. 21, 1968.

SN 326,937. Alvaro Gonzalez Gonzalez, d.b.a. Fabrica de Tabacos Alvaro, La Laguna de Tenerife, Islas Canarias, Spain. Filed May 9, 1969.

## ALVARITOS

For Cigars (Int. Cl. 34).  
First use at least as early as Apr. 21, 1968; in commerce at least as early as Apr. 21, 1968.

SN 328,571. N.V. Sigarettenfabriek E. Laurens "Le Khedive," The Hague, Netherlands. Filed May 28, 1969.



The drawing is lined for the colors yellow, red and brown, but no claim is made to these colors.  
For Cigarettes (Int. Cl. 34).  
First use Apr. 18, 1964; in commerce Apr. 1, 1968.



## CORPS DIPLOMATIQUE

The words "Corps Diplomatique" when translated into English mean "diplomatic corps."  
For Cigars (Int. Cl. 34).  
First use Dec. 31, 1952; in commerce Jan. 1, 1967.

SN 331,687. Alfred Dunhill, Limited, St. James, London, England. Filed July 8, 1969.

## DUNHILL CIGARLETTES

Owner of British Reg. No. 912,610, dated July 28, 1967; and U.S. Reg. Nos. 155,951, 527,207, 868,124, 869,281, and others.  
For Cigars (Int. Cl. 34).

SN 335,323. Corral, Wodiska y Ca., Tampa, Fla. Filed Aug. 14, 1969.

## HHS

For Cigars and Cigar Wrappers (Int. Cl. 34).  
First use July 8, 1969.

SN 337,152. Celanese Corporation, New York N.Y. Filed Sept. 5, 1969.

## CYTREL

For Cigars, Cigarettes, Chewing Tobacco, Smoking Tobacco, and Substitutes Therefor (Int. Cl. 34).  
First use May 27, 1969.

SN 353,458. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V., Joure, Netherlands. Filed Mar. 9, 1970.

## GOLDEN HELMET

For Pipe Tobacco (Int. Cl. 34).  
First use May 13, 1969; in commerce May 13, 1969.

SN 353,460. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V., Joure, Netherlands. Filed Mar. 9, 1970.

## WINDJAMMER

For Pipe Tobacco (Int. Cl. 34).  
First use May 13, 1969; in commerce May 13, 1969.

SN 354,426. Havatampa Cigar Corporation, Tampa, Fla. Filed Mar. 18, 1970.

# Chère

For Cigars (Int. Cl. 34).  
First use Mar. 3, 1970.



SN 355,289. American Brands, Inc., New York, N.Y. Filed Mar. 26, 1970.

**ADVANCE**

For Cigarettes (Int. Cl. 34).  
First use Mar. 10, 1970.

SN 355,367. Douwe Egberts Koninklijke Tabakfabriek-Koffiebranders-Theehandel N.V., Joure, Netherlands. Filed Mar. 30, 1970.

**ROYAL BARGE**

For Smoking and Chewing Tobacco, Cigars, and Cigarettes (Int. Cl. 34).  
First use May 13, 1969; in commerce May 13, 1969.

**Class 18—Medicines and Pharmaceutical Preparations**

SN 333,443. G. D. Searle & Co., Skokie, Ill. Filed July 24, 1969.

**SOLDACTONE**

For Pharmaceutical Preparation Useful as an Antagonist of Aldosterone (Int. Cl. 5).  
First use July 2, 1969.

SN 333,744. Partner Industries of America, Inc., d.b.a. Able Laboratories, Chicago, Ill. Filed July 28, 1969.

**TGA**

For Flushing Material To Be Used as an Antidote for the Effects of Tear Gas (Int. Cl. 5).  
First use Apr. 1, 1969.

SN 333,822. Duke Laboratories, Inc., South Norwalk, Conn. Filed July 29, 1969.

**TECTO**

Owner of Reg. No. 378,507.  
For Emollient or Ointment Having Healing and Protective Qualities, Recommended Primarily for Use in Occupational Dermatitis, Also for the Relief of Minor Skin Irritations Due to External Causes, Such as Chapping, Chafing, and the Like (Int. Cl. 5).  
First use Aug. 21, 1936.

SN 333,924. Hoffmann-La Roche Inc., Nutley, N.J. Filed July 30, 1969.

**ANCOBON**

Owner of Reg. No. 830,104.  
For Antifungal Preparation (Int. Cl. 5).  
First use Apr. 18, 1969.

SN 336,460. Laboratoires Om S.A., Geneva, Switzerland. Filed Aug. 27, 1969.

**DOXIUM**

Owner of Swiss Reg. No. 232,452, dated June 24, 1968.  
For Antihemorrhagic and Angioprotectant Agent (Int. Cl. 5).

SN 345,572. Reid-Provident Laboratories Inc., Atlanta, Ga. Filed Dec. 8, 1969.

**ESTRATEST**

For Male and Female Hormone Tablet (Int. Cl. 5).  
First use Aug. 2, 1965.

SN 354,074. Dilman Laboratories, Ltd., Chicago, Ill. Filed Mar. 16, 1970.

**AQUA-VITA**

For Vitamin Tablets (Int. Cl. 5).  
First use Jan. 19, 1970.

**Class 19—Vehicles**

SN 318,164. Coleman Sailing Manufacturing Company, Inc., Morgantown, Ky. Filed Feb. 3, 1969.



The drawing is lined for the colors red and blue.  
For Houseboats (Int. Cl. 12).  
First use Dec. 2, 1968.

SN 318,168. Croce & Lofthouse Sailcraft Ltd., West Hill, Ontario, Canada. Filed Feb. 3, 1969.



Owner of Canadian Reg. No. 159,228, dated Nov. 8, 1968.  
For Boats and Boating Accessories—Namely, Sailboats and Sails (Int. Cls. 12 and 22).

SN 330,020. Talbot-Carlson, Inc., Audubon, Iowa. Filed June 13, 1969.

**LIQUIPORTER**

For Trailer Tanks and Units for Transporting Liquids (Int. Cl. 12).  
First use Oct. 21, 1967.

SN 336,254. American Machine & Foundry Company, New York, N.Y. Filed June 9, 1969.

**ALCORT**

Owner of Reg. Nos. 674,879 and 774,866.  
For Sailboats and Parts Thereof (Int. Cl. 12).  
First use Jan. 4, 1949.

SN 339,576. Mallard Coach Corporation, West Bend, Wis. Filed Oct. 2, 1969.

**LO-WING**

For Travel Trailers (Int. Cl. 12).  
First use July 25, 1967.

SN 341,670. Lund Metalcraft, Inc., New York Mills, Minn. Filed Oct. 24, 1969.



For Fishing Boats, Hunting Boats, Racing Boats, Runabouts, and Canoes (Int. Cl. 12).  
First use Apr. 1, 1956.

SN 342,675. Thunderbird Products Corporation, Miami, Fla. Filed Nov. 4, 1969.



For Boats (Int. Cl. 12).  
First use Sept. 23, 1969.

SN 343,108. General Motors Corporation, Detroit, Mich. Filed Nov. 10, 1969.

**ESPRIT**

For Automobiles (Int. Cl. 12).  
First use Oct. 16, 1969.

SN 351,763. Lund Metalcraft, Inc., New York Mills, Minn. Filed Feb. 19, 1970.

**SCAMP**

For Sailboats (Int. Cl. 12).  
First use December 1969.

SN 353,358. American Motors Corporation, Kenosha, Wis. Filed Mar. 9, 1970.

**GREMLIN**

For Automobiles and Structural Parts Thereof (Int. Cl. 12).  
First use December 1969.

**Class 21—Electrical Apparatus, Machines, and Supplies**

SN 289,370. Sensor Technology, Inc., Van Nuys, Calif. Filed Jan. 12, 1968.

**ULTRA-CELL**

Without prejudice to applicant's common law rights, the word "Cell," apart from the mark as shown, is disclaimed.  
For Silicon Solar Cells (Int. Cl. 9).  
First use Aug. 21, 1967.

SN 299,705. T.G. & Y. Stores Company, Oklahoma City, Okla. Filed June 4, 1968.

**GOLDEN T**

Owner of Reg. Nos. 849,417, 870,740, and others.  
For Radio Receivers, Radio Transceivers, Dry Cell Batteries, and Rechargeable Wet Cell Batteries (Int. Cl. 9).  
First use Sept. 1, 1967.

SN 307,487. Lamb Enterprises, Inc., Toledo, Ohio. Filed Sept. 16, 1968.

**SANI-FILTER**

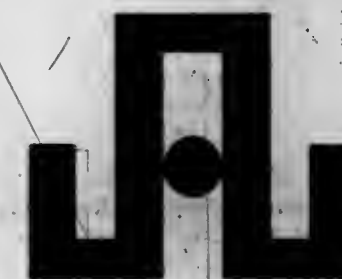
For Vacuum Cleaners (Int. Cl. 9).  
First use Apr. 1, 1965.

SN 308,485. General Electric Company, Distribution Assemblies Department, Plainville, Conn. Filed Sept. 30, 1968.

**ARMOR-CLAD**

For Electrical Feeder Busway, Electrical Plug-In Busway, and Electrical Busway Plugs (Int. Cl. 9).  
First use Oct. 4, 1966.

SN 312,736. Anderson Jacobson, Inc., Mountain View, Calif. Filed Nov. 21, 1968.



The mark consists of the letters "AJ" drawn as an "A" symbol with curled up ends.  
For Acoustic Data Couplers Used To Couple a Teletype or Other Remote Terminal to Another Teletype or to a Computer Via a Telephone (Int. Cl. 9).  
First use May 8, 1967.

SN 314,321. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 12, 1968.

**PRINCETON**

For Amplifier-Loudspeaker Systems for Electrical Musical Instruments (Int. Cl. 9).  
First use in or about 1948.

SN 314,322. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 12, 1968.

**VIBROLUX**

For Amplifier-Loudspeaker Systems for Electrical Musical Instruments (Int. Cl. 9).  
First use in or about 1956.

SN 314,323. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 12, 1968.

**VIBRO CHAMP**

For Amplifier-Loudspeaker Systems for Electrical Musical Instruments (Int. Cl. 9).  
First use 1965.



SN 317,476. Tideland Signal Corporation, Houston, Tex. Filed Jan. 24, 1969.

## NAVALERT

For Marine Signal Monitoring System—Namely, a Light Monitor, Consisting of a Daylight Sensing Module, and a Fog Signal Monitor, Consisting of a Sound Pressure Level Sensor, Both of Such Monitors Also Containing Control Enclosures and Circuit Board Assemblies for Indicating the Operation of Navigational Lights and Foghorns (Int. Cl. 9).  
First use on or before Dec. 16, 1968.

SN 323,266. Crescent Insulated Wire and Cable Co., Trenton, N.J. Filed Apr. 1, 1969.

## CRESKENE

For Thermo-Setting Polymer Insulation for Electrical Wires and Cables, and Electrical Wires and Cables so Insulated (Int. Cls. 9 and 17).  
First use Feb. 8, 1967.

SN 324,564. RCA Corporation, New York, N.Y., by change of name from Radio Corporation of America, New York, N.Y. Filed Apr. 15, 1969.

## RCA

Owner of Reg. Nos. 167,591, 281,281, and others.  
For Entertainment and Industrial Receiving Tubes, Power Tubes, Generators, and Magnetic Video Tape (Int. Cl. 9).  
First use at least as early as Aug. 15, 1922.

SN 324,565. RCA Corporation, New York, N.Y., by change of name from Radio Corporation of America, New York, N.Y. Filed Apr. 15, 1969.

# RCA

Owner of Reg. Nos. 167,591, 281,281, and others.  
For Entertainment and Industrial Receiving Tubes, Power Tubes, Generators, and Magnetic Video Tape (Int. Cl. 9).  
First use at least as early as August 1968, on tubes; at least as early as Aug. 15, 1922, as to "RCA" in another form.

SN 325,817. International Telephone and Telegraph Corporation, New York, N.Y. Filed Apr. 29, 1969.

## QUAD-RATED

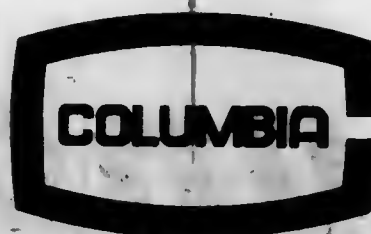
For Electrical-Wire (Int. Cl. 9).  
First use July 27, 1967.

SN 328,898. Roltec, Inc., River Falls, Wis. Filed June 2, 1969.

## ROLTEC

For Electric Switches (Int. Cl. 9).  
First use May 7, 1969.

SN 332,909. Avnet, Inc., Pawtucket, R.I. Filed July 18, 1969.



For Insulated Wire and Cable, Adaptors, Plugs, Connectors, Cord Sets, and Electrical Harnesses (Int. Cl. 9).  
First use in or about January 1969.

SN 341,983. Lectrohm, Inc., Chicago, Ill. Filed Oct. 29, 1969.



The drawing is lined for the color gold, which color is claimed as a feature of the mark.  
For Resistors (Int. Cl. 9).  
First use at least as early as Aug. 26, 1969.

SN 342,175. Noma-World Wide Inc., Chicago, Ill. Filed Oct. 30, 1969.



Applicant disclaims the term "Decorative Lites" apart from the mark as a whole. Owner of Reg. Nos. 234,653, 248,544, 727,938, and others.

For Decorative Lights and Decorative Lighting Sets, Electrically Illuminated Christmas Tree Ornaments, Electric Lamps, Plugs and Receptacles, Fuses, Light Reflectors, and Patio Lights and Lanterns (Int. Cls. 9, 11, and 28).  
First use Aug. 3, 1968.

SN 342,407. Burton Instrumentation, Inc., Fort Collins, Colo. Filed Nov. 3, 1969.



Applicant disclaims the words "Automatic," "Downed," "Aircraft," and "Marker" apart from the mark as shown. The drawing is lined for the color orange, but applicant does not claim any particular color.

For Downed-Aircraft-Locator Radio Beacons (Int. Cl. 9).  
First use Aug. 22, 1969; May 10, 1969, in another form.

SN 344,049. Berkeley/Colortran Mfg., Inc., Burbank, Calif. Filed Nov. 20, 1969.

## MAXI-BRUTE

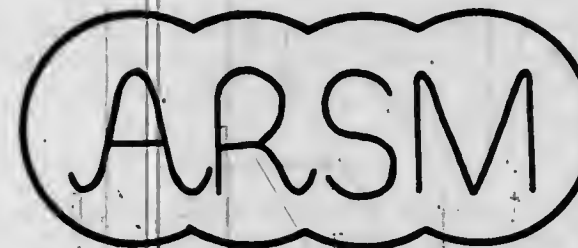
For Luminares for Stage Lighting and for Motion Picture and Television Photography (Int. Cl. 11).  
First use Apr. 4, 1968.

SN 345,138. Commissariat à l'Energie Atomique, Paris, France. Filed Dec. 3, 1969.

## ELUMATIC

Priority claimed under Sec. 44(d) on French Reg. No. 764,899, dated June 5, 1969.  
For Case for Handling and Decanting Radioisotope Generators (Int. Cl. 9).

SN 345,581. American Corporation, Waltham, Mass. Filed Dec. 8, 1969.



For Sub-Miniature, Co-Axial Electrical Connectors, Sub-Miniature Jacks, Sub-Miniature Plugs, and Sub-Miniature Receptacles (Int. Cl. 9).  
First use Nov. 4, 1968.

## Class 22 — Games, Toys, and Sporting Goods

SN 278,386. Hannes Marker Sicherheits-Skibindungen Kommanditgesellschaft, Garmisch-Partenkirchen, Germany, assignee of Hannes Marker Sicherheits-Skibindungen Vertriebs GmbH, Garmisch-Partenkirchen, Germany. Filed Aug. 16, 1967.

# MARKER

Owner of Reg. No. 625,773.  
For Ski Bindings (Int. Cl. 28).  
First use June 1954; in commerce November 1954.

SN 319,009. Wilson Sporting Goods Co., River Grove, Ill. Filed Feb. 12, 1969.

## WILSON JET

Owner of Reg. Nos. 575,624, 782,071, and others.  
For Golf Balls (Int. Cl. 28).  
First use July 29, 1946.

SN 320,072. National Billiard Chalk Company, Chicago, Ill. Filed Feb. 25, 1969.

## NATIONAL TOURNAMENT

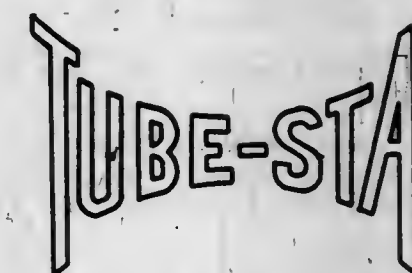
For Billiard Chalks and Cue Sticks and Accessories (Int. Cl. 28).  
First use Jan. 1, 1916 on billiard chalks.

SN 321,083. Skor-Mor Corporation, Anaheim, Calif. Filed Mar. 7, 1969.

## SKOR-MOR

For Adult Puzzles and Games of the Parlor and Desk-Top Type (Int. Cl. 28).  
First use June 5, 1964.

SN 321,553. Tube-Sta Enterprises, San Lorenzo, Calif. Filed Mar. 12, 1969.



For Connector for Golf Bag Separators (Int. Cl. 28).  
First use July 1968.

SN 323,373. Harold J. Searer, d.b.a. Searer Rubber Company, Akron, Ohio. Filed Apr. 1, 1969.



9 LIVES

For Golf Balls (Int. Cl. 28).  
First use on or about Mar. 3, 1969.

SN 326,629. Caswell Equipment Company, Inc., Minneapolis, Minn. Filed May 7, 1969.

## CASWELL

For Shooting Range Equipment—Namely, Target Carriers and Bullet Traps (Int. Cl. 18).  
First use January 1930, on target carriers.

SN 326,674. Milo Products Corporation, Grantham, Pa. Filed May 7, 1969.



the modular space block

Applicant disclaims the exclusive right to the use of the individual words in the expression "The Modular Space Block" separately and except in the combination shown in the accompanying drawing.  
For Educational Building Blocks for Children (Int. Cl. 28).  
First use Mar. 24, 1969.



SN 328,369. Twinpak Ltd., Lachine, Quebec, Canada. Filed May 26, 1969. SN 330,838. Lang Lunker Lure Company, Ingleside, Ill. Filed June 24, 1969.

# HANDSEE

Priority claimed under Sec. 44(d) on Canadian application filed Apr. 21, 1969; Reg. No. 167,388, dated Jan. 9, 1970.  
For Action Toy Comprising a Spinning Weight Suspended on a Cord Attached to Two Sticks (Int. Cl. 28).

SN 328,824. Columbia Industries, Inc., San Antonio, Tex. Filed June 2, 1969.

# TROJAN

For Bowling Balls (Int. Cl. 28).  
First use Mar. 13, 1969.

SN 329,366. Keel Fly Co., Traverse City, Mich. Filed June 6, 1969.

# KEEL FLY

No claim of exclusive right is made to the word "Fly" apart from the mark.  
For Artificial Fishing Lures, and, More Particularly, Fishing Hooks With Attached Decoration Forming Fishing Flies (Int. Cl. 28).  
First use Feb. 10, 1969.

SN 329,704. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed June 11, 1969.

# GRIP RITE

No claim of exclusive right is made to "Grip" for the goods recited.  
For Grips for Golf Clubs (Int. Cl. 28).  
First use during February 1963.

SN 330,018. T.G. & Y. Stores Company, Oklahoma City, Okla. Filed June 13, 1969.

# GOLDEN T

Owner of Reg. Nos. 849,417, 876,305, and others.  
For Sleeping Bags for Out of Doors or Recreation Use (Int. Cl. 20).  
First use Feb. 11, 1969.

SN 330,751. Keel-Guard Lures, Inc., Mansfield, Ohio. Filed June 23, 1969.

# KEEL-GUARD

For Fishing Lures (Int. Cl. 28).  
First use on or about Aug. 31, 1964.

# RAIDER

For Fishing Lures (Int. Cl. 28).  
First use Oct. 25, 1967.

SN 330,847. Professional Images Corporation, Sarasota, Fla. Filed June 24, 1969.



# PRO IMAGE GOLF TRAINER

No claim of exclusive right is made to the wording "Golf Trainer" for the goods recited.  
For Golf Training Apparatus—Namely, a Hitting Mat, a Net and Stand, a Training Device, Printed and Tape Recorded Lessons, and Tape Player, in Kit Form (Int. Cl. 28).  
First use Jan. 25, 1969.

SN 331,141. American Steel Box Corp., Chicago, Ill. Filed June 27, 1969.

# BECKLEY RALSTON

"Beckley Ralston" does not identify any particular living individual.  
For Golf Clubs (Int. Cl. 28).  
First use at least as early as 1926.

SN 331,353. Dell Plastics Company, Inc., Brooklyn, N.Y. Filed June 30, 1969.

# TRIK STIK

Applicant disclaims any rights to the initial word feature "Tri."  
For Children's Toy Comprising a Handle and an Elongated Strip of Paper Biased Into a Roll and Connected at One End to the Handle in Such a Manner That It Can Be Slipped Outward and Will Return to Its Original Configuration Rolled Around the Handle (Int. Cl. 28).  
First use at least as early as June 19, 1969.

SN 335,595. McClellan Industries, Inc., Traverse City, Mich. Filed Aug. 18, 1969.

# BUCKSHOT

For Artificial Fishing Lures (Int. Cl. 28).  
First use July 30, 1969.

SN 335,617. Standard Packaging Corporation, Stamford, Conn. Filed Aug. 18, 1969.

# REDISLIP

Owner of Reg. No. 514,945.  
For Playing Cards (Int. Cl. 16).  
First use Apr. 15, 1946.

SN 336,239. A to Z Ideas, Inc., Santa Clara, Calif. Filed Aug. 18, 1969. SN 296,628. Adolph Saurer Limited, Arbon, Switzerland. Filed Apr. 26, 1968.

# Tri-Score

For Playboard and Playing Pieces Sold as a Unit for a Game (Int. Cl. 28).  
First use Aug. 13, 1968.

SN 338,479. Mattel, Inc., Hawthorne, Calif. Filed Sept. 22, 1969.

# XRG-1 REENTRY

Applicant makes no claim to exclusive rights in the word "Reentry" apart from the mark.  
For Toy Space Vehicle (Int. Cl. 28).  
First use Aug. 26, 1969.

SN 354,090. Mattel, Inc., Hawthorne, Calif. Filed Mar. 16, 1970.

# CRATER COLONY

For Toy Kit Comprising a Space Environmental Set Having Characters and Vehicles (Int. Cl. 28).  
First use Jan. 20, 1970.

SN 355,006. The United States Playing Card Company, Cincinnati, Ohio. Filed Mar. 25, 1970.

# DIAMOND

For Playing Cards (Int. Cl. 16).  
First use Mar. 5, 1970.

# Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 259,348. Seibert & Sons, Inc., Chenoa, Ill. Filed Nov. 23, 1966.

# LECTRO LOADER

For Portable Electric Winches (Int. Cl. 7).  
First use Apr. 13, 1962.

SN 291,625. M.I.S.A.L.—Macchine Industriali Societa Accomandita Leto, Milan, Italy. Filed Feb. 21, 1968.

# MISAL

Owner of Italian Reg. No. 200,940, dated Jan. 12, 1965; and U.S. Reg. No. 578,618.  
For Milling Machines, Turret Lathes, Pattern and Radial Drilling Machines, Shaping Machines, Grinding Machines, and Cylinder Grinding Machines (Int. Cl. 7).

SN 294,043. Graymills Corporation, Chicago, Ill. Filed Mar. 25, 1968.

# CIRCOOL

For Liquid Circulating and Cooling Systems, Including a Pump in the System, for Offset Printing Presses and Other Machinery (Int. Cl. 7).  
First use Nov. 4, 1966.



Owner of Reg. Nos. 512,769 and 812,964.  
For Machines for the Processing of Natural and Synthetic Fibers, Particularly Twining Machines, and Parts Thereof (Int. Cl. 7).  
First use Feb. 17, 1967; in commerce Mar. 2, 1967.

SN 305,817. Paul Delapena Limited, Worcester, England. Filed Aug. 23, 1968.

# Freddy

For Machine Used for Removing the Contents of Sumps of Machine Tools, Separating Swarf and Other Waste Materials Therefrom, and Returning the Cleaned Oil to the Machine Tool, and Parts for Said Apparatus (Int. Cl. 7).  
First use Jan. 1, 1967; in commerce Dec. 11, 1967.

SN 307,724. Ankerwerk Nurnberg GmbH, Nuremberg, Bavaria, Germany. Filed Sept. 19, 1968.

# ANKERWERK NURNBERG

For Machines and Apparatuses for Working Plastics—Namely, Molds, Plastifying Machines, Machines for Making Hollow Pieces, Piston-Type and Screw-Type Injection Molding Machines, Screw-Type Extruders; and Power Transmissions for Use in Such Machines and Apparatuses (Int. Cl. 7).  
First use 1951; in commerce February 1959.

SN 317,269. Barreiros Diesel, S.A., Villaverde, Madrid, Spain. Filed June 19, 1968.



Owner of Spanish Reg. No. 467,397, dated July 2, 1965.  
For Farm Tractors (Int. Cl. 12).  
First use about 1950; in commerce about 1950.



SN 318,794. Maun Industries Limited, Mansfield, England. Filed Feb. 10, 1969.

**MAUN**

Owner of British Reg. No. 742,800, dated May 27, 1955. For Pliers, Nippers, Wire Cutters, Screwdrivers, Staple Extractors, Eyelet Setters and Meat Bone Extractors, All Being Hand Tools; Punches and Parts Thereof; and Scissors (Other Than Surgical Scissors) (Int. Cl. 8).

SN 319,407. W. J. Wallace Systems, Inc., Batavia, Ill. Filed Feb. 17, 1969.

### TANKLEG

For Bulk Material Unloading Machines Incorporating Endless Conveyors (Int. Cl. 7). First use on or about July 16, 1963.

SN 325,830. BIO Systems, Inc., Kansas City, Mo. Filed Apr. 29, 1969.

### SANI-CELL

For Sewage and Waste Treatment Plants (Int. Cl. 11). First use Apr. 17, 1969.

SN 327,759. Hermetic Pumpen G.m.b.H. Hamburg, Germany. Filed May 20, 1969.

### NOVAMETIC

Owner of German Reg. No. 847,199, dated July 17, 1968. For Centrifugal Pumps (Int. Cl. 7).

SN 327,854. Cedar Rapids Engineering Company, Cedar Rapids, Iowa. Filed May 21, 1969.

### STOPSHOP

For Brake Service Equipment—Namely, Brake Drum Lathes, Brake Shoe Grinders, Disc Brake Lathes, Mobile Hydraulic Shop Cranes and Hydraulic Shop Presses (Int. Cl. 7). First use on or before Feb. 26, 1969.

SN 329,298. J. Wiss & Sons Co., Newark, N.J. Filed June 5, 1969.

### GAY BLADES

Without waiving any of its common law rights, applicant disclaims "Blades" apart from the mark as shown. For Scissors and Barber and Dressmaker Shears (Int. Cl. 8). First use May 7, 1969.

SN 330,903. Bokum Tool Company, Inc., Madison Heights, Mich. Filed June 25, 1969.

### BOKUM

Owner of Reg. Nos. 667,990, 682,171, and 730,738. For Boring Tools, Boring Heads, Boring Tool Holders, Recess Tool Holders, Grooving Tools, Ring Tools, Recessing Tools, Chamfering Tools, Threading Tools, and Shanks for Cutting Tools (Int. Cl. 7). First use Mar. 28, 1939.

SN 332,165. The Sulby Engineering Development Company Limited, London, England. Filed July 9, 1969.

### SULBY

Owner of British Reg. No. B697,087, dated Mar. 27, 1951. For Bookbinding Machinery (Int. Cl. 7).

SN 333,009. William J. Tugend, Jr., d.b.a. Transmission Concepts, Newhall, Calif. Filed July 18, 1969.



Applicant disclaims the word component "Transmission" apart from the mark as shown.

For Automobile Transmission Components—Namely, Coolant Conducting Tubes and Connectors for Securing Coolant Conducting Tubes to Automobile Transmission Portions (Int. Cl. 12).

First use Apr. 20, 1969.

SN 333,218. S. B. Whistler & Sons, Inc., Tonawanda, N.Y. Filed July 22, 1969.



The abbreviation "Inc." is disclaimed apart from the mark as shown. Owner of Reg. No. 601,000.

For Punches, Die Bushings and Magnetic Die Sets (Int. Cl. 8).

First use 1934.

SN 333,728. M & W Gear Company, Gibson City, Ill. Filed July 28, 1969.

### ADD-POW'R

For Pistons for Internal Combustion Engines (Int. Cl. 7). First use 1950.

SN 334,592. Kockum Industries, Inc., Talladega, Ala. Filed Aug. 6, 1969.



For Sawmill Machinery—Namely, Log Barkers, Chippers, Conveyors, and Chip Screens (Int. Cl. 7). First use Apr. 14, 1966.

SN 335,290. Chromium Corporation of America, Waterbury, SN 336,843. Onelda Ltd., Onelda, N.Y. Filed Sept. 2, 1969. Conn. Filed Aug. 14, 1969.

### CRODON

Owner of Reg. No. 879,776. For Steel Parts for Vehicles—Namely, Cylinder Liners for Engines, Small Bore Cylinders, Air-Compressor Fuel-Injection Assemblies, Crankshafts, Water Pumps, Compressor Blades, Turbine Blades, Valve Guides, Valve Lifters, Gears for Vehicles, Valve Stems, and Bearing Journals (Int. Cl. 12). First use Apr. 29, 1925.

SN 336,154. Onelda Ltd., Onelda, N.Y. Filed Aug. 25, 1969.

### KING ARTHUR

For Flatware Made of Non-Precious Metal (Int. Cl. 8). First use Aug. 6, 1969.

SN 336,157. Onelda Ltd., Onelda, N.Y. Filed Aug. 25, 1969.

### SHANGRI-LA

For Flatware Made of Non-Precious Metal (Int. Cl. 8). First use Aug. 6, 1969.

SN 336,158. Onelda Ltd., Onelda, N.Y. Filed Aug. 25, 1969.

### SPRING MOOD

For Flatware Made of Non-Precious Metal (Int. Cl. 8). First use Aug. 6, 1969.

SN 336,159. Onelda Ltd., Onelda, N.Y. Filed Aug. 25, 1969.

### SALERNO

For Flatware Made of Non-Precious Metal (Int. Cl. 8). First use Aug. 6, 1969.

SN 336,160. Onelda Ltd., Onelda, N.Y. Filed Aug. 25, 1969.

### TRIPOLI

For Flatware Made of Non-Precious Metal (Int. Cl. 8). First use Aug. 13, 1969.

SN 336,161. Onelda Ltd., Onelda, N.Y. Filed Aug. 25, 1969.

### WILDWOOD

For Flatware Made of Non-Precious Metal (Int. Cl. 8). First use Aug. 6, 1969.

SN 336,455. A. Kieckhefer Elevator Company, Milwaukee, Wis. Filed Aug. 27, 1969.

### KIECKHEFER

For Elevators, Dumb Waiters, Safety Devices for Elevators, and Overspeed Governors for Elevators (Int. Cl. 7). First use Jan. 12, 1949.

### MELISSA

Owner of Reg. No. 881,241. For Flatware Made of Non-Precious Metal (Int. Cl. 8). First use July 21, 1969.

SN 336,844. Onelda Ltd., Onelda, N.Y. Filed Sept. 2, 1969.

### MONTE CARLO

For Flatware Made of Non-Precious Metal (Int. Cl. 8). First use July 21, 1969.

SN 337,330. Kvalheim Machinery Company, Petulama, Calif. Filed Sept. 8, 1969.



The lining in the background oval is to show contrast and not to indicate color. For Automatic Woodworking Machinery (Int. Cl. 7). First use Apr. 25, 1946; September 1940, in another form.

SN 346,134. Vaughan & Bushnell Manufacturing Company, Hebron, Ill. Filed Dec. 12, 1969.

### "SURE-LOCK"

For Hammers (Int. Cl. 8). First use Nov. 21, 1969.

SN 346,475. Functional Systems Corporation, Santa Clara, Calif. Filed Dec. 17, 1969.

### CARPETEER

For Machine for Unrolling, Conveying, Measuring, Cutting, and Re-Rolling Carpet (Int. Cl. 7). First use Dec. 1, 1968.

SN 346,614. Don Jaime Trabal Font, Mataro, Barcelona, Spain. Filed Dec. 18, 1969.



Owner of Spanish Reg. No. 344,626, dated July 1, 1959. For Textile Machinery—Namely, Circular Knitting Machines and Parts Thereof (Int. Cl. 7).



SN 346,772. Pengo Corporation, Sunnyvale, Calif. Filed Dec. 19, 1969. SN 353,694. Eli Lilly and Company, Indianapolis, Ind. Filed Mar. 11, 1970.

**BIDENT**

For Teeth for Earth-Digging Equipment (Int. Cl. 7).  
First use Nov. 14, 1969.

SN 346,880. Enerjet, Inc., Seymour, Ind. Filed Dec. 22, 1969.

**ENERJET**

For Rocket Motors (Int. Cl. 7).  
First use on or about June 1, 1968.

SN 347,924. Griffin Wellpoint Corporation, New York, N.Y. Filed Jan. 7, 1970.

**WELLVAC**

For Pumps for Use in Soil Dewatering (Int. Cl. 7).  
First use on or before Dec. 4, 1969.

SN 351,878. General Mills, Inc., Minneapolis, Minn. Filed Feb. 16, 1970.

**PATRICK HENRY**

For Stainless Flatware (Int. Cl. 8).  
First use Dec. 1, 1969.

SN 351,874. General Mills, Inc., Minneapolis, Minn. Filed Feb. 16, 1970.

**VIA ROMA**

For Stainless Flatware (Int. Cl. 8).  
First use Dec. 1, 1969.

SN 352,019. Davis and Furber Machine Company, North Andover, Mass. Filed Feb. 24, 1970.

**ADJUSTO-STOP**

For Feed Roll Unit for Use With Cards, Garnetts and Other Textile Stock Processing Machines (Int. Cl. 7).  
First use July 7, 1965.

SN 352,723. E.T.M. Corporation, Monrovia, Calif. Filed Mar. 2, 1970.

**DELI-DYKES**

Owner of Reg. No. 854,096.  
For Cutting and Bending Pliers for Light-Gage Wire (Int. Cl. 8).  
First use at least as early as Feb. 5, 1970.

SN 352,724. E.T.M. Corporation, Monrovia, Calif. Filed Mar. 2, 1970.

**DELI-VAC**

Owner of Reg. No. 854,096.  
For Finger-Held Vacuum Devices for Picking Up Small Parts (Int. Cl. 8).  
First use at least as early as Feb. 5, 1970.

**ELANCO**

Owner of Reg. Nos. 708,270, 871,550, and others.  
For Pharmaceutical Capsule Filling Machines and Machinery for Extruding and Spheronizing Materials in Dough-Like Form (Int. Cl. 7).  
First use Apr. 1, 1965, on pharmaceutical capsule filling machines.

**Class 24—Laundry Appliances and Machines**

SN 339,367. T.G. & Y. Stores Company, Oklahoma City, Okla. Filed Sept. 30, 1969.

**GOLDEN T**

For Ironing Board Pads, Ironing Board Covers, and Pressing Cloths (Int. Cl. 21).  
First use Nov. 28, 1967.

SN 347,881. American Pressboard Co., Inc., New York, N.Y. Filed Dec. 30, 1969.

**NEEDLEBOARD**

For Wire Pressing Board (Int. Cl. 7).  
First use January 1925.

**Class 26—Measuring and Scientific Appliances**

SN 309,099. Rebkoff Underwater Products, Inc., Fort Lauderdale, Fla., assignee of Dimitri Rebkoff, Fort Lauderdale, Fla. Filed Oct. 7, 1968.

**PROMARINE**

For Underwater Motion Picture Camera (Int. Cl. 9).  
First use June 1, 1967.

SN 311,057. Praxis S.p.A., Milan, Italy. Filed Oct. 31, 1968.



Owner of Italian Reg. No. 203,905, dated Apr. 24, 1965.  
For Automatic Check and Control Instruments—Namely, Logic Modules and Digital Units; Sequence Programmers and Wired Logic Automation Equipment; Transistorized Alarm Systems; Digital Recorders and Wired Logic Computers; Process Control Computer Systems; Encoders; Special Circuits and Accessories for said Equipment (Int. Cl. 9).

SN 315,864. AGA Aktiebolag, Lidings, Sweden. Filed Jan. 6, 1969. SN 335,142. Lambda Electronics Corporation, Huntington, N.Y. Filed Aug. 12, 1969.

**AGA**

Owner of Reg. No. 711,821.  
For Automatic Chemical Analyzer for Analyzing Samples of Blood and Other Fluid (Int. Cl. 9).  
First use June 11, 1965; in commerce December 1967.

SN 321,224. Industrias del Celuloide, S.A., Coslada, Madrid, Spain. Filed Mar. 10, 1969.



For Eye Glasses, Sun Glasses, and Optical Frames Therefor (Int. Cl. 9).  
First use June 1966; in commerce June 1966.

SN 323,860. Televue, Inc., Tampa, Fla. Filed Apr. 7, 1969.

**TELEVUE**

For Photograph Viewing Machines and Parts Therefor, Comprising Light Boxes That Are Adapted To Display Slides or Motion Picture Advertising Displays on the Light Box Screen Face (Int. Cl. 9).  
First use Sept. 1, 1968.

SN 325,224. Robertson Photo-Mechanix, Inc., Des Plaines, Ill. Filed Apr. 22, 1969.

**432**

For Graphic Arts Cameras, and Parts Thereof (Int. Cl. 9).  
First use Jan. 17, 1968.

SN 328,807. Victoreen Leece Neville, Inc., Cleveland, Ohio. Filed June 2, 1969.

**BOHN ADDMATIC**

For Adding Machines (Int. Cl. 9).  
First use May 2, 1969.

SN 329,037. Eduquip, Inc., Dorchester, Mass. Filed June 4, 1969.

**EDUQUIP**

For Educational Equipment—Namely, an Apparatus for Performing Experiments Requiring the Absence of Friction; and an Apparatus for Detecting the Visible Effect of Cigarette Smoke by Mechanically Puffing a Cigarette to Show Resulting Color Stain on a Filter (Int. Cl. 9).  
First use Apr. 12, 1969.

SN 331,447. Therm-O-Disc, Incorporated, Mansfield, Ohio. Filed June 30, 1969.

**THERM-O-DISC**

Owner of Reg. Nos. 518,007, 771,729, and others.  
For Thermostats and Temperature Responsive Control Devices (Int. Cl. 9).  
First use Feb. 6, 1947.



Owner of Reg. Nos. 600,289 and 785,920.  
For Electrical Measuring Instruments—Namely, Digital Voltmeters (Int. Cl. 9).  
First use at least as early as June 1968.

SN 335,234. Kalvar Corporation, New Orleans, La. Filed Aug. 13, 1969.

**KAL-STAT-L**

For Liquid Toning Electrostatic Papers (Int. Cl. 1).  
First use at least as early as Oct. 24, 1966.

SN 338,971. Societe Anonyme Belge de Constructions Aeronautiques "S.A.B.C.A.", Brussels, Belgium. Filed Sept. 26, 1969.

**COBELDA**

Priority claimed under Sec. 44(d) on Belgian Reg. No. 117,860, dated Mar. 26, 1969.

For Analogue Computers for Military Applications, Analogue Computers for Civil Aviation, Hybrid Computers for Military Applications, Hybrid Computers for Civil Aviation, Airborne Navigation Equipment, Automatic Test Equipment, Simulators and Trainers, Airborne Radar Performance Analyzers, Airborne Monitoring Equipment, Optical and Laser Optical Sights, Including Servoed and/or Stabilized Mirror Drives, Fire Control Systems (Ground and Airborne), Automatic Landing Systems or Components Thereof, Airborne Integrated Data Systems (A.I.D.S.), and Ground Support Equipment for Airborne Systems (Int. Cl. 9).

SN 338,972. Societe Anonyme Belge de Constructions Aeronautiques "S.A.B.C.A.", Brussels, Belgium. Filed Sept. 26, 1969.



Owner of Belgian Reg. No. 117,225, dated Jan. 17, 1969.  
For Analogue Computers for Military Applications, Analogue Computers for Civil Aviation, Hybrid Computers for Military Applications, Hybrid Computers for Civil Aviation, Airborne Navigation Equipment, Automatic Test Equipment, Simulators and Trainers, Airborne Radar Performance Analyzers, Airborne Monitoring Equipment, Optical and Laser Optical Sights, Including Servoed and/or Stabilized Mirror Drives, Fire Control Systems (Ground and Airborne), Automatic Landing Systems or Components Thereof, Airborne Integrated Data Systems (A.I.D.S.), and Ground Support Equipment for Airborne Systems (Int. Cl. 9).



SN 339,412. Barber-Colman Company, Rockford, Ill. Filed Oct. 1, 1969.

## POTENTIOTROL

For Controller of Variables, Such as Temperature (Int. Cl. 9).

First use on or before Nov. 1, 1943.

SN 348,455. Simplicity Pattern Co., Inc., New York, N.Y. Filed Jan. 13, 1970.

## SUPER JIFFY

For Garment Paper Patterns (Int. Cl. 16).  
First use June 20, 1969.

SN 351,644. American Optical Corporation, Southbridge, Mass. Filed Feb. 18, 1970.

## TRU-TONE

For Ophthalmic Lenses (Int. Cl. 9).  
First use December 1962.

SN 352,490. Micromedic Systems, Inc., Philadelphia, Pa. Filed Feb. 26, 1970.

## SINVAR

For Automatic Pipette for Use in Sampling, Diluting or Dispensing Liquids (Int. Cl. 9).  
First use on or about Feb. 12, 1970.

SN 354,563. A.J.S. Incorporated, York, Pa. Filed Mar. 19, 1970.

## NIKE

For Drafting Boards and Supports Therefor, and Drafting Tables (Int. Cl. 16).  
First use on or about July 25, 1960.

## Class 27 — Horological Instruments

SN 340,811. Harry W. Neal, Louisville, Ky. Filed Oct. 15, 1969.



Applicant disclaims the representation of a clock face apart from the mark as shown.  
For Clocks (Int. Cl. 14).  
First use June 25, 1969.

## Class 28 — Jewelry and Precious-Metal Ware

SN 319,172. Margaret Kunz, d.b.a. Studio of Ku-Fu, Grand Junction, Colo. Filed Feb. 14, 1969.

## KU-FU

For Copper Pins, Earrings, Cuff Links, Tie Tacks, and Bracelets, All of the Foregoing Being Enameled (Int. Cl. 14).  
First use on or about June 3, 1966.

SN 325,230. Sarcona Brothers Company, New York, N.Y. Filed Apr. 22, 1969.



For Jewelry—Namely, Rings, Bracelets, Pins, Tie Clasps, and Earrings (Int. Cl. 14).  
First use August 1968.

## Class 29 — Brooms, Brushes, and Dusters

SN 297,747. Alliance Sales (Western) Ltd., Vancouver, British Columbia, Canada. Filed May 9, 1968.

## BRUSHOFF

Priority claimed under Sec. 44(d) on Canadian application filed Apr. 5, 1968; Reg. No. 164,867, dated Aug. 29, 1969.  
For Hand Mop for Use as a Car and Furniture Polisher (Int. Cl. 21).

SN 348,377. The Wooster Brush Company, Wooster, Ohio. Filed Jan. 12, 1970.

## POLYREL

For Paint Brushes (Int. Cl. 16).  
First use Nov. 20, 1969.

SN 348,688. Sears, Roebuck and Co., Chicago, Ill. Filed Jan. 15, 1970.

## MAGNA-MAGIC

For Dust Mops (Int. Cl. 21).  
First use on or about July 11, 1962.

## Class 31 — Filters and Refrigerators

SN 322,311. Master-Bilt Refrigeration Manufacturing Company, New Albany, Miss. Filed Mar. 20, 1969.



For Refrigerated Vertical Merchandiser Cabinets, Counter Top Frozen Food and Ice Cream Refrigerated Cabinets, Refrigerated Merchandiser Cabinets, Refrigerated Dipping Cabinets for Ice Cream, Refrigerated Ice Cream and Syrup Dispenser Cabinets, Refrigerated Cabinets for Milk and Mix Ingredients for Ice Cream, Walk-In Coolers, Step-In Coolers, and Reach-In Coolers (Int. Cl. 11).  
First use as early as 1946.

## Class 32 — Furniture and Upholstery

SN 345,917. Carrier Corporation, Syracuse, N.Y. Filed Dec. 11, 1969.

SN 350,263. Henredon Furniture Industries, Incorporated, Morganton, N.C. Filed Feb. 2, 1970.

## CIRCA 75

Owner of Reg. Nos. 597,074 and 724,500.  
For Dining Room, Living Room, Bedroom, Occasional, and Upholstered Furniture (Int. Cl. 20).  
First use at least as early as Sept. 15, 1969.

## Class 33 — Glassware

SN 343,284. Hartford Glass Co., Inc., Hartford City, Ind. Filed Nov. 12, 1969.

## REDIVIEW

For Sheet Glass (Int. Cl. 21).  
First use Oct. 16, 1969.

SN 344,662. Anchor Hocking Corporation, Lancaster, Ohio. Filed Nov. 26, 1969.

## PLATEAU

For Glass Tableware (Int. Cl. 21).  
First use on or about June 20, 1969.

## Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 292,830. Johns-Manville Corporation, New York, N.Y., assignee of Vulcan Electric Proprietary Limited, Burwood, Victoria, Australia. Filed Mar. 8, 1968.

## SIDEWINDER

For Flexible Ducting for Use in Heating, Ventilating, and Air-Conditioning (Int. Cl. 8).  
First use November 1966; in commerce Nov. 3, 1967.

SN 301,869. P. M. Wright Electrical Co. Ltd., Montreal, Quebec, Canada. Filed July 2, 1968.



Priority claimed under Sec. 44(d) on Canadian application filed June 1, 1968; Reg. No. 165,711, dated Oct. 17, 1969.

For Electrical Heating Units and Parts Thereof for Industrial, Commercial, Institutional, and Domestic Use (Int. Cl. 11).

First use at least as early as June 1965; in commerce at least June 1965.

SN 306,950. Sendlinger Optische Glaswerke GmbH, Berlin-Zehlendorf, Germany. Filed Sept. 9, 1968.

## ANTI-PHANTOM

Owner of German Reg. No. 843,114, dated Mar. 1, 1968.  
For Traffic Signal Light Lens (Int. Cl. 9).

## day & night

Owner of Reg. Nos. 659,345 and 543,140.  
For Air Conditioning Units, Furnaces, and Combination Air Conditioning Units for Providing Either Heating or Cooling (Int. Cl. 11).  
First use July 1967.

## Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 338,648. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Sept. 22, 1969.

## GLOBETROTTER

For Resilient Vehicle Tires (Int. Cl. 12).  
First use Aug. 13, 1969.

## Class 36 — Musical Instruments and Supplies

SN 326,409. Musonic, Inc., Chicago, Ill. Filed May 5, 1969.

## MUSONIC

For Drums, Drum Sticks, Cymbals; String Instruments—Namely, Banjos and Guitars; Guitar Strings; and Portable Organs and Pianos (Int. Cl. 15).  
First use Apr. 10, 1969.

SN 354,254. A.A. Records, Inc., d.b.a. Golden Records, New York, N.Y. Filed Mar. 17, 1970.

## YEW

For Phonograph Records (Int. Cl. 9).  
First use June 25, 1969.

## Class 37 — Paper and Stationery

SN 297,720. Transamerica Corporation, San Francisco, Calif. Filed May 8, 1968.



The mark consists of a fanciful representation of the letter "T."  
For Business Forms (Int. Cl. 16).  
First use about March 1968.



SN 336,203. Byron Weston Company, Dalton, Mass. Filed Aug. 25, 1969.

**BYWESCO**

Owner of Reg. No. 114,310.  
For Manuscript Covers (Int. Cl. 16).  
First use in or about 1931.

SN 336,691. The Gillette Company, d.b.a. The Paper Mate Company, Boston, Mass. Filed Aug. 29, 1969.

**MALIBU**

For Ball Point Pens (Int. Cl. 16).  
First use May 21, 1969.

SN 352,736. S. E. Rykoff & Co., Los Angeles, Calif. Filed Mar. 2, 1970.



Owner of Reg. Nos. 793,347 and 775,814.  
For Waxed Paper (Int. Cl. 16).  
First use Dec. 9, 1968.

**Class 38—Prints and Publications**

SN 310,665. Instrument Society of America, Pittsburgh, Pa. Filed Oct. 28, 1968.



Owner of Reg. Nos. 773,215 and 775,952.  
For Booklets, Pamphlets and Magazines of a Scientific and Technical Nature (Int. Cl. 16).  
First use April 1948.

SN 310,667. Instrument Society of America, Pittsburgh, Pa. Filed Oct. 28, 1968.



Owner of Reg. Nos. 773,215 and 775,952.  
For Booklets, Pamphlets and Magazines of a Scientific and Technical Nature (Int. Cl. 16).  
First use December 1968.

SN 326,557. Society of Photographic Scientists and Engineers, Washington, D.C. Filed May 6, 1969.

**IMAGE TECHNOLOGY**

For Periodic Publication—Namely, a Magazine (Int. Cl. 16).  
First use Nov. 15, 1968.

SN 330,227. The Warner & Swasey Company, Cleveland, Ohio. Filed June 16, 1969.

**WIEDEPOINT**

For Software—Namely, Programs Consisting of Information on Punch Cards and Tapes for Controlling Computer Operated Machine Tools (Int. Cl. 9).  
First use Apr. 15, 1969.

SN 331,576. Pharmacy Times, Inc., Port Washington, N.Y. Filed July 2, 1969.

**PHARMACY TIMES**

For Periodical Publications, More Specifically, Quarterly Annual Journals (Int. Cl. 16).  
First use June 17, 1969.

SN 335,838. American Optical Corporation, Southbridge, Mass. Filed Aug. 21, 1969.

**AO NEWS**

Applicant disclaims the word "News" apart from the mark as shown.  
For Company House Organ (Int. Cl. 16).  
First use as early as 1940.

SN 339,507. Mattel, Inc., Hawthorne, Calif. Filed Oct. 2, 1969.



Owner of Reg. No. 843,156.  
For Series of Movie Films (Int. Cl. 9).  
First use Aug. 27, 1969.

SN 340,783. Psychological Associates, Inc., St. Louis, Mo. Filed Oct. 15, 1969.

**DST**

For Booklets for Sales and Management Training (Int. Cl. 16).  
First use May 1967.

SN 346,370. Dargaud S.A., Neuilly-sur-Seine, Hauts de Seine, France. Filed Dec. 16, 1969.

**ASTERIX**

Owner of French Reg. No. 723,509, dated Nov. 28, 1966.  
For Magazines, Books, and Illustrated Books (Int. Cl. 16).

SN 346,582. Straight Arrow Publishers, Inc., San Francisco, Calif. Filed Dec. 18, 1969.

**EL BANDIDO BY CERVANTES**

"Cervantes" identifies "Rudolph A. Cervantes" whose consent is of record.  
For Men's Neck Scarves and Neckties (Int. Cl. 25).  
First use Oct. 8, 1968.

SN 327,850. Broadway-Hale Stores, Inc., Los Angeles, Calif. Filed May 21, 1969.

**YOUNG CALIFORNIANS**

Owner of Reg. No. 811,146.  
For Hosiery (Int. Cl. 25).  
First use Sept. 15, 1961.

Applicant disclaims any exclusive right to the word "Publishers" and the Abbreviation "Inc."  
For Newspapers and Magazines Issued From Time to Time, and Books (Int. Cl. 16).  
First use as early as Sept. 20, 1969.

SN 352,627. Farm Journal, Inc., Philadelphia, Pa. Filed Feb. 27, 1970.

**A GOOD LIFE AS WELL AS A GOOD LIVING**

Owner of Reg. No. 800,069.  
For Feature in a Magazine (Int. Cl. 16).  
First use Oct. 25, 1947.

**Class 39—Clothing**

SN 296,756. Standard Oil Company, Flemington, N.J. Filed Apr. 29, 1968.

**EXXON**

For Hosiery (Int. Cl. 25).  
First use Oct. 20, 1967.

SN 320,317. The British Bata Shoe Company Limited, East Tilbury, Essex, England. Filed Feb. 28, 1969.

**MOONSHOT**

Priority claimed under Sec. 44(d) on British Reg. No. 930,914, dated Sept. 13, 1968.  
For Footwear (Int. Cl. 25).

SN 324,394. Geraldine Badger, Bronx, N.Y. Filed Apr. 14, 1969.

**SNAP-ON SNAX**

The words "Snap On" are disclaimed except as associated with the mark as shown, all common law rights being reserved.  
For Child's Protective Garment—Namely, a Bib, With Detachable Food Container (Int. Cl. 25).  
First use Apr. 5, 1969.

SN 325,632. The Strouse, Adler Company, New Haven, Conn. Filed Apr. 25, 1969.

**THE SMOOTHER**

Owner of Reg. No. 587,003.  
For Foundation Garments (Int. Cl. 25).  
First use Apr. 17, 1967.

SN 329,985. Independent Retailers Syndicate, Inc., New York, N.Y. Filed June 13, 1969.

**BRYSON**

Owner of Reg. Nos. 534,826, 777,069, and others.  
For Men's Shirts, T-Shirts, Briefs, Polo Shirts, Terry Cloth Shirts, Athletic Shirts, Pajamas, Hosiery, and Neckties (Int. Cl. 25).  
First use 1949.

SN 330,007. Psychosync, Inc., El Rito, N. Mex. Filed June 13, 1969.



Applicant disclaims the words "El Rito New Mexico" apart from the mark as shown. Owner of Reg. No. 837,187.  
For Muff Article in the Nature of a Glove To Be Shared by Two People (Int. Cl. 25).  
First use Sept. 19, 1968.

SN 332,253. Ruth Scharf, Ltd., New York, N.Y. Filed July 10, 1969.

**STICK-TOGETHERS**

For Children's Clothing—Namely, Slacks, Shorts, Jackets, Shirts, Overalls, Jumpsuits, Sundresses, Bathing Suits, Vests, Ponchos, Jumpers, Skirts, Hats and Caps (Int. Cl. 25).  
First use June 26, 1969.

SN 332,492. Kidets, Inc., Hialeah, Fla. Filed July 14, 1969.



For Boys' and Girls' Clothing—Namely, Shirts; Pants; Eton Suits, Swim Suits; Shorts; Gym Suits; Shirt and Pant Sets, and Shirt and Short Sets (Int. Cl. 25).  
First use on or about Sept. 13, 1965.

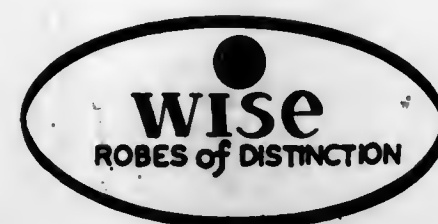


SN 333,686. Manhattan Industries, Inc., New York, N.Y. SN 334,740. Pollak Leather, Inc., New York, N.Y. Filed Aug. 7, 1969.

## THE BUM SHIRT

The word "Shirt" is disclaimed apart from the mark as shown.

For Dress Shirts and Sport Shirts (Int. Cl. 25).  
First use July 2, 1969.



SN 333,831. Intercontinent Shoe Corporation, New York, N.Y. Filed July 29, 1969.

## COUNTRY BUMPKINS

For Footwear (Int. Cl. 25).  
First use October 1968.

The words "Robes of Distinction" are disclaimed apart from the mark as shown. The drawing is lined for the color red, but color is not an essential feature of the mark.  
For Robes (Int. Cl. 25).  
First use prior to 1940.

SN 335,361. Martin's, Brooklyn, N.Y. Filed Aug. 14, 1969.  
Owner of Reg. No. 515,325.

SN 334,594. Knoxville Glove Company, Knoxville, Tenn. Filed Aug. 6, 1969.



The drawing is lined for the color gold.  
For Gloves (Int. Cl. 25).  
First use Jan. 30, 1969.

SN 334,619. Rothmoor Corporation, Chicago, Ill. Filed Aug. 6, 1969.

## ROTHMOOR

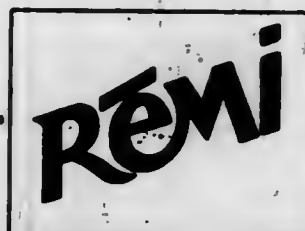
Owner of Reg. Nos. 222,152, 501,766 and others.  
For Women's and Misses' Coats and Suits (Int. Cl. 25).  
First use July 1, 1926.

SN 334,654. Wembley, Inc., New Orleans, La. Filed Aug. 6, 1969.



The word "Cotton" is disclaimed apart from the mark as shown.  
For Men's Neckwear (Int. Cl. 25).  
First use May 1, 1969.

SN 334,683. American Ski Corp., Westwood, Mass. Filed Aug. 7, 1969.



For Men's and Youths' Ski Pants (Int. Cl. 25).  
First use June 16, 1960.

The words "Robes of Distinction" are disclaimed apart from the mark as shown. The drawing is lined for the color red, but color is not an essential feature of the mark.  
For Robes (Int. Cl. 25).  
First use prior to 1940.

SN 335,361. Martin's, Brooklyn, N.Y. Filed Aug. 14, 1969.  
Owner of Reg. No. 515,325.

SN 335,396. Worley, Sewell Company, Bremen, Ga. Filed Aug. 14, 1969.

## WEATHER-LITE

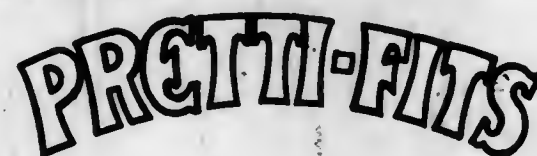
For Men's and Boys' Jackets and Coats; and Ladies' and Girls' Coats (Int. Cl. 25).  
First use June 1969.

SN 335,772. Penobscot Shoe Company, Boston, Mass. Filed Aug. 20, 1969.

## ELASTO-MOC

For Shoes (Int. Cl. 25).  
First use Aug. 14, 1969.

SN 336,041. Wiscasset Mills Company, Albermarle, N.C. Filed Aug. 22, 1969.



For Hosiery (Int. Cl. 25).  
First use Oct. 25, 1968.

SN 336,710. Oxford Industries, Inc., Atlanta, Ga. Filed Aug. 29, 1969.

## CIRAIN

For Men's, Women's, Boys' and Girls' Rainwear, Jackets, and All-Weather Coats (Int. Cl. 25).  
First use Aug. 26, 1969.

SN 337,443. Freeland Shirt Co., Inc., Freeland, Pa. Filed Sept. 9, 1969.

## DOWN CLUB

For Jackets (Int. Cl. 25).  
First use Aug. 1, 1969.

SN 337,566. Chas. Macintosh and Company Limited, Oldham, England. Filed Sept. 10, 1969. SN 338,512. White Stag Manufacturing Co., Portland, Ore. Filed Sept. 22, 1969.



Applicant disclaims "Trade Mark" and "Made in England" apart from the mark as shown. Owner of Reg. Nos. 395,402 and 771,942.

For Garments and Articles of Dress—Namely, Raincoats and Waterproof Coats, Golf Jackets, Jackets and Trousers (Int. Cl. 25).

First use Apr. 10, 1969; in commerce Apr. 10, 1969.

SN 337,758. Gruppo Finanziario Tessile Società in Accomandita Semplice di Fratelli Rivetti & C., Turin, Italy. Filed Sept. 11, 1969.

## PININFARINA

For Men's Suits, Jackets and Overcoats (Int. Cl. 25).  
First use Aug. 1, 1969; in commerce Aug. 1, 1969.

SN 338,145. Forward Fashions, Inc., Boston, Mass. Filed Sept. 17, 1969.

## FORWARD FASHIONS

The word "Fashions" is disclaimed apart from the mark as shown.

For Men's Pants (Int. Cl. 25).  
First use June 20, 1969.

SN 338,225. Cobbs Corner Casuals, Inc., New York, N.Y. Filed Sept. 18, 1969.

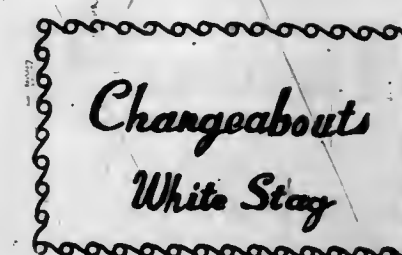


The name "Nan Reed" is fanciful. The word "Petites" is disclaimed separate and apart from the mark as shown.  
For Petite Misses' Dresses (Int. Cl. 25).  
First use August 1969.

SN 338,511. White Stag Manufacturing Co., Portland, Ore. Filed Sept. 22, 1969.



Owner of Reg. Nos. 369,881, 868,288, and others.  
For Pants (Int. Cl. 25).  
First use Mar. 22, 1962.



Owner of Reg. Nos. 369,881, 868,288, and others.  
For Women's Shirts (Int. Cl. 25).  
First use Apr. 30, 1962.

SN 338,649. Geoffrey Beene, Inc., New York, N.Y. Filed Sept. 22, 1969.

## GEOFFREY BEENE

"Geoffrey Beene" is the name of a living individual whose consent is of record.

For Ladies' Dresses, Blouses, Skirts, Pants, Shirts, Shifts, Jackets, Sweaters, Jumpers, Suits, Shorts, Coats, and Evening Gowns (Int. Cl. 25).  
First use Feb. 15, 1969.

SN 338,865. Alba-Waldensian, Inc., Valdese, N.C. Filed Sept. 25, 1969.

## DEVILIQUE

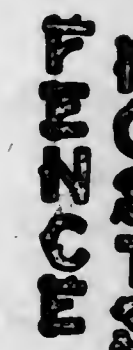
Owner of Reg. No. 761,668.  
For Panty Hose (Int. Cl. 25).  
First use Sept. 11, 1968.

SN 339,351. Frank Noone Shoe Co., Inc., Taunton, Mass. Filed Sept. 30, 1969.



The words "Shoes for Men" are disclaimed apart from the mark as shown. "Frank Noone" identifies Thomas Francis Noone, a living individual whose consent is of record.  
For Shoes (Int. Cl. 25).  
First use 1957.

SN 339,618. The Williamson-Dickie Manufacturing Company, Fort Worth, Tex. Filed Oct. 2, 1969.



For Men's and Boys' Trousers (Int. Cl. 25).  
First use Sept. 16, 1969.



SN 339,832. Globe Footwear Corp., Union N.J. Filed Oct. 6, 1969. SN 342,976. Kirchner Gloves, Inc., Oconto, Wis. Filed Nov. 7, 1969.

**DISTINO**

For Men's Shoes (Int. Cl. 25).  
First use July 1952.

SN 340,111. Joseph Bancroft & Sons Company, New York, N.Y. Filed Oct. 8, 1969.

**PERFECT ON**

Applicant disclaims exclusive use of the word "Perfect" when used apart from the mark as shown.  
For Women's and Misses' Hosiery, Panty Hose, Leotards and Tights (Int. Cl. 25).  
First use Sept. 30, 1969.

SN 340,487. David Crystal, Inc., New York, N.Y., assignee of Stony Brook Casuals, Inc., New York, N.Y. Filed Oct. 10, 1969.

**Stony Brook**

Owner of Reg. Nos. 807,559, 807,560, 833,401, and others.  
For Dresses, Blouses, Skirts, Suits, and Jackets (Int. Cl. 25).  
First use May 28, 1965.

SN 341,272. Exquisite Form Industries, Inc., New York, N.Y., by change of name and assignment from Exquisite Form Industries, Inc., New York, N.Y. Filed Oct. 21, 1969.

**HOLD EVERYTHING**

For Brassieres (Int. Cl. 25).  
First use Oct. 7, 1969.

SN 341,273. Exquisite Form Industries, Inc., New York, N.Y., by change of name and assignment from Exquisite Form Industries, Inc., New York, N.Y. Filed Oct. 21, 1969.

**TODAY'S LOOK**

For Brassieres and Girdles (Int. Cl. 25).  
First use Oct. 7, 1969.

SN 342,021. Caressa, Inc., Miami, Fla. Filed Oct. 29, 1969.

**BIT PARTS**

For Ladies' Shoes (Int. Cl. 25).  
First use Oct. 22, 1969.



**TUF-DOG**

For Welding Gloves and Mittens and Protective Industrial Clothing—Namely, Coats, Capes, Aprons, Protective Sleeves, Trousers, Hip Legging, Knee Legging and Spats (Int. Cl. 9).  
First use May 1, 1969; 1963, in a different form.

SN 343,223. Melville Shoe Corporation, New York, N.Y. Filed Nov. 12, 1969.

**Thom Thrifts**

For Men's, Women's, Boys', and Girls' Shoes (Int. Cl. 25).  
First use Nov. 4, 1969.

SN 344,012. Oxford Industries, Inc., Atlanta, Ga. Filed Nov. 19, 1969.

**STAGE 2 STAGE**

For Men's and Boys' Wearing Apparel—Namely, Sport and Dress Shirts, Sweaters, and Slacks (Int. Cl. 25).  
First use Nov. 4, 1969.

SN 344,288. Herman Geist Inc., Boston, Mass. Filed Nov. 24, 1969.

**WHISPER-STRETCH**

For Women's Knitted Dresses, Blouses, Skirts and Slacks (Int. Cl. 25).  
First use at least as early as January 1966.

SN 344,932. Lanz Originals, Inc., Los Angeles, Calif. Filed Dec. 1, 1969.

**Periscope**

For Women's Apparel—Namely, Dresses, Skirts, Jumpsuits, Tunics, Vests, Pants, Culottes, Coats, Swimsuits and Beach Coats; Jackets, Shifts, Sweaters, Robes and Sleepwear, Brassieres, and Shoes (Int. Cl. 25).  
First use Oct. 23, 1969.

SN 347,867. Westland Shoe Corp., Biddeford, Maine. Filed Dec. 29, 1969. SN 340,343. Abbott Tresses, Inc., Pittsburgh, Pa. Filed Oct. 10, 1969.

**Critiques**

For Men's and Boys' Shoes (Int. Cl. 25).  
First use April 1969.

SN 347,662. Welco Enterprises, Inc., Waynesville, N.C. Filed Jan. 2, 1970.

**BRITE GLO**

For Footwear—Namely, Shoes, Boots, Slippers, and Sandals (Int. Cl. 25).  
First use Dec. 1, 1969.

SN 347,664. Welco Enterprises, Inc., Waynesville, N.C. Filed Jan. 2, 1970.

**FUN GLO**

For Footwear—Namely, Shoes, Boots, Slippers, and Sandals (Int. Cl. 25).  
First use Dec. 1, 1969.

SN 347,953. Nan-Flower Lingerie, Inc., New York, N.Y. Filed Jan. 7, 1970.

**FOURTH ADDITION**

For Women's Lingerie—Namely, Panties, Half-Slips, Slips, Sleepwear, and Loungewear (Int. Cl. 25).  
First use Nov. 3, 1969.

SN 352,733. National Student Marketing Corporation, New York, N.Y. Filed Mar. 2, 1970.

**SOFT N' SHEER**

For Women's Hosiery (Int. Cl. 25).  
First use Feb. 11, 1969.

SN 353,338. The United States Shoe Corporation, Cincinnati, Ohio. Filed Mar. 9, 1970.

**joyce**  
NEW AND NOW

Owner of Reg. Nos. 392,863, 635,992, and others.  
For Ladies' Shoes (Int. Cl. 25).  
First use at least as early as Feb. 10, 1970; July 6, 1938, as to "Joyce."

**Class 40—Fancy Goods, Furnishings, and Notions**

SN 340,342. Abbott Tresses, Inc., Pittsburgh, Pa. Filed Oct. 10, 1969.

**HEDI**

For Hair Pieces (Int. Cl. 26).  
First use Sept. 1, 1969.

**WAIF**

For Hair Pieces (Int. Cl. 26).  
First use Sept. 1, 1969.

SN 340,520. Daryl Products, Inc., New York, N.Y. Filed Oct. 13, 1969.

**DENISE**

For Ladies' Wigs (Int. Cl. 26).  
First use Aug. 15, 1969.

SN 340,521. Daryl Products, Inc., New York, N.Y. Filed Oct. 13, 1969.

**DOREEN**

For Ladies' Wigs (Int. Cl. 26).  
First use Aug. 15, 1969.

SN 340,522. Daryl Products, Inc., New York, N.Y. Filed Oct. 13, 1969.

**MEI LING**

For Ladies' Wigs (Int. Cl. 26).  
First use Aug. 15, 1969.

SN 340,779. Daryl Products, Inc., New York, N.Y. Filed Oct. 15, 1969.

**ANNETTE**

For Ladies' Wigs (Int. Cl. 26).  
First use Aug. 15, 1969.

SN 340,922. Jerrax Imports, Inc., New York, N.Y. Filed Oct. 16, 1969.

**LADY GERALDINE**

For Wigs of Human Hair and/or Synthetic Materials (Int. Cl. 26).  
First use Mar. 1, 1969.

SN 355,567. Heavenly Creations, Inc., Norfolk, Va. Filed Apr. 1, 1970.

**HUMMINGBIRD**

For Wigs (Int. Cl. 26).  
First use Mar. 10, 1970.

SN 355,568. La Marquesa Wig Corporation, Miami, Fla. Filed Apr. 1, 1970.

**HAYDEE**

For Hair Pieces (Int. Cl. 26).  
First use Aug. 4, 1969.



**Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor**

SN 327,780. Reeves Brothers, Inc., New York, N.Y. Filed May 20, 1969.

**STADIUM**

For Textile Fabrics for Apparel, Such as Dresses, Suits, Sportswear, and the Like (Int. Cl. 24).  
First use June 16, 1968.

SN 329,726. Independent Retailers Syndicate, Inc., New York, N.Y. Filed June 11, 1969.

**ROYAL MANOR**

For Blankets and Mattress Pads (Int. Cl. 24).  
First use 1967.

SN 329,986. Independent Retailers Syndicate, Inc., New York, N.Y. Filed June 13, 1969.

**BRYSON**

Owner of Reg. Nos. 534,826, 777,069, and others.  
For Piece Goods of Natural and Synthetic Yarns and/or Blends Thereof (Int. Cl. 24).  
First use 1949.

SN 332,387. Waumbec Mills, Incorporated, New York, N.Y. Filed July 11, 1969.

**ZAGGERI**

For Textile Fabrics—Namely, Knitted Textile Fabrics Comprised of Synthetic and/or Natural Fibers and/or Blends Thereof (Int. Cl. 24).  
First use Apr. 25, 1969.

SN 333,560. Glamorise Foundations, Inc., New York, N.Y. Filed July 25, 1969.

**GLAMOR-FLEX**

Owner of Reg. No. 880,520.  
For Natural and Synthetic Fabrics for Use in Foundation Garments (Int. Cl. 24).  
First use Mar. 7, 1969.

SN 333,829. Hayden Textiles, Inc., New York, N.Y. Filed July 29, 1969.

**FACELON**

For Non-Woven Textile Fabrics in the Piece for Use as Interfaces for Garments (Int. Cl. 24).  
First use on or about July 21, 1967.

SN 334,002. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed July 31, 1969.

**ASTON**

For Carpets (Int. Cl. 27).  
First use June 14, 1969.

SN 334,267. Zell Bros., Inc., Portland, Oreg. Filed Aug. 1, 1969.

**China-Mate  
Linens**

No claim is made to the word "Linens" apart from the mark as shown.  
For Tablecloths, Tablerunners, Placemats, and Napkins (Int. Cl. 24).  
First use April 1968.

SN 335,452. J & J Industries, Inc., Dalton, Ga. Filed Aug. 14, 1969.

**COMMERCIALON**

For Carpets (Int. Cl. 27).  
First use September 1967.

SN 335,478. J. P. Stevens & Co., Inc., New York, N.Y. Filed Aug. 15, 1969.

**SPORTFACE**

For Woven, Tufted and Needle Punched Textile Carpets (Int. Cl. 27).  
First use May 21, 1969.

SN 336,403. Avisun Corporation, Philadelphia, Pa. Filed Aug. 27, 1969.

**POLY NEEDL BAC**

Owner of Reg. Nos. 793,425, 799,592, and 837,570.  
For Base or Backing Fabrics for Floor Coverings (Int. Cl. 27).  
First use on or prior to Apr. 8, 1968.

SN 340,263. Fabrics by Joyce, Inc., New York, N.Y. Filed Oct. 9, 1969.

**MUNGIES**

For Arnel Triacetate Fabrics (Int. Cl. 24).  
First use Apr. 1, 1969.

SN 340,509. Celanese Corporation, New York, N.Y. Filed Oct. 13, 1969.

**THE FRIMPS**

For Fabrics in the Piece for Use in Men's, Women's and Children's Apparel, for Use in Home Furnishings, and for Use in the Industrial Field (Int. Cl. 24).  
First use Aug. 7, 1969.

SN 352,408. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Feb. 26, 1970.

**DESIGNS FOR LIVING**

For Carpets (Int. Cl. 27).  
First use June 1, 1969.

SN 355,078. Deering Milliken, Inc., New York, N.Y. Filed Mar. 26, 1970.

**SUMMAKOOL**

Owner of Reg. No. 327,660.  
For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof (Int. Cl. 24).  
First use Oct. 15, 1934.

**Class 43—Thread and Yarn**

SN 345,058. Bolfra, Societe Anonyme, Coire, Switzerland. Filed Dec. 2, 1969.

**DAMART-THERMAWEAR**

Owner of Swiss Reg. No. 1,363.  
For Thread (Int. Cl. 23).

SN 352,902. Ledal di Leone Sacerdote & C. S.a.s., Brandizzo, Turin, Italy. Filed Mar. 3, 1970.

**BRILLYARN**

Owner of Italian Reg. No. 171,698, dated May 17, 1961.  
For Thread and Yarn—Namely, Synthetic Metallized Yarns (Int. Cl. 23).

SN 353,142. Texlin Corporation, Hartsville, S.C. Filed Mar. 5, 1970.

**CAROLINEN**

For Linen Fibers (Int. Cl. 22).  
First use June 9, 1967.

**Class 44—Dental, Medical, and Surgical Appliances**

SN 338,337. American Cyanamid Company, Wayne, N.J. Filed Sept. 19, 1969.

**MAGIFLEX**

For Magnetic Needle Boards and Magnetic Instrument Drapes (Int. Cl. 10).  
First use July 3, 1969, on magnetic needle boards.

SN 338,591. Medtronic, Inc., Minneapolis, Minn. Filed Sept. 22, 1969.

**CHARDACK-GREATBATCH**

Owner of Reg. No. 815,228.  
For Electro-Physiological Devices for Generating and Applying Electrical Impulses to a Muscle or Muscles Through Electrodes (Int. Cl. 10).  
First use Nov. 5, 1960.

**Class 45—Soft Drinks and Carbonated Waters**

SN 339,818. PepsiCo, Inc., New York, N.Y. Filed Oct. 6, 1969.

**MANGO-AKI**

For Powdered Imitation Mango Flavored Soft Drink Mix (Int. Cl. 32).  
First use Aug. 27, 1969.

SN 340,530. Dell Products Corp., Hillside, N.J. Filed Oct. 13, 1969.

**DELL'S**

Owner of Reg. No. 778,335.  
For Lemonade, Orangeade, and Other Fruit Flavored Drinks Containing Water (Int. Cl. 32).  
First use June 25, 1963.

**Class 46—Foods and Ingredients of Foods**

SN 304,661. Anderson, Clayton & Co., Dallas, Tex. Filed Aug. 8, 1968.

**CREOLE FRENCH**

Applicant disclaims the term "French" separate and apart from the mark as shown.  
For Salad Dressing (Int. Cl. 29).  
First use May 15, 1968.

SN 331,985. Agway, Inc. De Witt, N.Y. Filed July 8, 1969.

**FLOMOLAS**

For Surfactant Additive for Molasses To Reduce Stickiness and Improve Pouring Qualities (Int. Cl. 1).  
First use May 1, 1969.

SN 340,339. Sunkist Growers, Inc., Los Angeles, Calif. Filed Oct. 15, 1969.



Exclusive right to the use of the reproduction of a citrus fruit is not claimed apart from the mark as shown.  
For Fresh Citrus Fruits (Int. Cl. 31).  
First use July 19, 1969.

SN 343,472. Ralston Purina Company, St. Louis, Mo. Filed Nov. 14, 1969.

**DAIRY DINNER**

Without waiver of its common law rights, applicant disclaims the word "Dinner" apart from the mark as shown.  
For Cat Food (Int. Cl. 31).  
First use Feb. 1, 1964.

SN 345,874. Stage Delicatessen & Restaurant, Inc., New York, N.Y. Filed Dec. 10, 1969.

**STAGE**

For Delicatessen Products—Namely, Salami (Int. Cl. 29).  
First use 1961.



SN 846,223. Certified Grocers of Illinois, Inc., Chicago, Ill. Filed Dec. 15, 1969. SN 848,828. Chamboase Brokerage Co., d.b.a. Chambo, Los Alamitos, Calif. Filed Jan. 19, 1970.

## COUNTRY'S DELIGHT

Owner of Reg. Nos. 595,287, 709,421, and others.  
For Orange Juice (Int. Cl. 32).  
First use or before Sept. 1, 1961.

SN 846,409. Stage Delicatessen & Restaurant, Inc., New York, N.Y. Filed Dec. 16, 1969.



The mark consists of a caricature of Max Asnas, deceased.  
For Delicatessen Products—Namely, Salami (Int. Cl. 29).  
First use 1961.

SN 848,628. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 15, 1970.

## KIT-N-CABOODLE

For Canned Dog Food (Int. Cl. 31).  
First use on or prior to Dec. 11, 1969.

SN 848,633. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 15, 1970.

## GOODY

For Canned Dog Food (Int. Cl. 31).  
First use on or prior to Dec. 11, 1969.

SN 848,634. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 15, 1970.

## THREE COURSE

For Canned Dog Food (Int. Cl. 31).  
First use on or prior to Dec. 11, 1969.

SN 848,786. ITT Continental Baking Company, Rye, N.Y. Filed Jan. 16, 1970.

## MINI-CLAIRS

For Cake (Int. Cl. 30).  
First use Dec. 8, 1969.

SN 848,785. Mitchell Foods, Inc., Fredonia, N.Y. Filed Jan. 16, 1970.

## SERV

For All Vegetable Non-Dairy Cream Substitute (Int. Cl. 29).  
First use Dec. 8, 1969.

## WESTERN VALLEY

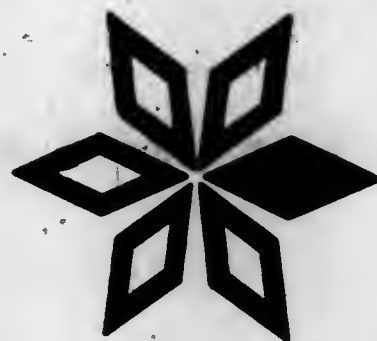
For Canned Fruits, Canned Vegetables, Table Salt (Int. Cls. 29 and 30).  
First use Jan. 5, 1970.

SN 848,848. Dolly Madison Industries, Inc., Philadelphia, Pa. Filed Jan. 19, 1970.

dolly  
pak

Owner of Reg. Nos. 281,725, 882,992, and others.  
For Ice Cream (Int. Cl. 30).  
First use Jan. 5, 1970.

SN 849,068. Diamond Crystal Salt Company, St. Clair, Mich. Jan. 20, 1970.



Owner of Reg. Nos. 734,617, 736,632, and 752,905.  
For Disposable Packages Containing Individual Servings of Pepper, Salt, Salt Substitute, Sugar, Sugar Substitute, Ketchup, Mustard, Honey, Sweet Relish, Tartar Sauce, Mayonnaise, French Dressing, and Jellies (Int. Cls. 29 and 30).  
First use in about April 1964.

SN 849,179. Hag AG Bremen, Bremen, Germany. Filed Jan. 21, 1970.



Owner of U.S. Reg. No. 840,945.  
For Coffee (Int. Cl. 30).  
First use May 1966; in commerce May 1966.

SN 849,819. Beatrice Foods Co., Chicago, Ill. Filed Jan. 22, 1970. SN 850,645. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 6, 1970.

## GOURMET

Owner of Reg. No. 763,221.  
For Ice Cream (Int. Cl. 30).  
First use on or about Mar. 1, 1969; on or about May 8, 1968, in a different form.

SN 849,707. Tradewinds Company, Thunderbolt, Ga. Filed Jan. 26, 1970.

## TRADEWINDS

For Frozen, Breaded, Prepared and Raw Seafoods—Namely, Crab, Shrimp, Oysters, Scallops, Fresh Fillets, Fish Steaks, and Crab Steaks (Int. Cl. 29).  
First use July 14, 1965.

SN 849,714. Weldner Canning Company, Inc., Plymouth, Ind. Filed Jan. 26, 1970.

## GARDEN STYLE DELIGHTS

For Sliced Sweet Pickles (Int. Cl. 29).  
First use July 25, 1969.

SN 849,754. The Donruss Company, Memphis, Tenn. Filed Jan. 27, 1970.

## LOVE IT'S

For Bubble Gum (Int. Cl. 30).  
First use Dec. 19, 1969.

SN 849,857. General Foods Corporation, White Plains, N.Y. Filed Jan. 28, 1970.

## PERFIC-PAX

Owner of Reg. No. 839,235.  
For Pre-Packaged Servings of Coffee and Non-Dairy Creamer (Int. Cls. 29 and 30).  
First use Nov. 12, 1969.

SN 850,180. General Mills, Inc., Minneapolis, Minn. Filed Feb. 2, 1970.

## MAZITOS

Owner of Reg. Nos. 389,442 and 435,637.  
For Corn Chips (Int. Cl. 29).  
First use on or about Nov. 21, 1969.

SN 850,211. Bonnie Jo Candies, Portage, Ind. Filed Feb. 2, 1970.

## BONNIE JO

For Candy, and Particularly Cashew Clusters Covered with Milk Chocolate (Int. Cl. 30).  
First use July 1, 1969.

SN 850,358. General Mills, Inc., Minneapolis, Minn. Filed Feb. 3, 1970.

## COUNTERWEIGHT

Owner of Reg. No. 778,270.  
For Cookies (Int. Cl. 30).  
First use on or about Nov. 12, 1969.

TM 876 O.G.—2

## DEMI

Owner of Reg. Nos. 766,842 and 785,709.  
For Imitation Mayonnaise (Int. Cl. 29).  
First use Jan. 20, 1970.

SN 850,649. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 6, 1970.

## MARGIE

Owner of Reg. No. 786,106.  
For Imitation Mayonnaise (Int. Cl. 29).  
First use Jan. 20, 1970.

SN 850,806. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 9, 1970.

## BETTER HALF

Owner of Reg. Nos. 766,843 and 781,844.  
For Imitation Mayonnaise (Int. Cl. 29).  
First use Jan. 20, 1970.

SN 850,807. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 9, 1970.

## MAR-LOW

Owner of Reg. No. 786,107.  
For Imitation Mayonnaise (Int. Cl. 29).  
First use Jan. 20, 1970.

SN 851,765. Ralston Purina Company, St. Louis, Mo. Filed Feb. 19, 1970.

## THE GRUMPY DOG

For Dog Food (Int. Cl. 31).  
First use Jan. 15, 1970.

SN 852,297. Pet Incorporated, St. Louis, Mo. Filed Feb. 25, 1970.

## FACS

For Potato Chips, Tortilla Chips, Fried Pork Rinds, Corn Chips, and Corn Curls (Int. Cl. 29).  
First use at least as early as Jan. 1, 1945.

SN 853,837. Zevo, Inc., Los Angeles, Calif. Filed Mar. 12, 1970.

Zevo Whip

The word "Whip" is disclaimed apart from the mark. Owner of Reg. Nos. 839,671 and 867,635.  
For Non-Dairy Whipped Topping (Int. Cl. 29).  
First use Feb. 15, 1970.

SN 855,580. Ralston Purina Company, St. Louis, Mo. Filed Apr. 1, 1970.

## TRIFF

For Cat Food (Int. Cl. 31).  
First use Mar. 6, 1970.



SN 355,582. Ralston Purina Company, St. Louis, Mo. Filed Apr. 1, 1970.

**KATRINA**

For Cat Food (Int. Cl. 31).  
First use Mar. 6, 1970.

SN 355,586. Ralston Purina Company, St. Louis, Mo. Filed Apr. 1, 1970.

**HERO**

For Cat Food (Int. Cl. 31).  
First use Mar. 6, 1970.

SN 355,587. Ralston Purina Company, St. Louis, Mo. Filed Apr. 1, 1970.

**PLENTY**

For Cat Food (Int. Cl. 31).  
First use Mar. 6, 1970.

SN 356,335. Eskimo Pie Corporation, Richmond, Va. Filed Apr. 9, 1970.

**NAVARRO**

Owner of Reg. No. 523,870.  
For Coatings for Frozen Confections (Int. Cl. 30).  
First use Aug. 16, 1948.

**Class 47 -- Wines**

SN 348,484. Puerto Rico Distillers, Inc., Arecibo, Puerto Rico. Filed Jan. 14, 1970.

**Mardi Gras**

No claim is made to the representation of the pineapple.  
Owner of Reg. Nos. 443,762, 882,972, and others.  
For Wine (Int. Cl. 33).  
First use Sept. 25, 1969; Dec. 21, 1964, as to "Mardi Gras."

**Class 48 -- Malt Beverages and Liquors**

SN 353,073. Miller Brewing Company, Milwaukee, Wis. Filed Mar. 4, 1970.

**UNIVERSITY CLUB**

Owner of Reg. No. 772,930.  
For Beer (Int. Cl. 32).  
First use Feb. 6, 1970.

**Class 49 -- Distilled Alcoholic Liquors**

SN 330,890. John Jameson & Son, Limited, Dublin, Ireland. Filed June 18, 1969.

**JAMESON**

Owner of Irish Reg. No. 68,245, dated July 11, 1968; British Reg. No. 865,761, dated June 18, 1964; and U.S. Reg. Nos. 73,865, 544,232, and others.  
For Irish Whiskey (Int. Cl. 33).  
First use Apr. 3, 1969; in commerce Apr. 3, 1969.

SN 340,667. The Irish Whiskey Blending Co. Ltd., Waterford, Ireland. Filed Oct. 14, 1969.

**IRELAND'S GREETING**

Applicant disclaims any exclusive rights in and to the word "Ireland's" apart from the mark as shown.  
For Irish Liqueur (Int. Cl. 33).  
First use 1964; in commerce August 1968.

SN 346,705. Hiram Walker & Sons, Inc., Detroit, Mich. Filed Dec. 19, 1969.

**TAKE-A-LONG**

For Prepared Old Fashioned Cocktail (Int. Cl. 33).  
First use Dec. 5, 1969.

**Class 50 -- Merchandise Not Otherwise Classified**

SN 323,488. Unique Fountain Displays, Inc., New York, N.Y. Filed Apr. 2, 1969.

**CARROUSEL FOUNTAIN**

The word "Fountain" is disclaimed apart from the mark as shown.  
For Rotating Illuminated Water Fountains (Int. Cl. 11).  
First use Feb. 24, 1969.

SN 341,233. Veped Traffic Controls, Inc., Oklahoma City, Okla. Filed Oct. 20, 1969.

**KAR-BARD**

For Markers for Delineating the Presence or Boundary of a Hazard (Int. Cl. 20).  
First use July 21, 1968.

SN 342,758. Perfex Corporation, Ocean City, N.J. Filed Nov. 5, 1969.

**STICK-E-BAK**

For Textile Fabric Coverings for Dampening Rollers Used in Lithographic or Offset Printing (Int. Cl. 7).  
First use Oct. 15, 1944.

SN 342,967. French Textiles Company, Clifton, N.J. Filed Nov. 7, 1969.

SN 345,834. Les Parfums de Molyneux, Neuilly-sur-Seine, Hauts-de-Seine, France. Filed Dec. 10, 1969.

**QUARTZ**

Owner of French Reg. No. 762,292, dated Apr. 25, 1969.  
For Perfumes, Toilet Waters, Cologne Waters, Rouge, Face Powders, Lipsticks, Nail Lacquers, Bath Salts, Hair Lotions, and Dentifrices (Int. Cl. 3).

SN 346,005. Vienna Beauty Products Co., Dayton, Ohio. Filed Dec. 11, 1969.

**TRIPLE LANOLIN**

Owner of Reg. No. 631,512.  
For Cosmetics in the Nature of Body and Skin Lotions Having Multiple Uses, and Bath Oil (Int. Cl. 3).  
First use on or about Oct. 21, 1952.

SN 346,742. Hunt-Wesson Foods, Inc., Fullerton, Calif. Filed Dec. 19, 1969.

 **AISLE 30**

For Lipstick (Int. Cl. 3).  
First use Dec. 14, 1969.

For Nylon Knit Fabric Which Forms a Protective Cover for the Protection of Crops (Int. Cl. 23).  
First use Oct. 2, 1969.

SN 348,075. Bro-Dart Industries, Newark, N.J. Filed Nov. 10, 1969.

**THERMIVIT**

For Plastic Pins for Binding Together Stacks of Paper Sheets, Said Pins Being Adapted To Be Placed Into Aligned Holes in a Stack of Paper Sheets, After Which the Ends of the Pins Are Heated and Molded To Form Heads Which Prevent Removal of the Pins From the Holes (Int. Cl. 20).  
First use May 9, 1969.

SN 352,722. Durolith Corporation, Easton, Md. Filed Mar. 2, 1970.

**LC II**

For Lithographic Plates (Int. Cl. 7).  
First use Oct. 3, 1968.

**Class 51 -- Cosmetics and Toilet Preparations**

SN 331,168. De Vito Laboratories, Inc., Boston, Mass. Filed June 27, 1969.

**EVE IN EDEN**

For Hand and Body Foam (Int. Cl. 3).  
First use Apr. 18, 1969.

SN 338,221. C.L.I. Cosmetics, Inc., Brooklyn, N.Y. Filed Sept. 18, 1969.

**SYLVIE**

For Lipstick, Eye Make-Up, Pressed Facial Powder, Blusher, and Make-Up Remover Pads Impregnated With Cosmetic Cleanser (Int. Cl. 3).  
First use Aug. 27, 1969.

SN 342,902. A. H. Robins Company, Incorporated, Richmond, Va. Filed Nov. 6, 1969.

**BRONCO**

For Cosmetics for Men—Namely, Cologne and After Shave Lotion (Int. Cl. 3).  
First use Oct. 14, 1969.

SN 347,276. Johnson & Johnson, New Brunswick, N.J. Filed Dec. 29, 1969.

**STIM-U-DENT**

Owner of Reg. Nos. 338,052 and 709,402.  
For Tooth Paste (Int. Cl. 3).  
First use July 3, 1969.

SN 348,724. Carter-Wallace, Inc., New York, N.Y. Filed Jan. 16, 1970.

**DEODOPHYLL**

Owner of Reg. No. 647,976.  
First use Dec. 11, 1969.

SN 348,726. Carter-Wallace, Inc., New York, N.Y. Filed Jan. 16, 1970.

**STRAIGHT**

For Personal Deodorants (Int. Cl. 5).  
First use Dec. 11, 1969.

SN 349,549. Johnson & Johnson, New Brunswick, N.J. Filed Jan. 26, 1970.

**PRETTY PAWS**

For Hand Lotion (Int. Cl. 3).  
First use Oct. 23, 1969.

SN 349,585. Chesebrough-Pond's Inc., New York, N.Y. Filed Jan. 26, 1970.

**THE MANAGER**

For Hair Dressing (Int. Cl. 3).  
First use Jan. 13, 1970.



SN 349,586. Chesebrough-Pond's Inc., New York, N.Y. Filed Jan. 26, 1970. SN 340,881. Shearer O'berman Company, Minneapolis, Minn. Filed Oct. 15, 1969.

**NOTHING ON**

Owner of Reg. No. 848,843.  
For Hair Dressing (Int. Cl. 3).  
First use Jan. 18, 1970.

**SPRAY BRITE**

Owner of Reg. No. 572,770.  
For Liquid Glass Cleaner (Int. Cl. 3).  
First use Sept. 1, 1984.

SN 350,388. E. T. Browne Drug Company, Inc., East Newark, N.J. Filed Feb. 2, 1970. SN 343,186. Twinoak Products, Inc., North Aurora, Ill. Filed Nov. 10, 1969.

**"HAIR-SUCCESS"**

For Hair Pomade (Int. Cl. 3).  
First use June 15, 1911.

SN 350,720. Chesebrough-Pond's Inc., New York, N.Y. Filed Feb. 6, 1970.

**ENVIRONMENT**

For After-Shave Lotion (Int. Cl. 3).  
First use Dec. 5, 1969.

SN 353,008. Johnson & Johnson, New Brunswick, N.J. Filed Mar. 4, 1970.

**STIMUDERM**

For Hand Lotion (Int. Cl. 3).  
First use Dec. 22, 1969.

SN 353,008. Johnson & Johnson, New Brunswick, N.J. Filed Mar. 4, 1970.

**LORESS**

Owner of Reg. Nos. 396,420 and 794,849.  
For Hand Lotion (Int. Cl. 3).  
First use Nov. 25, 1969.

SN 355,563. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 1, 1970.

**SUNSCENT**

For After Shave Lotion (Int. Cl. 3).  
First use Feb. 9, 1970.

SN 355,570. Lever Brothers Company, New York, N.Y. Filed Apr. 1, 1970.

**LIFEBUOY**

Owner of Reg. Nos. 25,871, 565,653, and others.  
For Deodorant for Human Use (Int. Cl. 5).  
First use Apr. 1, 1966.

**Class 52 — Detergents and Soaps**

SN 333,406. Hunt Oil Company, Dallas, Tex. Filed July 24, 1969.

**BRENDA**

For Hair Shampoo (Int. Cl. 3).  
First use July 1, 1966.



For Cleaning, Sanitizing and Deodorizing Compound for Toilet Bowls (Int. Cl. 3).  
First use at least as early as September 1969.

SN 345,714. Calgon Corporation, Pittsburgh, Pa. Filed Dec. 9, 1969.

**SOAK-EZE**

Owner of Reg. No. 740,848.  
For Preparation for Use in Removing Grease and Stains From Fabrics (Int. Cl. 3).  
First use Oct. 10, 1969.

SN 347,530. Sentry Hardware Corporation, Cleveland, Ohio. Filed Dec. 31, 1969.

**SENTRY**

Owner of Reg. Nos. 764,970, 880,886, and others.  
For Paint and Varnish Remover (Int. Cl. 3).  
First use Feb. 1, 1969.

SN 348,515. Economics Laboratory, Inc., St. Paul, Minn. Filed Jan. 14, 1970.

**ABSORBIT**

Owner of Reg. No. 193,072.  
For All Purpose Detergent for Removing Soils From all Surfaces (Int. Cl. 3).  
First use Mar. 2, 1966.

SN 355,569. Lever Brothers Company, New York, N.Y. Filed Apr. 1, 1970.

**CHERISH**

Owner of Reg. Nos. 745,237 and 817,615.  
For Detergent Toilet Bar (Int. Cl. 3).  
First use Feb. 23, 1966.

SN 355,711. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 2, 1970. SN 355,712. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 2, 1970.

**AT LAST**

Owner of Reg. Nos. 644,548 and 806,100.  
For Dishwashing Detergent (Int. Cl. 3).  
First use Jan. 27, 1970.

SN 355,712. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 2, 1970.

**R.S.V.P.**

For Dishwashing Detergent (Int. Cl. 3).  
First use Jan. 27, 1970.

**DYNAMO**

Owner of Reg. No. 645,230.  
For Detergent With Fabric Softener (Int. Cl. 3).  
First use May 6, 1969.

SN 355,958. Con-Stan Industries, Inc., El Monte, Calif. Filed Apr. 6, 1970.

**HEVI-CLEAN**

For All Purpose Household Cleanser, Degreaser, and Soil Remover (Int. Cl. 3).  
First use August 1969.

**SERVICE MARKS****Class 100 — Miscellaneous**

SN 312,083. Sperry Rand Corporation, Troy, Mich. Filed Nov. 13, 1968.

SN 300,355. Hi Boy Restaurant, Inc., Greensburg, Pa. Filed June 13, 1968.

**HOUSE O' HI BOY**

The word "House" is disclaimed apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use Mar. 27, 1968.

SN 301,841. Hi Boy Restaurant, Inc., Pittsburgh, Pa. Filed July 2, 1968.



The "boy" character is fanciful. The pictorial representation of a sandwich is disclaimed apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use February 1964.

SN 311,365. Lawrence E. Gilbreath, West Kearsburg, N.J. Filed Nov. 5, 1968.

**LARRY'S URENTA LUGGAGE CARRIER**

The wording "Urenta Luggage Carrier" is disclaimed apart from the mark as shown.  
For Rental of Luggage Carriers for Automotive Use (Int. Cl. 42).  
First use May 10, 1967.

**VICKERS**

For Research, Development, Design, Engineering and Consultation Services in the Hydraulics and Electrical Field (Int. Cl. 42).  
First use Apr. 1, 1966.

SN 316,558. B/G Foods, Inc., Chicago, Ill. Filed Jan. 15, 1969.

**DUTCHLAND DAIRY'S MORE THAN A DAIRY**

Owner of Reg. No. 880,994.  
For Restaurant Services (Int. Cl. 42).  
First use June 1966.

SN 319,151. R. C. Erdmann, Rapid City, S. Dak. Filed Feb. 14, 1968.

**BLACK HILLS Chiropractic Center**

Applicant disclaims all wording in the mark.  
For Chiropractic Health Center Services (Int. Cl. 42).  
First use August 1967.



SN 319,586. Consumers Power Company, Jackson, Mich. Filed Feb. 19, 1969.



The mark contains a representation of the letters "CP." For Providing Individual Reports to Firms Concerning Resources and Benefits Available by Locating in Michigan (Int. Cl. 42).

First use May 1965.

SN 319,800. B & H of Madison, Inc., Madison, Wis. Filed Feb. 24, 1969.



**ROLL'N PIZZA MAN**

Without Waiving any common law rights, applicant disclaims any exclusive rights to the word "Pizza" apart from the mark as shown.

For Restaurant Services—Namely, the Preparation and Delivery of Pizza (Int. Cl. 42). First use May 1968.

SN 324,121. American Federation of Information Processing Societies, Montvale, N.J. Filed Apr. 10, 1969.

**afips**

AMERICAN FEDERATION OF INFORMATION PROCESSING SOCIETIES

Owner of Reg. No. 886,882. For Association Services—Namely, Promoting the Interests of the Information Processing Profession (Int. Cl. 35). First use at least as early as December 1961.

SN 326,845. Burger Boy Stores, Inc., Madison, Tenn. Filed May 9, 1969.

**BURGER BOY**

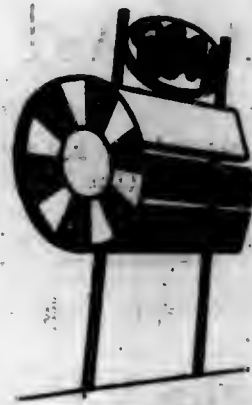
Owner of Reg. No. 781,950. For Restaurant Services (Int. Cl. 42). First use Oct. 31, 1958.

SN 328,871. Longhitano's Restaurant, Inc., Southampton, Pa. Filed June 2, 1969.



For Restaurant Services (Int. Cl. 42). First use Apr. 1, 1968.

SN 329,240. Harrison Enterprises, Inc., Litchfield, Minn. Filed June 5, 1969.



For Drive-In Restaurant Services (Int. Cl. 42). First use November 1963.

SN 330,395. Robert R. Lochamy, d.b.a. Capt. Pete's Fish and Chips, Birmingham, Ala. Filed June 18, 1969.

**CAPT. PETE'S**

For Restaurant Services (Int. Cl. 42). First use May 21, 1969.

SN 330,525. Midwest Software, Inc., Chicago, Ill. Filed June 19, 1969.

**EDI-DATA**

For Leasing of Data Processing Programs for Editing Input Data (Int. Cl. 42). First use Mar. 4, 1969.

SN 332,563. Kingfish, Inc., Louisville, Ky. Filed June 16, 1969.



For Restaurant Services (Int. Cl. 42). First use Apr. 15, 1948.

SN 334,788. Oliver's Pubs, Inc., Chicago, Ill. Filed Aug. 8, 1969.

**OLIVER'S PUB**

Applicant disclaims the word "Pub" apart from the mark as shown and without waiving its common law rights in the word.

For Restaurant and Carry-Out Services (Int. Cl. 42). First use on or about July 1, 1969.

SN 336,303. American Snacks, Inc., Chelsea, Mass. Filed Aug. 26, 1969.



Owner of Reg. No. 869,156. For Restaurant Services (Int. Cl. 42). First use Mar. 1, 1969.

SN 336,369. Computer Styles, Inc., New York, N.Y. Filed Aug. 27, 1969.

**STYLAIRE**

For Individualized Hair Styling Advice and Instructions Furnished to Women for Cutting and Setting Their Own Hair (Int. Cl. 42). First use May 1, 1969.

SN 336,660. American Bureau of Shipping, New York, N.Y. Filed Aug. 29, 1969.



For Inspection, Testing, and Approval of Cargo Containers (Int. Cl. 42). First use April 1968.

SN 338,490. Regis Corporation, Minneapolis, Minn. Filed Sept. 22, 1969.

**CROWNING GLORY**

For Beauty Salon Services (Int. Cl. 42). First use October 1957.

SN 343,636. Taco Bell, Inc., Torrance, Calif. Filed Nov. 17, 1969.

**TACO BELL IS A NICE PLACE TO EAT**

Owner of Reg. Nos. 820,078, 846,482, and 856,207. For Restaurant Services (Int. Cl. 42). First use on or about April 9, 1969.



Owner of Reg. Nos. 820,078, 846,486, and 856,207. For Restaurant Services (Int. Cl. 42). First use on or about June 15, 1964.

SN 347,380. Transsystems, Inc., Boston, Mass. Filed Dec. 30, 1969.

**TRANSYSTEMS**

For Analysis and Planning for Transportation Operations (Int. Cl. 42). First use Nov. 14, 1969.

SN 352,296. Marriott Corporation, Washington, D.C. Filed Feb. 25, 1970.



For Hotel and Restaurant Services (Int. Cl. 42). First use at least as early as November 1968; on or about July 1, 1966 in a different form.

**Class 101—Advertising and Business**

SN 296,730. Telegift Incorporated, Salt Lake City, Utah, assignee, by means assignment, of Telegift, Incorporated, Salt Lake City, Utah. Filed Mar. 24, 1969.

**telegift**

For Services Involving the Ordering of Gifts by Telephone and the Delivery of the Gifts (Int. Cl. 35). First use Mar. 19, 1968.



SN 305,960. National Executive Services, Inc., Birmingham, Ala. Filed Aug. 26, 1968.

## NATIONAL EXECUTIVE SERVICES, INC.

For Providing Office Space, Conference Rooms, Business Equipment, and the Services of an Office Staff (Int. Cl. 35).  
First use Sept. 15, 1967.

SN 308,262. American Computer Service Corporation, Cincinnati, Ohio. Filed Sept. 26, 1968.



The words "American Computer Service" are disclaimed apart from the mark as shown. The drawing is lined for the color green.

For Computer Programming and Time Sharing Services (Int. Cl. 35).  
First use Jan. 31, 1968.

SN 308,289. Golf-O-Tels, Inc., Myrtle Beach, S.C. Filed Sept. 26, 1968.

## GOLF-O-TEL

For Advertising the Activities of Motels and Maintaining System of Referral for Said Motels (Int. Cl. 35).  
First use July 25, 1968.

SN 324,831. Oti Services, Inc., New York, N.Y. Filed Apr. 17, 1969.

## FLIGHT 485

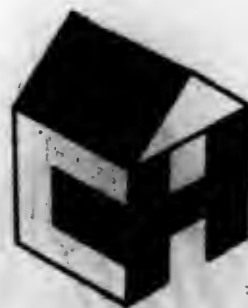
For Supplying Temporary Airline Stewardesses, Hostesses for Public Events, Including Tradeshows, Promotions, Public Appearances, etc. (Int. Cl. 35).  
First use Feb. 16, 1967.

SN 327,184. John Van Drill, d.b.a. The Sally Wallace Bridal Consultants Round Table, Morristown, N.J. Filed May 13, 1969.

## SALLY WALLACE

"Sally Wallace" is not the name of any living person, but the fictitious creation of applicant herein.  
For Bridal Salon Services (Int. Cl. 35).  
First use Aug. 15, 1964.

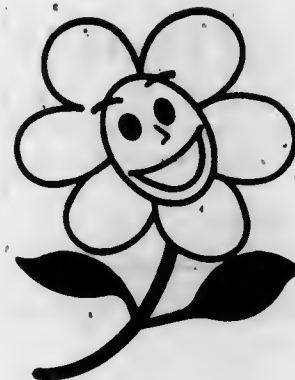
SN 329,227. Consultronics Institute, Inc., Columbia, S.C. Filed June 5, 1969.



COMPUTA-HOME

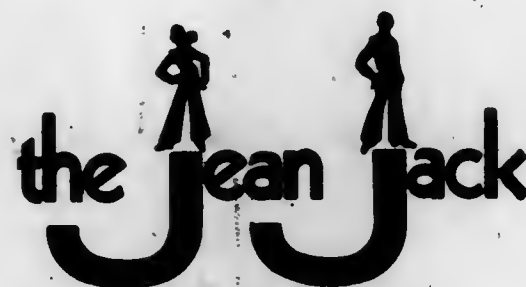
For Computer Real Estate Listing Service (Int. Cl. 35).  
First use on or about Dec. 1, 1968.

SN 334,280. Morning Fresh Dairy, Inc., Minneapolis, Minn. Filed Aug. 4, 1969.



For Mobile Dairy Store Services (Int. Cl. 35).  
First use Mar. 8, 1966.

SN 335,502. FM Enterprises, Inc., Washington, D.C. Filed Aug. 18, 1969.



For Retail Clothing and Clothing Accessory Store Services (Int. Cl. 35).  
First use June 20, 1969.

SN 344,193. Miss District of Columbia, Inc., Washington, D.C. Filed Nov. 21, 1969.

## MISS METROPOLITAN WASHINGTON, D.C.

Without relinquishing any common law rights, applicant disclaims exclusive rights in the terminology "Metropolitan Washington D.C." apart from the mark as shown.  
For Promoting the Goods and/or Services of Others by Means of a Beauty Pageant and Contest (Int. Cl. 35).  
First use Aug. 16, 1969.

SN 356,461. Jones & Byrd Incorporated, Minneapolis, Minn. Filed Apr. 10, 1970.

## "THE SEVEN C'S"

For Consulting Services Directed Toward Corporate Organizational Development (Int. Cl. 35).  
First use Feb. 23, 1970.

## Class 102 - Insurance and Financial

SN 278,126. Principal Group Ltd., Edmonton, Alberta, Canada. Filed Aug. 11, 1967.



Priority claimed under Sec. 44(d) on Canadian application filed Feb. 13, 1967; Reg. No. 155,488, dated Feb. 9, 1968.

For Securities Underwriting and Brokerage Services, Including the Purchase, Acquisition and Sale of Securities; Mutual Fund Investment and Administration Services; Life Insurance Brokerage; the Implementation, Funding and Administration of Pension Plans; Estate Planning; and Banking and Credit Services (Int. Cl. 36).

SN 320,799. Country Life Insurance Company and Country Mutual Insurance Company (joint owners), Bloomington, Ill. Filed Mar. 5, 1969.

## COUNTRY COMPANIES

For Underwriting Life, Casualty and Health Insurance, and Operation of Mutual Funds (Int. Cl. 36).  
First use Feb. 12, 1969.

SN 328,877. Medcredit, Inc., Philadelphia, Pa. Filed June 2, 1969.

## NECESSITY CARD

The word "Card" is disclaimed apart from the mark as shown.

For Operating Combination Medical and Health Insurance Credit Card Program (Int. Cl. 36).  
First use May 14, 1969.

SN 328,878. Medcredit, Inc., Philadelphia, Pa. Filed June 2, 1969.

## NECESSITY SYSTEMS

For Operating Combination Medical and Health Insurance Credit Card Program (Int. Cl. 36).  
First use May 14, 1969.

SN 335,920. Institutional Investor Systems, Inc., New York, N.Y. Filed Aug. 22, 1969.

## VIDEO FORUM

For Television Program—Namely, Series of Discussions of Interest to Professionals on Money Management (Int. Cl. 36).  
First use at least as early as February 1969.

SN 341,745. General Bancorp., Fresno, Calif. Filed Oct. 27, 1969.



## GENERAL BANCORP

For Full-Service Banking Services (Int. Cl. 36).  
First use Mar. 12, 1969.

SN 352,560. Continental Assurance Company, Chicago, Ill. Filed Feb. 27, 1970.

## VAL-U-GROUP

Owner of Reg. Nos. 755,232 and 755,233.  
For Service of Underwriting Insurance (Int. Cl. 36).  
First use Feb. 6, 1970.

## Class 103 - Construction and Repair

SN 326,815. Galles Motor Company, Albuquerque, N. Mex. Filed May 8, 1969.

## "MINI-WAIT"

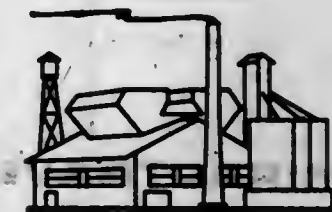
For Automobile Repair Services (Int. Cl. 37).  
First use Jan. 20, 1968.

SN 329,009. Robertson Aircraft Corporation, Bellevue, Wash. Filed June 3, 1969.



For Structural Modifications of Aircraft (Int. Cl. 37).  
First use June 4, 1967.

SN 329,052. A. E. Anderson Construction Corporation, Buffalo, N.Y. Filed June 4, 1969.



For Repair and Rebuilding of Glass Making Tanks (Int. Cl. 37).  
First use on or about Apr. 1, 1969.



**Class 104 — Communication**

SN 337,228. ITT World Communications Inc., New York, N.Y. Filed Sept. 8, 1969.

**WORLD FAX**

For Facsimile Transmission Services (Int. Cl. 38).  
First use May 23, 1969.

**Class 105 — Transportation and Storage**

SN 297,719. Transamerica Corporation, San Francisco, Calif. Filed May 8, 1968.



The mark consists of the fanciful representation of the letter "T."  
For Transportation of Passengers and Freight by Air (Int. Cl. 39).  
First use about March 1968.

SN 315,148. Cartan Travel Bureau, Inc., Chicago, Ill. Filed Dec. 24, 1968.



Owner of Reg. No. 520,922.  
For Arranging and Conducting Domestic and Foreign Travel  
Tours and Cruises (Int. Cl. 39).  
First use January 1968.

SN 315,149. Cartan Travel Bureau, Inc., Chicago, Ill. Filed Dec. 24, 1968.

**PLANNED WITH  
INTEGRITY . . . BACKED  
WITH PERFORMANCE**

For Arranging and Conducting Domestic and Foreign Travel  
Tours and Cruises (Int. Cl. 39).  
First use January 1968.

SN 324,784. Admiral Travel Service, Inc., Philadelphia, Pa. Filed Apr. 17, 1969.

**ADMIRAL TRAVEL**

Applicant disclaims the word "Travel" apart from the mark as shown. Owner of Reg. No. 796,158.  
For Travel Agent Services (Int. Cl. 39).  
First use on or about Sept. 28, 1966.

**Class 107 — Education and Entertainment**

SN 311,364. Gaston Oral School for Hearing Impaired Children, Gastonia, N.C. Filed Nov. 5, 1968.

**EPHPHETA**

For Education of Hearing Impaired Children and Related Services (Int. Cl. 41).  
First use January 1968.

SN 324,617. E. Wayne Ward, Franklin Lakes, N.J. Filed Apr. 15, 1969.

**THE  
BUFFALO  
BILLS  
QUARTET**

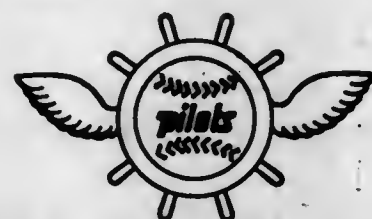
For Singing Group (Int. Cl. 41).  
First use 1947.

SN 324,722. Kenley Players, Inc., Brecksville, Ohio. Filed Apr. 16, 1969.

**KENLEY PLAYERS**

Applicant disclaims the term "Players" separate and apart from the mark reserving all common law rights to said term.  
For Entertainment Services—Namely, Presentation of Theatrical Performances (Int. Cl. 41).  
First use May 15, 1958.

SN 329,504. Pacific Northwest Sports, Inc., Seattle, Wash. Filed June 9, 1969.



For Entertainment Services—Namely, Baseball Exhibitions  
Rendered Live in Stadia and Through the Media of Radio  
and Television Broadcasts (Int. Cl. 41).  
First use Aug. 19, 1968.

SN 332,919. Computer College of Technology, Inc., Miami Beach, Fla. Filed July 18, 1969.



The words "Computer College of Technology" are disclaimed apart from the mark as a whole (Int. Cl. 41).  
For Home Study Correspondence Educational Courses in  
Computer Programming (Int. Cl. 41).  
First use Nov. 14, 1968.

SN 338,286. Blizzard Skiers of America, Inc., Minneapolis, Minn. Filed Sept. 18, 1969. SN 352,422. Walt Disney Productions, Burbank, Calif. Filed Feb. 26, 1970.

**BLIZZARD SKI CLUB**

The words "Ski Club" are disclaimed apart from the mark as shown.  
For Providing Facilities for Skiing (Int. Cl. 41).  
First use Dec. 26, 1959.

**MAIN STREET, U.S.A.**

For Providing Participation Type Entertainment in an Amusement and Educational Park (Int. Cl. 41).  
First use July 15, 1955.



# TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

## Class 1—Raw or Partly Prepared Materials

- 893,947. MIPOLAM. Dynamit Nobel Aktiengesellschaft. MULTIPLE CLASS (Classes 1, 7, 20, 42, and 50). SN 283,325. Pub. 4-21-70. Filed 10-25-67.
- 893,948. DURA-LINE. Wisconsin Pattern Company. SN 312,530. Pub. 6-24-69. Filed 11-18-68.
- 893,949. MERITHENE. Magid-Robinson Co., Inc. MULTIPLE CLASS (Classes 1, 20, and 42). SN 319,178. Pub. 4-21-70. Filed 2-14-69.
- 893,950. THE FOUKE SEALMARK OF FASHION. The Fouke Company. SN 329,071. Pub. 4-21-70. Filed 6-4-69.
- 893,951. EVERKLEEN. Brown Shoe Company, Inc. SN 329,830. Pub. 4-21-70. Filed 6-12-69.
- 893,952. OZARK. Safeway Stores, Incorporated. SN 330,013. Pub. 4-21-70. Filed 6-13-69.

## Class 2—Receptacles

- 893,953. ESKIMO PIE. Eskimo Pie Corporation. MULTIPLE CLASS (Classes 2, 14, 37, 46, and 101). SN 302,553. Pub. 4-21-70. Filed 7-12-68.
- 893,954. SSK AND DESIGN. S. S. Kresge Company. SN 314,237. Pub. 4-21-70. Filed 12-11-68.
- 893,955. COAST CARTON. Coast Carton Corporation. SN 329,305. Pub. 4-21-70. Filed 6-6-69.
- 893,956. SHRINKTAINER. W. R. Grace & Co. SN 329,853. Pub. 4-21-70. Filed 6-12-69.
- 893,957. BMT AND DESIGN. Saxon Industries, Inc. MULTIPLE CLASS (Classes 2, 7, 12, and 37). SN 332,641. Pub. 4-21-70. Filed 7-16-69.
- 893,958. CDF AND DESIGN. The Budd Company. SN 337,261. Pub. 4-21-70. Filed 9-8-69.
- 893,959. AERO VAN. Aeronca, Inc. SN 337,875. Pub. 4-21-70. Filed 9-15-69.
- 893,960. CRADL-PAK. Keyes Fibre Company. SN 338,914. Pub. 4-21-70. Filed 9-25-69.
- 893,961. FASTON. Containair Systems Corp. SN 339,305. Pub. 4-21-70. Filed 9-30-69.

## Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 893,962. PAPPAGALLO. The United States Shoe Corporation, by merger from Pappagallo, Inc. SN 300,410. Pub. 4-21-70. Filed 6-14-68.
- 893,963. LEACO. The Lea Company. SN 323,712. Pub. 4-21-70. Filed 4-4-69.
- 893,964. ZIPSTER. Rapid-American Corporation. SN 330,196. Pub. 4-21-70. Filed 6-16-69.
- 893,965. BANSECT. A. H. Robins Company, Incorporated. SN 345,703. Pub. 4-21-70. Filed 12-9-69.

## Class 4—Abrasives and Polishing Materials

- 893,966. STEEL-ONE. Chemtrust Industries Corporation, through its Madison Chemical Division. SN 332,028. Pub. 4-21-70. Filed 7-8-69.

- 893,967. MILACRON. The Cincinnati Milling Machine Company, d.b.a. Fedco, Inc. SN 342,138. Pub. 4-21-70. Filed 10-30-69.
- 893,968. FEDCAL. Federal Employees' Distributing Company. MULTIPLE CLASS (Classes 4, 6, 15, 21, 22, and 52). SN 345,538. Pub. 4-21-70. Filed 12-8-69.

## Class 5—Adhesives

- 893,969. STITCH WITCHERY. USM Corporation. SN 319,981. Pub. 4-21-70. Filed 2-24-69.
- 893,970. SPERRY RAND. Sperry Rand Corporation. MULTIPLE CLASS (Classes 5, 11, 14, 16, 23, 29, 32, and 37). SN 326,582. Pub. 4-21-70. Filed 5-7-69.

## Class 6—Chemicals and Chemical Compositions

- 893,968. (See Class 4 for this trademark.)
- 893,971. MOLETTE. Wyandotte Chemicals Corporation. SN 292,035. Pub. 4-21-70. Filed 2-27-68.
- 893,972. KOLDMOUNT. CMP Industries, Inc. SN 315,205. Pub. 4-21-70. Filed 12-26-68.
- 893,973. BOLIDEN. Boliden Aktiebolag. MULTIPLE CLASS (Classes 6 and 12). SN 316,921. Pub. 4-21-70. Filed 1-21-69.
- 893,974. TI AND MAP DESIGN. Texas Instruments Incorporated. SN 318,243. Pub. 4-21-70. Filed 2-3-69.
- 893,975. INMONT. Inmont Corporation. SN 327,549. Pub. 4-21-70. Filed 5-19-69.
- 893,976. CAT-OX A. Monsanto Company. SN 329,374. Pub. 4-21-70. Filed 6-6-69.
- 893,977. AMBIOCO AND DESIGN. American Biological Control Laboratories, Inc. MULTIPLE CLASS (Classes 6 and 100). SN 330,319. Pub. 4-21-70. Filed 6-18-69.
- 893,978. NIPPONDENSO. Nippon Denso Kabushiki Kaisha. SN 332,845. Pub. 4-21-70. Filed 7-17-69.

## Class 7—Cordage

- 893,947. (See Class 1 for this trademark.)
- 893,957. (See Class 2 for this trademark.)
- 893,979. POWER-STRAND. Industrial Sales Co., Inc. SN 328,425. Pub. 4-21-70. Filed 5-27-69.

## Class 9—Explosives, Firearms, Equipments, and Projectiles

- 893,980. MICHAELS. Michaels of Oregon Co. SN 316,226. Pub. 4-21-70. Filed 1-9-69.
- 893,981. CINDUSAFE GUN TOTE AND DESIGN. Cincinnati Industries, Inc. SN 321,772. Pub. 4-21-70. Filed 3-14-69.
- 893,982. CARNIVAL. Bernard J. Semel. SN 324,237. Pub. 4-21-70. Filed 4-10-69.
- 893,983. JUBILEE. Bernard J. Semel. SN 324,238. Pub. 4-21-70. Filed 4-10-69.

JULY 7, 1970

U. S. PATENT OFFICE

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- 893,984. MONUMENT. Bernard J. Semel. SN 324,239. Pub. 4-21-70. Filed 4-10-69.
- 893,985. JUPITER. Bernard J. Semel. SN 324,240. Pub. 4-21-70. Filed 4-10-69.

## Class 10—Fertilizers

- 893,986. X-TRA-L. Gulf Oil Corporation. SN 338,716. Pub. 4-21-70. Filed 9-24-69.

## Class 11—Inks and Inking Materials

- 893,970. (See Class 5 for this trademark.)
- 893,987. EA AND DESIGN. Eaton Allen Corp. MULTIPLE CLASS (Classes 11 and 37). SN 297,854. Pub. 4-21-70. Filed 5-10-68.
- 893,988. DUOROTO. Gotham Ink & Color Co., Inc. SN 332,228. Pub. 4-21-70. Filed 7-10-69.

## Class 12—Construction Materials

- 893,957. (See Class 2 for this trademark.)
- 893,973. (See Class 6 for this trademark.)
- 893,989. SLIDEMATIC. American Metal Climax, Inc. SN 301,898. Pub. 4-21-70. Filed 7-3-68.
- 893,990. EASY-SPRED "THE MIRACLE IN MORTAR" AND DESIGN. Easy-Spreading, Inc. SN 312,288. Pub. 4-21-70. Filed 11-15-68.
- 893,991. MISCELLANEOUS DESIGN. Ampress Brick Company, Inc. SN 314,771. Pub. 4-21-70. Filed 12-18-68.
- 893,992. VENESTA. Venesta Limited. SN 320,297. Pub. 4-21-70. Filed 2-27-69.

## Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 893,993. WESTERN SKY INDUSTRIES. Atlas Corporation. SN 300,324. Pub. 4-21-70. Filed 6-13-68.
- 893,994. DRAIN MASTER. Drain Master Equipment Company. SN 305,643. Pub. 10-14-69. Filed 8-21-68.
- 893,995. FASHION THIN. Lily Mills Company. SN 307,109. Pub. 4-21-70. Filed 9-11-68.
- 893,996. DUBL-BARB. Parker-Hannifin Corporation. SN 319,189. Pub. 4-21-70. Filed 2-14-69.
- 893,997. SANEZE. Norris Dispensers, Inc. SN 328,239. Pub. 4-21-70. Filed 5-26-69.
- 893,998. CQ DESIGN. Julian A. Lipman, d.b.a. Chemiquip Company. SN 331,561. Pub. 4-21-70. Filed 6-30-69.
- 893,999. HANOVER GREEN. Continental Copper & Steel Industries, Inc. SN 331,997. Pub. 4-21-70. Filed 7-8-69.
- 894,000. VINTAGE. Kirsch Company. SN 338,790. Pub. 4-21-70. Filed 9-24-69.
- 894,001. SAFE-T-LINK. Continental Steel Corporation. SN 339,000. Pub. 4-21-70. Filed 9-26-69.
- 894,002. KORO-TEX. Universal Oil Products Company, assignee of Calumet & Hecla Corporation. SN 344,501. Pub. 4-21-70. Filed 11-25-69.

## Class 14—Metals and Metal Castings and Forgings

- 893,953. (See Class 2 for this trademark.)
- 893,970. (See Class 5 for this trademark.)

## Class 15—Oils and Greases

- 893,968. (See Class 4 for this trademark.)
- 894,003. GLOW-SCENT. Gibson Greeting Cards, Inc. SN 331,185. Pub. 4-21-70. Filed 6-27-69.
- 894,004. MILACRON. The Cincinnati Milling Machine Company. SN 342,139. Pub. 4-21-70. Filed 10-30-69.
- 894,005. CASINO. Sunl Candle Corporation. SN 345,904. Pub. 4-21-70. Filed 12-11-69.

## Class 16—Protective and Decorative Coatings

- 893,970. (See Class 5 for this trademark.)
- 894,006. NEW COLOR HORIZONS. Rust-Oleum Corporation. SN 295,559. Pub. 4-21-70. Filed 4-12-68.
- 894,007. MISCELLANEOUS DESIGN. John C. Kaiser Company. SN 301,942. Pub. 4-21-70. Filed 7-3-68.
- 894,008. RESTOR-IT. Fuller Laboratories, Inc. SN 310,086. Pub. 4-21-70. Filed 10-21-68.
- 894,009. COMASTIC. Wallace Dove Bitumastic Limited. SN 311,537. Pub. 4-21-70. Filed 11-6-68.
- 894,010. PEEL-IT. Harco Chemical Company. SN 328,625. Pub. 4-21-70. Filed 5-29-69.
- 894,011. ALLSHEEN. California Products Corporation. SN 333,809. Pub. 4-21-70. Filed 7-29-69.

## Class 17—Tobacco Products

- 894,012. LESS. Ramon Coscolin Azagra. SN 308,632. Pub. 4-21-70. Filed 10-1-68.
- 894,013. JOHN BARRY FATHER OF THE NAVY AND DESIGN. Rembrandt Tobacco Corporation (Overseas) Limited. SN 314,915. Pub. 4-21-70. Filed 12-19-68.
- 894,014. CRAVEN EXPORT AND DESIGN. Carreras Limited. SN 315,050. Pub. 4-21-70. Filed 12-23-68.
- 894,015. MISCELLANEOUS DESIGN. American Brands, Inc., by change of name from The American Tobacco Company. SN 324,157. Pub. 4-21-70. Filed 4-10-69.

## Class 18—Medicines and Pharmaceutical Preparations

- 894,016. LEUKONA. Dr. Atsinger & Co. K.G. Pharmazeutische Fabrik. SN 306,868. Pub. 4-21-70. Filed 9-9-68.
- 894,017. EVSCO AND DESIGN. Evsco Pharmaceutical Corp., assignee of Evsco Pharmaceutical Co. SN 321,204. Pub. 2-24-70. Filed 3-10-69.
- 894,018. LIQUIDATOR. Clairol Incorporated. SN 327,595. Pub. 4-21-70. Filed 5-19-69.
- 894,019. BIOFAC. Peter Hand, Inc., by change of name from Peter Hand Foundation, Inc. SN 328,071. Pub. 4-21-70. Filed 5-22-69.
- 894,020. RESPAIRE. Bristol-Myers Company. SN 328,414. Pub. 4-21-70. Filed 5-27-69.
- 894,021. TOPIC. Ingram Pharmaceutical Co. SN 335,168. Pub. 4-21-70. Filed 8-18-69.

## Class 19—Vehicles

- 894,022. PICKUP-PARTNER. Aristocrat Travel Products Co., by merger and change of name from Aristocrat Travel Products. SN 298,896. Pub. 4-21-70. Filed 5-17-68.



- 894,023. HEPA-DOLLY AND DESIGN. Henry A. Patnaude, d.b.a. Hydro Systems Engineering Co. SN 298,858. Pub. 4-21-70. Filed 5-22-68.
- 894,024. WHEEL-A-DAPS. Antique Auto Parts, Inc. SN 307,182. Pub. 4-21-70. Filed 9-12-68.
- 894,025. AMFORM AND HANDS DESIGN. U-Haul Co., assignee of Amform, Inc. SN 317,808. Pub. 10-28-69. Filed 1-29-69.
- 894,026. MOTOGRAZIELLA AND DESIGN. S.p.A. Teodoro Carnielli & C. SN 320,861. Pub. 4-21-70. Filed 3-5-69.
- 894,027. TURBO SPOILER. Leonard M. Snyder. SN 323,027. Pub. 4-21-70. Filed 3-27-69.
- 894,028. VALUE-QUALITY AND DESIGN. Knight Homes Corporation. SN 324,723. Pub. 4-21-70. Filed 4-16-69.
- 894,029. RADI-ACC. Service Parts, Inc. SN 331,074. Pub. 4-21-70. Filed 6-26-69.
- 894,030. WT DESIGN. Wisconsin Trailer Co., Inc. SN 331,256. Pub. 4-21-70. Filed 6-27-69.
- 894,031. FEL. Farenwald Enterprises, Inc. SN 322,932. Pub. 4-21-70. Filed 7-18-69.
- 894,032. TRU-CENTRIC. Kelsey-Hayes Company. SN 345,643. Pub. 4-21-70. Filed 12-8-69.

### Class 20—Linoleum and Oiled Cloth

- 893,947. (See Class 1 for this trademark.)
- 893,949. (See Class 1 for this trademark.)

### Class 21—Electrical Apparatus, Machines, and Supplies

- 893,968. (See Class 4 for this trademark.)
- 894,033. TRANSENSOR. Precision Winding Company, Inc. SN 254,717. Pub. 4-21-70. Filed 9-19-66.
- 894,034. TACTIC. TAC Technical Instrument Corporation. MULTIPLE CLASS (Classes 21, 26, and 100). SN 294,703. Pub. 4-21-70. Filed 4-2-68.
- 894,035. WEE Z. General Signal Corporation. SN 308,779. Pub. 4-21-70. Filed 10-3-68.
- 894,036. CONCEPT. General Motors Corporation. MULTIPLE CLASS (Classes 21, 24, 31, and 34). SN 315,518. Pub. 4-21-70. Filed 1-2-69.
- 894,037. UNIDOR. McGraw-Edison Company. SN 319,622. Pub. 4-21-70. Filed 2-19-69.
- 894,038. ECON-O-CLAD. Engelhard Minerals & Chemicals Corporation. SN 321,913. Pub. 10-21-69. Filed 3-17-69.
- 894,039. MUSTANG. United Co-Operatives, Inc. SN 324,853. Pub. 4-21-70. Filed 4-17-69.
- 894,040. MEC. Mathews Electronics Corporation. SN 325,274. Pub. 4-21-70. Filed 4-17-68.
- 894,041. ACROMAG AND DESIGN. Acromag Incorporated. MULTIPLE CLASS (Classes 21 and 26). SN 326,942. Pub. 4-21-70. Filed 5-12-69.
- 894,042. DELAMP. Acton Laboratories, Inc. SN 328,022. Pub. 4-21-70. Filed 5-22-69.
- 894,043. SHUR-CODE. Thomas & Betts Corporation. SN 331,780. Pub. 4-21-70. Filed 7-3-69.
- 894,044. GOLDTAN. Components, Inc. SN 335,122. Pub. 4-21-70. Filed 8-12-69.
- 894,045. LIFE LONG AND TARGET DESIGN. Proctor-Sillex Incorporated. SN 338,432. Pub. 4-21-70. Filed 9-19-69.
- 894,046. RXPO. Controlled Power Corporation. SN 338,543. Pub. 4-21-70. Filed 9-22-69.
- 894,047. UNIMASK. Tubal Industries, Inc. SN 341,710. Pub. 4-21-70. Filed 10-24-69.
- 894,048. SIGNAL-GLO. Fedtro, Inc. SN 342,033. Pub. 4-21-70. Filed 10-29-69.
- 894,049. CROSSREED. Stromberg-Carlson Corporation. SN 342,077. Pub. 4-21-70. Filed 10-29-69.

### Class 22—Games, Toys, and Sporting Goods

- 893,968. (See Class 4 for this trademark.)
- 894,050. TUMB-L WHEEL. Kiddle Brush & Toy Co. SN 295,948. Pub. 4-21-70. Filed 4-15-68.
- 894,051. SENIOR. Northwestern Golf Company. SN 299,996. Pub. 4-21-70. Filed 6-7-68.
- 894,052. FUN T MENTAL. Beulah Harris Stolpen, d.b.a. The Rolling Reader Publishing Co. SN 307,872. Pub. 4-21-70. Filed 9-20-68.
- 894,053. CYPRESS GARDENS ETC. AND DESIGN. Cypress Gardens Skis, Inc. SN 315,388. Pub. 4-21-70. Filed 12-30-68.
- 894,054. SPEED SHIFT. Mattel, Inc. SN 334,940. Pub. 4-21-70. Filed 8-11-69.
- 894,055. ANGIE 'N TANGIE. Mattel, Inc. SN 336,377. Pub. 4-21-70. Filed 8-27-69.
- 894,056. BABY SATIN. Mattel, Inc. SN 336,984. Pub. 4-21-70. Filed 9-4-69.
- 894,057. BABY ROCKAWAY. Mattel, Inc. SN 336,986. Pub. 4-21-70. Filed 9-4-69.
- 894,058. FIRE-BRAND. Mattel, Inc. SN 336,987. Pub. 4-21-70. Filed 9-4-69.
- 894,059. BABY DIN-DIN. Mattel, Inc. SN 336,988. Pub. 4-21-70. Filed 9-4-69.
- 894,060. FLIPSY FLOPSY. Mattel, Inc. SN 338,847. Pub. 4-21-70. Filed 9-25-69.
- 894,061. ANYHOWIE. Mattel, Inc. SN 338,850. Pub. 4-21-70. Filed 9-25-69.
- 894,062. AIRO-ZOOMER. Mattel, Inc. SN 338,851. Pub. 4-21-70. Filed 9-25-69.
- 894,063. FALSE ALARM. Mattel, Inc. SN 339,090. Pub. 4-21-70. Filed 9-29-69.
- 894,064. TESS 'N JESS. Mattel, Inc. SN 339,092. Pub. 4-21-70. Filed 9-29-69.
- 894,065. POLYTAIRE. Parker Brothers, Inc. SN 340,329. Pub. 4-21-70. Filed 10-10-69.
- 894,066. SITUATION 7. Parker Brothers, Inc. SN 340,333. Pub. 4-21-70. Filed 10-10-69.
- 894,067. HAIRY HURRY. Mattel, Inc. SN 341,754. Pub. 4-21-70. Filed 10-27-69.
- 894,068. MAGNAGOOP. Mattel, Inc. SN 341,755. Pub. 4-21-70. Filed 10-27-69.
- 894,069. FLATSY. Ideal Toy Corporation. SN 342,119. Pub. 4-21-70. Filed 10-30-69.
- 894,070. TURNING POINT. Mattel, Inc. SN 345,759. Pub. 4-21-70. Filed 12-10-69.
- 894,071. BABY TENDER TOUCH. Mattel, Inc. SN 345,765. Pub. 4-21-70. Filed 12-10-69.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 893,970. (See Class 5 for this trademark.)
- 894,072. EVG. EVG Entwicklungs & Verwertungs-Gesellschaft mbH. MULTIPLE CLASS (Classes 23 and 34). SN 306,087. Pub. 4-21-70. Filed 7-22-68.
- 894,073. VEND MASTER. William F. Shepherd, Inc. SN 308,322. Pub. 4-21-70. Filed 9-26-68.
- 894,074. MULTIPLEX. Allis-Chalmers Manufacturing Company. SN 318,379. Pub. 4-21-70. Filed 2-5-69.
- 894,075. UP-A-DECK. Thomas F. Adams. SN 331,299. Pub. 4-21-70. Filed 6-30-69.
- 894,076. CALIFORNIA FLEXRAKE. George F. Brock, Jr., d.b.a. L. E. Brock Company. SN 331,719. Pub. 4-21-70. Filed 7-3-69.
- 894,077. BI-METALLOY. Nicholson File Company. SN 333,289. Pub. 4-21-70. Filed 7-23-69.

- 894,078. WOODLARK. Onelda Ltd. SN 333,427. Pub. 4-21-70. Filed 7-24-69.
- 894,079. LOUISIANA. Onelda Ltd. SN 333,428. Pub. 4-21-70. Filed 7-24-69.
- 894,080. AMT AND DESIGN. American Machine & Tool Company Inc. SN 334,587. Pub. 4-21-70. Filed 8-6-69.
- 894,081. MISCELLANEOUS DESIGN. Layne & Bowler Pump Company. SN 336,647. Pub. 4-21-70. Filed 8-29-69.
- 894,082. MB AND DESIGN. Robert B. Evans, d.b.a. M-B Company. SN 336,982. Pub. 4-21-70. Filed 9-4-69.
- 894,083. REALI-SEAL. The Kaydon Engineering Corporation. SN 337,325. Pub. 4-21-70. Filed 9-8-69.
- 894,084. BEL-BATE AND DESIGN. Beloit Corporation. SN 337,511. Pub. 4-21-70. Filed 9-10-69.
- 894,085. EFF-FIX. E. Fröhlich AG. SN 337,534. Pub. 4-21-70. Filed 9-10-69.
- 894,086. MUSTANG. Golden Arrow Manufacturing Limited. SN 338,240. Pub. 4-21-70. Filed 9-18-69.
- 894,087. POLAROID. Polaroid Corporation. SN 338,487. Pub. 4-21-70. Filed 9-22-69.
- 894,088. REALI-SLIM. The Kaydon Engineering Corporation. SN 339,020. Pub. 4-21-70. Filed 9-26-69.
- 894,089. MISCELLANEOUS DESIGN. Combined Engineered Products Limited. SN 339,300. Pub. 4-21-70. Filed 9-30-69.
- 894,090. POWER-COLLAR. True Temper Corporation. SN 339,372. Pub. 4-21-70. Filed 9-30-69.
- 894,091. SILENT SERVICE. Sweetheart Plastics, Inc. SN 340,208. Pub. 4-21-70. Filed 10-8-69.
- 894,092. MILACRON. The Cincinnati Milling Machine Company. SN 342,141. Pub. 4-21-70. Filed 10-30-69.
- 894,093. LUV-BUG. H. D. Hudson Manufacturing Company. SN 345,895. Pub. 4-21-70. Filed 12-11-69.

### Class 24—Laundry Appliances and Machines

- 894,036. (See Class 21 for this trademark.)
- 894,094. SUMMIT. Felix Storch, Inc. MULTIPLE CLASS (Classes 24 and 31). SN 339,494. Pub. 4-21-70. Filed 10-2-69.

### Class 26—Measuring and Scientific Appliances

- 894,034. (See Class 21 for this trademark.)
- 894,041. (See Class 21 for this trademark.)
- 894,095. MICRODYNE. Microdyne, Inc. SN 281,477. Pub. 4-21-70. Filed 9-29-67.
- 894,096. CLEAR-SEAL. Wheaton Glass Company. SN 301,110. Pub. 4-21-70. Filed 6-21-68.
- 894,097. MISCELLANEOUS DESIGN. Wheaton Glass Company. SN 301,111. Pub. 4-21-70. Filed 6-21-68.
- 894,098. RMC AND DESIGN. Radiation Materials Corporation. SN 303,704. Pub. 4-21-70. Filed 7-26-68.
- 894,099. Y PLATE. Becton, Dickinson and Company. SN 305,877. Pub. 4-21-70. Filed 8-26-68.
- 894,100. X PLATE. Becton, Dickinson and Company. SN 305,878. Pub. 4-21-70. Filed 8-26-68.
- 894,101. NOBALP. Nordac S.A. SN 306,937. Pub. 4-21-70. Filed 9-9-68.
- 894,102. TRANSMATION AND DESIGN. Transmation, Inc. SN 307,691. Pub. 4-21-70. Filed 9-18-68.
- 894,103. DAC. Digital Automation Co., Inc. SN 309,442. Pub. 4-21-70. Filed 10-11-68.
- 894,104. MEMORY SCOUT. Solitest, Inc. SN 310,500. Pub. 4-21-70. Filed 10-24-68.

- 894,105. PHYWE. Phywe Aktiengesellschaft. MULTIPLE CLASS (Classes 26, 33, and 50). SN 318,125. Pub. 4-21-70. Filed 2-3-69.
- 894,106. MISCELLANEOUS DESIGN. Visual Needs, Inc. SN 321,558. Pub. 4-21-70. Filed 3-12-69.
- 894,107. MISCELLANEOUS DESIGN. Mohawk Industrial Laboratories, Inc. SN 321,579. Pub. 4-21-70. Filed 4-9-69.
- 894,108. ALESSI INDUSTRIES AI AND DESIGN. Vincent J. Alessi, d.b.a. Alessi Industries. SN 325,321. Pub. 4-21-70. Filed 4-23-69.
- 894,109. SUNVOGUES. American Optical Corporation. SN 327,345. Pub. 4-21-70. Filed 5-15-69.
- 894,110. COLORMATE 2000. Neotec Corporation. SN 337,571. Pub. 4-21-70. Filed 9-10-69.
- 894,111. SILCON. Mueller Welt Contact Lenses, Inc. SN 337,675. Pub. 4-21-70. Filed 9-11-69.
- 894,112. TOUR-GUARD. American Optical Corporation. SN 338,026. Pub. 4-21-70. Filed 9-16-69.
- 894,113. COMMANDIR. General Electric Company. SN 338,387. Pub. 4-21-70. Filed 9-19-69.
- 894,114. MIL RAC. Information Control Corporation. SN 338,571. Pub. 4-21-70. Filed 9-22-69.
- 894,115. INSIGHT. American Optical Corporation. SN 338,981. Pub. 4-21-70. Filed 9-26-69.
- 894,116. AQUAGRAPH. Nalco Chemical Company. SN 339,213. Pub. 4-21-70. Filed 9-29-69.
- 894,117. OPTIMIL. Robertson Photo-Mechanix, Inc. SN 340,641. Pub. 4-21-70. Filed 10-6-69.
- 894,118. GOLDCREST. GAF Corporation. SN 342,853. Pub. 4-21-70. Filed 11-6-69.
- 894,119. TELE-TIP. Thexton Manufacturing Company. SN 344,799. Pub. 4-21-70. Filed 11-28-69.

### Class 27—Horological Instruments

- 894,120. COMMANDER. Bulova Watch Company, Inc. SN 271,222. Pub. 4-21-70. Filed 5-11-67.
- 894,121. GOLDEN SHADOW. Manufacture des Montres Universal Perret Freres S.A. SN 325,368. Pub. 4-21-70. Filed 4-23-69.
- 894,122. INSTA-SET. Waltham Watch Company. SN 332,298. Pub. 4-21-70. Filed 7-11-69.

### Class 28—Jewelry and Precious-Metal Ware

- 894,123. TWIN TRIANGLES (DESIGN). Marcus & Marcus Jewelry Co., Inc. SN 333,633. Pub. 4-21-70. Filed 7-28-69.
- 894,124. DIAMONAIRE. Litton Precision Products, Inc. SN 335,598. Pub. 4-21-70. Filed 8-18-69.
- 894,125. JACKIE JEWEL. NSC Corporation. SN 339,285. Pub. 4-21-70. Filed 9-30-69.

### Class 29—Brooms, Brushes, and Dusters

- 893,970. (See Class 5 for this trademark.)
- 894,126. DEMON. Laitner Brush Company. SN 341,398. Pub. 4-21-70. Filed 10-22-69.

### Class 31—Filters and Refrigerators

- 894,036. (See Class 21 for this trademark.)
- 894,094. (See Class 24 for this trademark.)
- 894,127. WEB-LOK. Research Products Corporation. SN 288,857. Pub. 8-27-68. Filed 1-15-68.



**Class 32—Furniture and Upholstery**

- 893,970. (See Class 5 for this trademark.)  
 894,180. (See Class 38 for this trademark.)  
 894,128. EASI-BILT. Neiman Steel Equipment Company, Inc. SN 310,912. Pub. 4-21-70. Filed 10-30-68.  
 894,129. DURA-LUX. Sealy, Incorporated. SN 318,734. Pub. 4-21-70. Filed 12-4-68.  
 894,130. MAGIC MITRE. Coronet Manufacturing Corporation. SN 316,079. Pub. 4-21-70. Filed 1-8-69.  
 894,131. CHEMWOOD. Masonite Corporation. MULTIPLE CLASS (Classes 32 and 50). SN 317,855. Pub. 4-21-70. Filed 1-23-69.  
 894,132. AMD. Advertising Metal Display Co. SN 334,665. Pub. 4-21-70. Filed 8-7-69.  
 894,133. SIRCO. Sirco Manufacturing, Inc. SN 340,048. Pub. 4-21-70. Filed 10-7-69.  
 894,134. IVANHOE. Joanna Western Mills Company. SN 341,156. Pub. 4-21-70. Filed 10-20-69.  
 894,135. PALLETFLO. Kornlyak Corporation. SN 341,527. Pub. 4-21-70. Filed 10-23-69.

**Class 34—Heating, Lighting, and Ventilating Apparatus**

- 894,036. (See Class 21 for this trademark.)  
 894,072. (See Class 23 for this trademark.)  
 894,136. TRUE TEMP YEAR-ROUND COMFORT ETC. AND DESIGN. National Plumbing Stores. SN 248,157. Pub. 8-15-67. Filed 6-15-66.  
 894,137. STEADY AIR. Aero-Flow Dynamics, Inc. SN 312,551. Pub. 4-21-70. Filed 11-19-68.  
 894,138. TOASTMASTER. McGraw-Edison Company. SN 313,056. Pub. 4-21-70. Filed 11-29-68.  
 894,139. PERCUS/ARC. Protomic Industries, Inc. SN 318,457. Pub. 4-21-70. Filed 2-5-69.  
 894,140. THERMAL ART. Mearl E. Ellison, d.b.a. Mearl Ellison. SN 321,787. Pub. 4-21-70. Filed 3-14-69.  
 894,141. ASTROFIN. CVI Corporation. SN 339,299. Pub. 4-21-70. Filed 9-30-69.

**Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires**

- 894,142. TORO. Toro Manufacturing Corporation. SN 308,827. Pub. 4-21-70. Filed 10-3-68.  
 894,143. FORTUNE. The Signal Companies, Inc., d.b.a. Signal Oil and Gas Company. SN 320,186. Pub. 4-21-70. Filed 2-26-69.  
 894,144. MR. TIRE. Mr. Tire Inc. SN 323,172. Pub. 4-21-70. Filed 3-28-69.  
 894,145. D AND DESIGN. Dunlop Tire and Rubber Corporation. SN 331,032. Pub. 4-21-70. Filed 6-26-69.  
 894,146. K MART AND DESIGN. S. S. Kresge Company. SN 333,144. Pub. 4-21-70. Filed 7-22-69.  
 894,147. PARCOTE. Plastic and Rubber Products Company. SN 333,433. Pub. 4-21-70. Filed 7-24-69.  
 894,148. SAXON. Saxon Distributors, Inc. SN 344,798. Pub. 4-21-70. Filed 11-28-69.  
 894,149. KEE-LOK. Smith-Blair, Inc. SN 346,313. Pub. 4-31-70. Filed 12-15-69.

**Class 36—Musical Instruments and Supplies**

- 894,150. EASY-MATIC. Matsushita Electric Industrial Co., Ltd. SN 304,366. Pub. 8-26-69. Filed 8-5-68.

- 894,151. ARS NOVA ARS ANTIQUA RECORDINGS AND DESIGN. ARS Nova ARS Antiqua Recordings. SN 330,470. Pub. 4-21-70. Filed 6-19-69.  
 894,152. SOUND STAGE 7 AND DESIGN. Monument Record Corp. SN 334,857. Pub. 4-21-70. Filed 8-8-69.  
 894,153. SOLID GOLD. Arnold E. Yeargin, d.b.a. Solid Gold Records. SN 339,382. Pub. 4-21-70. Filed 9-30-69.  
 894,154. AQUARIUS. Hammond Corporation. SN 346,245. Pub. 4-21-70. Filed 12-15-69.

**Class 37—Paper and Stationery**

- 893,953. (See Class 2 for this trademark.)  
 893,957. (See Class 2 for this trademark.)  
 893,970. (See Class 5 for this trademark.)  
 893,987. (See Class 11 for this trademark.)  
 894,155. DESKOTIQUE. Decolage, Inc. SN 315,541. Pub. 4-21-70. Filed 1-2-69.  
 894,156. FEATHERGLIDE. Burnham Products Corporation. SN 334,977. Pub. 4-21-70. Filed 8-11-69.  
 894,157. EXCITE. Concel Inc. SN 335,948. Pub. 4-21-70. Filed 8-22-69.  
 894,158. OXALITE. Ethyl Corporation. SN 336,105. Pub. 4-21-70. Filed 8-25-69.  
 894,159. REGAL. G. C. Murphy Company. SN 336,708. Pub. 4-21-70. Filed 8-29-69.  
 894,160. RANDOM-MOUNT. The C. R. Gibson Company. SN 336,929. Pub. 4-21-70. Filed 9-3-69.  
 894,161. VAC-O-PAD AND DIAMOND AND ANIMALS DESIGN. Eilers Manufacturing, Inc. SN 338,046. Pub. 4-21-70. Filed 9-16-69.  
 894,162. PERMAFLEX AND DESIGN. Combined Paper Mills, Inc. SN 338,754. Pub. 4-21-70. Filed 9-24-69.  
 894,163. MULTI-CAST. Ludlow Corporation. SN 339,204. Pub. 4-21-70. Filed 9-29-69.  
 894,164. ISI INDIVIDUALIZED SYSTEMS, INC. AND DESIGN. Individualized Systems, Inc. SN 339,488. Pub. 4-21-70. Filed 8-29-69.  
 894,165. FLUID TIP. Micropoint Engineering Company. SN 339,734. Pub. 4-21-70. Filed 10-3-69.  
 894,166. HAPPYTIME. Hasbro Industries, Inc. SN 339,888. Pub. 4-21-70. Filed 10-6-69.  
 894,167. FLUID POINT. Micropoint Engineering Company. SN 339,912. Pub. 4-21-70. Filed 10-6-69.  
 894,168. TABTYPE. Mac Karlan. SN 341,539. Pub. 4-21-70. Filed 10-23-69.  
 894,169. EASY LIFE. National Tea Co. SN 341,684. Pub. 4-21-70. Filed 10-24-69.  
 894,170. TECHNI-KRAFT. Brown Company. SN 344,324. Pub. 4-21-70. Filed 11-24-69.

**Class 38—Prints and Publications**

- 894,105. (See Class 26 for this trademark.)  
 894,171. THE BANK BOARD LETTER. Director Publications, Inc. SN 315,817. Pub. 4-21-70. Filed 12-31-68.  
 894,172. HIGH PERFORMANCE NEWS & PRODUCTS. Stanley Publishing Company, d.b.a. High Performance News & Products Publishing Corp. SN 318,837. Pub. 4-21-70. Filed 2-10-69.  
 894,173. YOUNG AMERICA TODAY. Photocompositors, Inc. SN 321,875. Pub. 4-21-70. Filed 3-17-69.  
 894,174. HANNASCOPE. Daniel C. Hanna, d.b.a. Hanna Enterprises. SN 324,816. Pub. 4-21-70. Filed 4-17-69.  
 894,175. A CALVIN PRODUCTION. Calvin Communications, Incorporated. SN 327,589. Pub. 4-21-70. Filed 5-19-69.  
 894,176. THEATRE ARTS. Giovanna Ceccarelli, d.b.a. Theatre Arts. SN 328,651. Pub. 4-14-70. Filed 5-29-69.

- 894,177. PEOPLE AT CONFERENCE TABLE (DESIGN). American Rehabilitation Foundation, Inc., d.b.a. Institute for Interdisciplinary Studies. SN 329,209. Pub. 4-21-70. Filed 6-5-69.  
 894,178. VIKING COMPASS. The Viking Press, Inc. SN 330,225. Pub. 4-21-70. Filed 6-16-69.  
 894,179. ABS ETC. AND SIGN DESIGN. American Breeders Service, Inc. SN 330,341. Pub. 4-21-70. Filed 6-18-69.  
 894,180. SYROCO ART. Dart Industries Inc., d.b.a. Syroco. MULTIPLE CLASS (Classes 32 and 33). SN 331,592. Pub. 4-21-70. Filed 7-2-69.  
 894,181. COMPUTER COLLEGE OF TECHNOLOGY CCT AND DESIGN. Computer College of Technology, Inc. SN 332,920. Pub. 4-21-70. Filed 7-18-69.  
 894,182. CONFIDENTIALLY YOURS. The Mitchum Company. SN 334,248. Pub. 4-21-70. Filed 8-1-69.  
 894,183. THE AMERICAN ISRAELITE. The American Israelite Company. SN 334,290. Pub. 4-21-70. Filed 8-4-69.  
 894,184. PHOENIX QUARTERLY. Institute of Scrap Iron & Steel, Inc. SN 338,086. Pub. 4-21-70. Filed 9-17-69.  
 894,185. I AND PHOENIX DESIGN. Institute of Scrap Iron & Steel, Inc. SN 338,087. Pub. 4-21-70. Filed 9-17-69.  
 894,186. RV TRADE DIGEST. Pearson Publishing, Inc. SN 339,104. Pub. 4-21-70. Filed 9-29-69.  
 894,187. REGIONAL. Regional Film Distributors, Inc. SN 343,000. Pub. 4-21-70. Filed 11-7-69.

**Class 39—Clothing**

- 894,188. KRIST. Alice Frock Company. SN 301,897. Pub. 4-21-70. Filed 7-3-68.  
 894,189. SURREY. Cluett, Peabody & Co., Inc. SN 302,047. Pub. 4-21-70. Filed 7-5-68.  
 894,190. MAMA KANGAROO. Simmons Gun Specialties, Inc. SN 302,769. Pub. 4-21-70. Filed 7-15-68.  
 894,191. GENIE ETC. AND DESIGN. Genie Ltd. SN 304,911. Pub. 4-21-70. Filed 8-12-68.  
 894,192. PERFORMA. Pro-Tel Products Company. SN 310,802. Pub. 4-21-70. Filed 10-29-68.  
 894,193. ASTROJAMAS. Hansley Industries, Inc., assignee of Stadium Manufacturing Co., Inc. SN 318,991. Pub. 4-21-70. Filed 2-12-69.  
 894,194. KOOL KICKS. Caribbean Shoe Corporation. SN 320,029. Pub. 4-21-70. Filed 2-25-69.  
 894,195. SWISS GUARD. Matsil Brothers, Inc. SN 320,633. Pub. 4-21-70. Filed 3-3-69.  
 894,196. VICEROY SPORTSWEAR AND DESIGN. Viceroy Sportswear, Inc. SN 321,804. Pub. 4-21-70. Filed 3-10-69.  
 894,197. GINO POMPEII AND DESIGN. Randa Neckwear Corporation. SN 322,331. Pub. 4-21-70. Filed 3-20-69.  
 894,198. M.F.S. Corwin Company. SN 327,600. Pub. 4-21-70. Filed 5-19-69.  
 894,199. THE KINGS REPP. Superba Cravats, Inc. SN 328,207. Pub. 4-21-70. Filed 5-23-69.  
 894,200. RAYBROOKE. Raybrooke Sportswear Co., Inc. SN 328,337. Pub. 4-21-70. Filed 5-26-69.  
 894,201. ROYAL-O. Consolidated Apparel Corporation, d.b.a. Royal-O-Apparel. SN 329,062. Pub. 4-21-70. Filed 6-4-69.  
 894,202. PRINCETON PARK. Bearnet Luben and Selwyn Luben (co-partnership), d.b.a. National Clothing Co. SN 330,603. Pub. 4-21-70. Filed 6-20-69.  
 894,203. AVANTIQUE. Associated Dry Goods Corporation, d.b.a. J. W. Robinson Co. SN 332,305. Pub. 4-21-70. Filed 7-11-69.  
 894,204. TURBOCAP. The Fibre-Metal Products Company. SN 332,333. Pub. 4-21-70. Filed 7-11-69.  
 894,205. PANTY-PRINTS. Alba-Waldensian, Inc. SN 332,431. Pub. 4-21-70. Filed 7-14-69.  
 895,206. LADY CROSBY. SCOA Industries Inc. SN 332,632. Pub. 4-21-70. Filed 7-15-69.  
 894,207. HOBNOBBER. John B. Stetson Company. SN 332,749. Pub. 4-21-70. Filed 7-16-69.

- 894,208. SHADOW RIB. Royce Hosiery Mills, Inc. SN 333,062. Pub. 4-21-70. Filed 7-22-69.  
 894,209. FLEX-TEX. Glamorise Foundations, Inc. MULTIPLE CLASS (Classes 39 and 42). SN 333,494. Pub. 4-21-70. Filed 7-25-69.  
 894,210. TAFFESTAR. Movie Star, Inc. SN 333,933. Pub. 4-21-70. Filed 7-30-69.  
 894,211. LITTLE COLOR. Hanes Corporation. SN 334,228. Pub. 4-21-70. Filed 8-1-69.  
 894,212. GARTERS GONE. Warnaco Inc. SN 336,724. Pub. 4-21-70. Filed 8-29-69.  
 894,213. STEP AND STRIDE. Barry Manufacturing Company, Inc. SN 337,253. Pub. 4-21-70. Filed 9-8-69.  
 894,214. TIBERIO. McGregor-Doniger Inc. SN 337,569. Pub. 4-21-70. Filed 9-10-69.  
 894,215. MR. PAUL. Bayard Shirt Corp. SN 341,618. Pub. 4-21-70. Filed 10-24-69.  
 894,216. LAMBKIN. Swanee Paper Company, Inc. SN 342,674. Pub. 4-21-70. Filed 11-4-69.  
 894,217. GLAD. Union Carbide Corporation. SN 344,304. Pub. 4-21-70. Filed 11-24-69.  
 894,218. BECKON. Maldenform, Inc. SN 344,509. Pub. 4-21-70. Filed 11-25-69.  
 894,219. THE GIRL-DLE. Maldenform, Inc. SN 344,510. Pub. 4-21-70. Filed 11-25-69.  
 894,220. MERELY ME. Maldenform, Inc. SN 344,512. Pub. 4-21-70. Filed 11-25-69.  
 894,221. SKIN-FLINT. Maldenform, Inc. SN 344,515. Pub. 4-21-70. Filed 11-25-69.  
 894,222. SOFTIMER. Maldenform, Inc. SN 344,516. Pub. 4-21-70. Filed 11-25-69.  
 894,223. SUGGESTION. Maldenform, Inc. SN 344,517. Pub. 4-21-70. Filed 11-25-69.  
 894,224. THE UNDER-STUDY. Maldenform, Inc. SN 344,518. Pub. 4-21-70. Filed 11-25-69.  
 894,225. SLIPERINO. Maldenform, Inc. SN 345,547. Pub. 4-21-70. Filed 12-8-69.  
 894,226. SUTTER PLACE AND DESIGN. Koracorp Industries Inc. SN 345,757. Pub. 4-21-70. Filed 12-10-69.  
 894,227. LEG WATCHERS. Nicholas Brecher, d.b.a. Brevonl Creations. SN 345,891. Pub. 4-21-70. Filed 12-11-69.

**Class 40—Fancy Goods, Furnishings, and Notions**

- 894,228. P PERMA-TRANS PRODUCTS. Jay & Eli Enterprises, Inc. SN 326,655. Pub. 4-21-70. Filed 5-7-69.  
 894,229. EYES RIGHT. Paris Presents, Ltd. SN 327,408. Pub. 4-21-70. Filed 5-15-69.  
 894,230. TRU-LIFE. Beltz Corporation. SN 331,490. Pub. 4-21-70. Filed 7-1-69.

**Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor**

- 893,947. (See Class 1 for this trademark.)  
 893,949. (See Class 1 for this trademark.)  
 894,209. (See Class 39 for this trademark.)  
 894,231. CONFIL AND DESIGN. International Paper Company. SN 332,353. Pub. 4-21-70. Filed 7-11-69.  
 894,232. CHANGE ABOUT. J. P. Stevens & Co., Inc. SN 334,895. Pub. 4-21-70. Filed 8-4-69.  
 894,233. HANG ABOUT. J. P. Stevens & Co., Inc. SN 334,896. Pub. 4-21-70. Filed 8-4-69.  
 894,234. PRIVATE ENVIRONMENT. J. P. Stevens & Co., Inc. SN 334,897. Pub. 4-21-70. Filed 8-4-69.  
 894,235. SENSUA. Beaunit Corporation. SN 334,452. Pub. 4-21-70. Filed 8-5-69.



- 894,236. BREATHLACE. Wiener Laces, Inc. SN 334,505. Pub. 4-21-70. Filed 8-5-69.  
 894,237. MIRLEE. Strauss and Company Incorporated. SN 335,619. Pub. 4-21-70. Filed 8-18-69.  
 894,238. NITTOBO. Nitto Boseki Co., Ltd. SN 344,294. Pub. 4-21-70. Filed 11-24-69.

### Class 43—Thread and Yarn

- 894,239. ALBALON. Alba-Waldensian, Inc. SN 332,432. Pub. 4-21-70. Filed 7-14-69.

### Class 44—Dental, Medical, and Surgical Appliances

- 894,240. EXIT. Kimberly-Clark Corporation. SN 334,479. Pub. 4-21-70. Filed 8-5-69.  
 894,241. FORGET. Kimberly-Clark Corporation. SN 334,480. Pub. 4-21-70. Filed 8-5-69.  
 894,242. SOUNDFINDER. Sound Ear, Inc. SN 334,749. Pub. 4-21-70. Filed 8-7-69.  
 894,243. CONTRA-LACTIC. Youngs Drug Products Corporation. SN 336,965. Pub. 4-21-70. Filed 9-3-69.

### Class 45—Soft Drinks and Carbonated Waters

- 894,244. ORCHARD GROVE. Heatherwood Farms Company. SN 317,054. Pub. 4-21-70. Filed 1-21-69.  
 894,245. SODA BARREL AND DESIGN. Tasty-Mates Company, assignee of S. Twitchell Company, d.b.a. The Soda Barrel Co. SN 318,511. Pub. 4-21-70. Filed 2-6-69.  
 894,246. SIP-RATIONAL. The Southland Corporation. SN 331,436. Pub. 4-21-70. Filed 6-30-69.  
 894,247. BASSWOOD SPRINGS. Basswood Springs Water Company. SN 331,854. Pub. 4-21-70. Filed 7-7-69.  
 894,248. HULA. Graf's Beverages, Inc. SN 334,843. Pub. 4-21-70. Filed 8-8-69.  
 894,249. YOU'VE GOT A LOT TO LIVE. PEPSI'S GOT A LOT TO GIVE. PepsiCo, Inc. SN 344,523. Pub. 4-21-70. Filed 11-25-69.

### Class 46—Foods and Ingredients of Foods

- 893,953. (See Class 2 for this trademark.)  
 894,250. BUBBL-OO. Ce De Candy, Inc. SN 278,951. Pub. 7-2-68. Filed 8-24-67.  
 894,251. SNO LITE. Sunaid Food Products, Inc. SN 285,865. Pub. 12-31-68. Filed 11-29-67.  
 894,252. SNOW WHITE. All Star Foods, Inc. SN 287,714. Pub. 4-21-70. Filed 12-28-67.  
 894,253. 3 RING. Federated Foods, Inc., d.b.a. National Brand Sales Division. SN 294,926. Pub. 4-21-70. Filed 4-4-68.  
 894,254. JIFFY JEMS. Jiffy Jem Corporation. SN 307,210. Pub. 4-21-70. Filed 9-21-68.  
 894,255. P.O.F. Laboratoires I.T.C. SN 310,335. Pub. 4-21-70. Filed 10-23-68.  
 894,256. GIVAUDAN. Givaudan Corporation. SN 311,482. Pub. 4-21-70. Filed 11-6-68.  
 894,257. CHUNKY AND DESIGN. Valley Homes, Inc. SN 312,247. Pub. 4-21-70. Filed 11-14-68.  
 894,258. THE PICNIC TREE AND TREE AND BUTTER-FLY DESIGN. Food Facilities Management Corporation. SN 314,062. Pub. 4-21-70. Filed 12-10-68.

- 894,259. KWIK LIK. Godbold, Inc. SN 314,215. Pub. 4-21-70. Filed 12-11-68.  
 894,260. PORTMATO AND DESIGN. International Merchants, Ltd. SN 315,416. Pub. 4-21-70. Filed 12-30-68.  
 894,261. TWO SHAKES. Hawthorn Melody, Inc. SN 315,761. Pub. 4-21-70. Filed 1-3-69.  
 894,262. SUN ETC. AND DESIGN. David Oppenheimer Limited and Associates, d.b.a. Mandarin Orange Company. SN 315,951. Pub. 4-21-70. Filed 1-6-69.  
 894,263. PFEIFFER. International Salt Company. SN 317,234. Pub. 4-21-70. Filed 1-22-69.  
 894,264. P PFEIFFER AND DESIGN. International Salt Company. SN 317,286. Pub. 4-21-70. Filed 1-22-69.  
 894,265. OLD DOMINION. Kern Foods, Inc. SN 317,576. Pub. 4-21-70. Filed 1-27-69.  
 894,266. CREATIVE BAKING. Elm Tree Baking Co., d.b.a. Elm Tree Bakery. SN 318,176. Pub. 4-21-70. Filed 2-3-69.  
 894,267. DON'T BUY A PIG IN A POKE. Stadler's Country Hams, Inc. SN 319,888. Pub. 4-21-70. Filed 2-17-69.  
 894,268. COW DESIGN. Taylor Food Products, Inc. SN 319,395. Pub. 4-21-70. Filed 2-17-69.  
 894,269. YUBI. The Kroger Co. SN 324,204. Pub. 4-21-70. Filed 4-10-69.  
 894,270. SAN ANTONIO. W. H. Latimer, d.b.a. San Antonio Orchard Co. SN 324,649. Pub. 4-21-70. Filed 4-16-69.  
 894,271. CRAZY LIPS AND HEARTS DESIGN. Brenner Candies, Inc. SN 325,575. Pub. 4-21-70. Filed 4-25-69.  
 894,272. CLARIDGE. Claridge Frozen Foods, Inc., assignee of Claridge Food Company, Inc. SN 325,841. Pub. 4-21-70. Filed 4-29-69.  
 894,273. CAPTAIN KID'S. Beatrice Foods Co. SN 326,063. Pub. 4-21-70. Filed 5-1-69.  
 894,274. KAHLUA. Jules Berman & Associates, Inc. SN 328,285. Pub. 4-21-70. Filed 5-5-69.  
 894,275. FANCIFUL FEMALE DESIGN. The Kroger Co. SN 327,279. Pub. 4-21-70. Filed 5-14-69.  
 894,276. THE TUFF LITTLE GHOST SPOOKY AND CASPER, THE FRIENDLY GHOST AND DESIGN. Harvey Famous Cartoons. SN 327,489. Pub. 4-21-70. Filed 5-16-69.  
 894,277. REGAL RED. C. M. Holtzinger Fruit Co., Inc., d.b.a. C. M. Holtzinger Fruit Co. SN 327,545. Pub. 4-21-70. Filed 5-19-69.  
 894,278. NUT-RI. Burrus Mills, Incorporated. SN 328,036. Pub. 4-21-70. Filed 5-22-69.  
 894,279. PILLSBURY FORMS ETC. AND DESIGN. The Pillsbury Company. SN 330,889. Pub. 4-21-70. Filed 6-25-69.  
 894,280. GOOGLES. Interstate Bakeries Corporation. SN 330,932. Pub. 4-21-70. Filed 6-25-69.  
 894,281. RAZZYS. Interstate Bakeries Corporation. SN 330,934. Pub. 4-21-70. Filed 6-25-69.  
 894,282. TABLETTE. Independent Grocers' Alliance Distributing Co. SN 332,351. Pub. 4-21-70. Filed 7-11-69.  
 894,283. DEXPET. CPC International Inc. SN 332,457. Pub. 4-21-70. Filed 7-14-69.  
 894,284. MORTON MELTABLES. Morton International, Inc. SN 332,588. Pub. 4-21-70. Filed 7-15-69.  
 894,285. SIR RODNEY AND DESIGN. Dolphin Seafoods, Inc. SN 332,700. Pub. 4-21-70. Filed 7-16-69.  
 894,286. GOLD COIN AND DESIGN. John Bannelos. SN 333,044. Pub. 4-21-70. Filed 7-22-69.  
 894,287. SEIKO. Seiko Trading Co., Ltd., d.b.a. Seiko Trading Co. SN 333,236. Pub. 4-21-70. Filed 7-23-69.  
 894,288. SCENIC VIEW. Scenic Fruit Company. SN 333,301. Pub. 4-21-70. Filed 7-23-69.  
 894,289. FAIRHAVEN ORCHARDS. Rajkovich Bros., d.b.a. Martin P. and George A. Rajkovich. SN 333,439. Pub. 4-21-70. Filed 7-24-69.  
 894,290. FORGE MOUNTAIN. Warren G. Cairns, d.b.a. C & C Supply Company. SN 333,806. Pub. 4-21-70. Filed 7-29-69.  
 894,291. PRO SIL. Prorico Industries, Inc. SN 333,848. Pub. 4-21-70. Filed 7-29-69.  
 894,292. ALPO MIX-MATE. Allen Products Co., Inc. SN 334,188. Pub. 4-21-70. Filed 8-1-69.

- 894,293. BIDS. Quinlan Pretzel Co. SN 334,862. Pub. 4-21-70. Filed 8-8-69.  
 894,294. CORN-NIP-SHUNS. A. H. Robins Company, Incorporated. SN 336,348. Pub. 4-21-70. Filed 8-26-69.  
 894,295. KEEBINS. Keebler Company. SN 336,811. Pub. 4-21-70. Filed 9-2-69.  
 894,296. 95 PLUS. General Foods Corporation. SN 337,444. Pub. 4-21-70. Filed 9-9-69.  
 894,297. ELLIO'S PIZZA. Ello's Pizza House Inc. SN 337,529. Pub. 4-21-70. Filed 9-10-69.  
 894,298. STREAMLINE. Brookshire Ice Cream Company, d.b.a. Brookshire Dairy Products Company and Brookshire's Dairy Products Company. SN 343,903. Pub. 4-21-70. Filed 11-19-69.  
 894,299. TASTE PLUS. Ralston Purina Company. SN 344,069. Pub. 4-21-70. Filed 11-20-69.  
 894,300. MENU PLUS. Ralston Purina Company. SN 344,071. Pub. 4-21-70. Filed 11-20-69.  
 894,301. PACKER'S PLUS. Ralston Purina Company. SN 344,072. Pub. 4-21-70. Filed 11-20-69.  
 894,302. EAGER EATER PLUS. Ralston Purina Company. SN 344,076. Pub. 4-21-70. Filed 11-20-69.  
 894,303. DARI-PRO. Ralston Purina Company. SN 344,643. Pub. 4-21-70. Filed 11-26-69.  
 894,304. REAL GOLD. The Coca-Cola Company. SN 346,027. Pub. 4-21-70. Filed 12-12-69.

### Class 47—Wines

- 894,305. ACTINISE. Etablissement Actimonde. SN 323,544. Pub. 4-21-70. Filed 4-3-69.

### Class 50—Merchandise Not Otherwise Classified

- 893,947. (See Class 1 for this trademark.)  
 894,105. (See Class 26 for this trademark.)  
 894,181. (See Class 32 for this trademark.)  
 894,306. FAMOUS SIGHTS. The Franklin Mint, Inc. SN 320,491. Pub. 4-21-70. Filed 3-3-69.  
 894,307. SPACE EXPLORERS. The Franklin Mint, Inc. SN 320,506. Pub. 4-21-70. Filed 3-3-69.  
 894,308. GREAT INVENTORS. The Franklin Mint, Inc. SN 320,536. Pub. 4-21-70. Filed 3-3-69.  
 894,309. AMERICAN PATRIOTS. The Franklin Mint, Inc. SN 320,568. Pub. 4-21-70. Filed 3-3-69.  
 894,310. ASTRO-COIN. The Franklin Mint, Inc. SN 327,258. Pub. 4-21-70. Filed 5-14-69.  
 894,311. COIN-A-WORD. The Franklin Mint, Inc. SN 327,260. Pub. 4-21-70. Filed 5-14-69.

### Class 51—Cosmetics and Toilet Preparations

- 894,312. THE'A. The'a, Inc. SN 289,729. Pub. 10-15-68. Filed 1-26-68.  
 894,313. JENEAL. Jeneal Studios, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 299,235. Pub. 4-21-70. Filed 5-28-68.  
 894,314. SUN TO SUN AND DESIGN. Premiere of Hollywood, Inc., d.b.a. Sun to Sun Enterprises. SN 304,118. Pub. 4-21-70. Filed 8-1-68.  
 894,315. OL' TANNER. Beanticonrol, Inc. SN 321,034. Pub. 4-21-70. Filed 3-7-69.  
 894,316. MARINER'S. The Gillette Company. SN 321,866. Pub. 8-12-69. Filed 3-17-69.  
 894,317. L Y A. Armour-Dial, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 328,522. Pub. 4-21-70. Filed 5-28-69.

- 894,318. KISS 'N' MAKEUP. Avon Products, Inc. SN 333,522. Pub. 4-21-70. Filed 7-25-69.  
 894,319. BEAUT-O-TAN. Leo E. Mueller, d.b.a. Brimar Company. SN 340,178. Pub. 4-21-70. Filed 10-8-69.  
 894,320. THE BEGINNING BY BRECK. John H. Breck, Inc. SN 340,239. Pub. 4-21-70. Filed 10-9-69.  
 894,321. BRECK BEGINNING. John H. Breck, Inc. SN 340,241. Pub. 4-21-70. Filed 10-9-69.  
 894,322. BRECK BASIC. John H. Breck, Inc. SN 340,243. Pub. 4-21-70. Filed 10-9-69.

### Class 52—Detergents and Soaps

- 893,968. (See Class 4 for this trademark.)  
 894,313. (See Class 51 for this trademark.)  
 894,317. (See Class 51 for this trademark.)  
 894,323. MICHCO AND DESIGN. Michigan Company Incorporated. SN 277,291. Pub. 4-21-70. Filed 8-1-67.  
 894,324. SOUL BRANDS AND DESIGN. Soul Brands, Inc. SN 300,865-A. Pub. 4-21-70. Filed 6-20-68.  
 894,325. CAL-TEX. Caled Products Company, Inc. SN 316,616. Pub. 8-5-69. Filed 1-15-69.  
 894,326. GOOD CENTS AND DESIGN. Good Cents Products. SN 325,864. Pub. 4-21-70. Filed 4-29-69.  
 894,327. PREVOK. Williams Gold Refining Company Incorporated. SN 328,088. Pub. 4-21-70. Filed 5-22-69.  
 894,328. KLEAN-KRETE. Santa Monica Chemical Corporation. SN 328,349. Pub. 4-21-70. Filed 5-26-69.  
 894,329. BRIGHT SIDE. Colgate-Palmolive Company. SN 335,916. Pub. 4-21-70. Filed 8-22-69.  
 894,330. BRECK BASIC. John H. Breck, Inc. SN 340,244. Pub. 4-21-70. Filed 10-9-69.

### Service Marks

### Class 100—Miscellaneous

- 893,977. (See Class 6 for this trademark.)  
 894,034. (See Class 21 for this trademark.)  
 894,331. DESIGN OF STATUE OF LIBERTY. Liberty Leasing Company, Inc. SN 287,744. Pub. 4-21-70. Filed 12-28-67.  
 894,332. THE TEXAN. The Texan Drive-Ins. Limited. SN 291,447. Pub. 4-21-70. Filed 2-19-68.  
 894,333. SIR GEORGE'S SMORGASBORD HOUSE AND DESIGN. Sir George's Smorgasbord House, Inc. SN 292,623. Pub. 4-21-70. Filed 3-6-68.  
 894,334. WW DESIGN. James May Organization, Inc. SN 312,053. Pub. 4-21-70. Filed 11-13-68.  
 894,335. ALEXANDER'S. Alexander's Rent-A-Car, Inc. SN 317,517. Pub. 4-21-70. Filed 1-27-69.  
 894,336. MISCELLANEOUS DESIGN. Alexander's Rent-A-Car, Inc. SN 317,518. Pub. 4-21-70. Filed 1-27-69.  
 894,337. CONVALARIUM. Convalariums of America, Inc. SN 318,401. Pub. 4-21-70. Filed 2-5-69.  
 894,338. C AND CADUCEUS DESIGN. Convalariums of America, Inc. SN 318,402. Pub. 4-21-70. Filed 2-5-69.  
 894,339. HOMER'S AND DESIGN. Service, Inc. SN 322,096. Pub. 4-21-70. Filed 3-18-69.  
 894,340. CASH TIMER. United States Leasing Corporation. SN 322,638. Pub. 4-21-70. Filed 3-24-69.  
 894,341. STANDARD "OLD SHOE." United States Leasing Corporation. SN 322,639. Pub. 4-21-70. Filed 3-24-69.  
 894,342. VENDELEASE. United States Leasing Corporation. SN 322,641. Pub. 4-21-70. Filed 3-24-69.  
 894,343. REAL-A-STATE. United States Leasing Corporation. SN 322,642. Pub. 4-21-70. Filed 3-24-69.



- 894,344. OPEN ENDER. United States Leasing Corporation. SN 322,643. Pub. 4-21-70. Filed 3-24-69.  
 894,345. CASH RAISER. United States Leasing Corporation. SN 322,646. Pub. 4-21-70. Filed 3-24-69.  
 894,346. ARTHUR'S KING OF BEEF AND CROWN DESIGN. Unico Corporation. SN 327,181. Pub. 4-21-70. Filed 5-13-69.  
 894,347. PEOPLE AT CONFERENCE TABLE (DESIGN). American Rehabilitation Foundation, Inc., d.b.a. Institute for Interdisciplinary Studies. SN 329,211. Pub. 4-21-70. Filed 6-5-69.  
 894,348. CAVANAGH'S. Longchamps, Inc. SN 330,329. Pub. 4-21-70. Filed 6-18-69.  
 894,349. PONTE VEDRA CLUB. Ponte Vedra Corporation, d.b.a. Ponte Vedra Club. MULTIPLE CLASS (Classes 100 and 107). SN 330,990. Pub. 4-21-70. Filed 6-26-69.

### Class 101—Advertising and Business

- 893,953. (See Class 2 for this trademark.)  
 894,350. HEADS OR TAILS? Marden-Kane, Inc. SN 275,676. Pub. 4-21-70. Filed 7-10-67.  
 894,351. TIGERAMA. Marden-Kane, Inc. SN 283,352. Pub. 4-21-70. Filed 10-25-67.  
 894,352. FAMOUS FACTS & FACES. The Franklin Mint, Inc. SN 308,686. Pub. 4-21-70. Filed 10-2-68.  
 894,353. THE LEARNING SHOP. Concept Visuals, Inc. SN 315,179. Pub. 4-21-70. Filed 12-26-68.

### Class 102—Insurance and Financial

- 894,354. IGP. John Hancock Mutual Life Insurance Company. SN 328,547. Pub. 4-21-70. Filed 5-28-69.

- 894,355. MEDIMET. Metropolitan Life Insurance Company. SN 345,654. Pub. 4-21-70. Filed 12-8-69.

### Class 105—Transportation and Storage

- 894,356. SWINGER. American Express Company. SN 319,560. Pub. 4-21-70. Filed 2-19-69.  
 894,357. SPEEDAIR. T & L Air Freight, Inc. SN 327,711. Pub. 4-21-70. Filed 5-14-69.  
 894,358. WEIGHTLIFTER. Western Air Lines, Inc., d.b.a. Western Airlines International. SN 332,899. Pub. 4-21-70. Filed 7-18-69.

### Class 107—Education and Entertainment

- 894,349. (See Class 100 for this trademark.)  
 894,359. "GUEST STAR." Department of the Treasury of the United States. SN 285,617. Pub. 4-21-70. Filed 2-28-67.  
 894,360. GIRL AND BOY DESIGN. Cuna Mutual Insurance Society. SN 306,888. Pub. 4-21-70. Filed 9-9-68.  
 894,361. YOUTH QUAKE AND DESIGN. Cuna Mutual Insurance Society. SN 306,890. Pub. 4-21-70. Filed 9-9-68.  
 894,362. WHOLEMAN. Sales Training, Inc. SN 335,061. Pub. 4-21-70. Filed 8-11-69.

### Collective Membership Mark

### Class 200

- 894,363. TAPROOT. Taproot Republicans of the 14th Congressional District. SN 323,606. Pub. 4-21-70. Filed 4-3-69.

## TRADEMARK REGISTRATIONS RENEWED

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|--|---|
| 34,487. DE RIJZENDE HOOP AND DESIGN. Cl. 17 (Int. Cls. 30 and 34). 4-17-1900.    | 443,800. NATIONAL. Cl. 12 (Int. Cl. 1). 2-28-50.                                |
| 34,592. THE RISING HOPE ETC. Cl. 17 (Int. Cl. 34). 5-1-1900.                     | 443,863. RELIANCE. Cl. 21 (Int. Cls. 7, 9, and 11). 3-28-50.                    |
| 35,228. LUX. Cl. 52 (Int. Cl. 3). 10-9-1900.                                     | 443,926. CARRY PHONE. Cl. 21 (Int. Cl. 9). 4-18-50.                             |
| 77,779. MAZDA. Cl. 21 (Int. Cl. 11). 5-3-10.                                     | 512,411. OXFORD AND DESIGN. Cl. 21 (Int. Cl. 9). 7-19-49.                       |
| 264,020. REPRESENTATION OF WELL-DRILL AND DESIGN. Cl. 23 (Int. Cl. 7). 11-12-29. | 519,893. BAKER & ADAMSON. Cl. 6 (Int. Cl. 1). 1-17-50.                          |
| 266,707. VAN CHROME. Cl. 23 (Int. Cl. 8). 1-28-30.                               | 520,377. PLEX. Cl. 3 (Int. Cl. 18). 1-31-50.                                    |
| 266,804. BRUCE AND DESIGN. Cl. 12 (Int. Cl. 20). 2-4-30.                         | 520,423. TRIDYNE. Cl. 23 (Int. Cl. 7). 1-31-50.                                 |
| 267,087. VELVINE. Cl. 37 (Int. Cl. 16). 2-11-30.                                 | 521,013. DESIGN OF A DOG. Cl. 36 (Int. Cl. 9). 2-14-50.                         |
| 269,895. WHIRL. Cl. 15 (Int. Cl. 4). 4-22-30.                                    | 522,027. THREE MUSKETEERS (DESIGN). Cl. 46 (Int. Cl. 30). 3-7-50.               |
| 270,050. SLEEPRIE AND DESIGN. Cl. 42 (Int. Cl. 24). 4-22-30.                     | 522,311. HIRSH. Cl. 32 (Int. Cl. 6). 3-14-50.                                   |
| 270,774. REPRESENTATION OF OVAL DESIGN. Cl. 46 (Int. Cl. 30). 5-13-30.           | 522,918. SAFE-T-VIS. Cl. 26 (Int. Cl. 9). 3-28-50.                              |
| 271,234. MISS LIBERTY. Cl. 27 (Int. Cl. 14). 5-27-30.                            | 523,441. KERANOL. Cl. 6 (Int. Cl. 1). 4-4-50.                                   |
| 271,690. EL MARRANITO. Cl. 46 (Int. Cl. 29). 6-17-30.                            | 523,729. GUMP'S. Cl. 50 (Int. Cls. 20 and 21). 4-11-50.                         |
| 272,376. DIS-MIS. Cl. 51 (Int. Cl. 5). 7-8-30.                                   | 523,965. SIPELIA. Cl. 28 (Int. Cl. 8). 4-11-50.                                 |
| 273,725. ADD-A-SHOWER. Cl. 13 (Int. Cl. 11). 8-12-30.                            | 523,990. NOBILITY. Cl. 42 (Int. Cl. 24). 4-11-50.                               |
| 273,748. CASTEEL AND DESIGN. Cl. 14 (Int. Cl. 6). 8-12-30.                       | 524,052. SWAN BRAND. Cl. 46 (Int. Cl. 1). 4-18-50.                              |
| 274,865. PALMETTO. Cl. 35 (Int. Cl. 7). 9-9-30.                                  | 524,228. CLAD-COAT AND DESIGN. Cl. 14 (Int. Cl. 6). 4-18-50.                    |
| 274,921. LORETTE. Cl. 39 (Int. Cl. 25). 9-9-30.                                  | 524,253. EXTERMITAL TERMITE SERVICE AND DESIGN. Cl. 103 (Int. Cl. 37). 4-18-50. |
| 275,166. STAR BRAND AND REPRESENTATION OF STAR. Cl. 6 (Int. Cl. 1). 9-16-30.     | 524,267. WISCONSIN AIR COOLED ENGINES. Cl. 23 (Int. Cl. 7). 4-18-50.            |
| 275,421. LITTLE WONDER. Cl. 46 (Int. Cl. 30). 9-23-30.                           | 524,397. JANE EVANS. Cl. 39 (Int. Cl. 25). 4-25-50.                             |
| 275,460. FORE. Cl. 51 (Int. Cl. 3). 9-23-30.                                     | 524,504. CLEARIGHT FINISH. Cl. 6 (Int. Cl. 1). 4-25-50.                         |
| 275,550. PACKOMATIC. Cl. 23 (Int. Cl. 7). 9-23-30.                               | 524,508. EVER-DRY. Cl. 51 (Int. Cl. 5). 4-25-50.                                |
| 275,737. LUBRIZOL. Cl. 15 (Int. Cl. 4). 9-30-30.                                 | 524,526. WYLER DYNAWIND. Cl. 27 (Int. Cl. 14). 4-25-50.                         |
| 276,138. TUXEDO. Cl. 23 (Int. Cl. 8). 10-7-30.                                   | 524,616. OLD ENGLISH. Cl. 4 (Int. Cl. 3). 5-2-50.                               |
| 443,523. SAFTIFLASK. Cl. 6 (Int. Cls. 1 and 5). 11-1-49.                         | 524,900. BRAEMAR. Cl. 39 (Int. Cl. 25). 5-9-50.                                 |
| 443,764. MAGIC MIST. Cl. 6 (Int. Cl. 5). 2-21-50.                                | 525,047. SEARLE. Cl. 18 (Int. Cl. 5). 5-9-50.                                   |
|  | 525,112. AERODUX. Cl. 5 (Int. Cl. 1). 5-9-50.                                   |
|  | 525,113. AEROLITE. Cl. 5 (Int. Cl. 1). 5-9-50.                                  |

- 525,193. COOPER. Cl. 39 (Int. Cl. 25). 5-16-50.  
 525,229. LATHANOL. Cl. 6 (Int. Cl. 1). 5-16-50.  
 525,337. INVADINE. Cl. 6 (Int. Cl. 1). 5-16-50.  
 525,338. PYROGENE. Cl. 6 (Int. Cl. 2). 5-16-50.  
 525,339. ROSANTHRENE. Cl. 6 (Int. Cl. 2). 5-16-50.  
 525,349. AMERICAN GIRL. Cl. 28 (Int. Cl. 14). 5-16-50.  
 525,385. MACKALLS. Cl. 46 (Int. Cl. 31). 5-23-50.  
 525,432. Petersen. Cl. 34 (Int. Cl. 11). 5-23-50.  
 525,450. LASSY. Cl. 46 (Int. Cl. 31). 5-23-50.  
 525,452. FUMEXOL. Cl. 6 (Int. Cl. 1). 5-23-50.  
 525,453. VIBATEX. Cl. 6 (Int. Cl. 1). 5-23-50.  
 525,502. 50B. Cl. 6 (Int. Cl. 1). 5-23-50.  
 525,551. LONGFELLOWS. Cl. 39 (Int. Cl. 25). 5-23-50.  
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| 769,764. DIAMOND SPARKLE AND DESIGN. Cl. 1. | 769,797. TACKOL. Cl. 6.                          |
| 769,769. CUT-RAK. Cl. 2.                    | 769,800. NEWSLITH. Cl. 6.                        |
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 770,090. TEL-STAR. Cl. 52.  
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 770,102. AMERAD AND DESIGN. Cl. 101.  
 770,107. MAIL-MONEY. Cl. 102.  
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 770,111. 3-B. Cl. 105.  
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 770,117. REPRESENTATION OF A PENNANT. Cl. 200.  
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 770,120. CHAIN LINK FENCE ETC. AND DESIGN. Cl. A.  
 770,122. 20 QUESTIONS. Cl. 22.  
 770,127. SCUFF-NO. Cl. 39.  
 770,128. RAIN-AID. Cl. 39.  
 770,129. SNAP-FOLD. Cl. 39.  
 770,131. SWIRL BATH. Cl. 44.

### TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

- 270,042. TREASURELAND. Cl. 38: 4-22-30. A. C. Becken Company, Chicago, Ill. Amended: In the statement, column 1, line 10, "monthly" is deleted and *periodically* is inserted.
- 771,953. COIN. Cl. 42. 6-23-64. Coin Sales Corporation, assignee of Gullford Industries, Inc., New York, N.Y. Amended: In the statement, column 2, line 1, before "laminated" *bonded and* is inserted.
- 883,287. SAVAL. Cl. 23. 12-30-69. Savat Apparatenfabriek N.V., Breda, Netherlands. Corrected: In the statement, column 1, line 1, "saval" should be deleted and *Savat* should be inserted.
- 884,182. MARTHA MOORE. Cl. 39. 1-18-70. Cotton Club Frocks Inc., New York, N.Y. Corrected: In the statement, column 1, line 2, "5th" should be deleted and *Seventh* should be inserted.
- 886,133. CORTEZ. Cl. 8. 2-17-70. Early California Industries Inc., assignee of Arizona Agrochemical Corporation, Los Angeles, Calif. Corrected: In the statement, column 2, line 4, "1967" should be deleted and *1967* should be inserted.
- 889,217. ERG AND DESIGN. Cl. 1. 4-14-70. Energy Research and Generation, Inc., Oakland, Calif. Corrected: In the statement, column 2, line 1, "cord" should be deleted and *core* should be inserted.

### REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

#### Class 1—Raw or Partly Prepared Materials Class 26—Measuring and Scientific Appliances

47,905. Nov. 28, 1905. Michigan Carbon Works, Detroit, Mich. Pub. by Ebenex Corporation, Detroit, Mich.

**COSMIC**

For Bone Black.

#### Class 21—Electrical Apparatus, Machines, and Supplies

886,919. Apr. 29, 1941. Naxon Telesign Corporation, Chicago, Ill. Pub. by registrant.

**TELESIGN**

For Gaseous-Tube and Filament Lamp Electric Signs, etc.

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

76,844. Jan. 4, 1910. Ralph Martindale & Co., Limited, Birmingham, England. Pub. by registrant.



For Machetes (Int. Cl. 8).

263,502. Nov. 5, 1929. Robert Bosch Aktiengesellschaft, Stuttgart, Germany. Pub. by Robert Bosch GmbH, Stuttgart, Germany.



For Carburetors and Fuel-Injection Devices for Internal Combustion Motors, Comprising Fuel-Injection Pumps, Nozzles, Jets, Nozzle Holders, Pipes (Int. Cl. 7).

268,217. Mar. 11, 1930. American Optical Company, Southbridge, Mass. Pub. by American Optical Corporation, Southbridge, Mass.



For Ophthalmic Mountings and Parts Therefor Adapted To Support and Hold Lenses Before the Eye, etc. (Int. Cl. 9).

268,220. Mar. 11, 1930. American Optical Company, Southbridge, Mass. Pub. by American Optical Corporation, Southbridge, Mass.



For Ophthalmic Mountings and Parts Therefor Adapted To Support and Hold Ophthalmic Lenses Before the Eye, etc. (Int. Cl. 9).

#### Class 27—Horological Instruments

432,287. Aug. 26, 1947. Etablissements Uti, Paris, France. Pub. by registrant.

**UTI**

For Clocks, Watches, Jeweled Watch Cases, Chronometers, and Parts Thereof.

#### Class 38—Prints and Publications

257,871. June 4, 1929. Hounds and Hunting Publishing Company, Decatur, Ill. Pub. by Hounds and Hunting, Bradford, Pa.

**Hounds and Hunting**

For Monthly Magazine (Int. Cl. 16.)



**Class 39 — Clothing**

267,485. Feb. 18, 1930. Burdines, Inc., Miami, Fla. Pub. by Federated Department Stores, Inc., d.b.a. Burdines, Miami, Fla.

*Sunshine Fashion*

For Gloves Made of Leather, Canvas, Silk, and Other Fabrics; Ladies' and Misses' Dresses, etc. (Int. Cl. 25).

377,740. May 14, 1940. Jantzen Knitting Mills, Portland, Oreg. Pub. by Jantzen Inc., Portland, Oreg.

*Jantee-Pantee*

For Girdles.

**Class 46 — Foods and Ingredients of Foods**

396,914. Aug. 11, 1942. M. & M. Limited, Newark, N.J. Pub. by Mars, Incorporated, Wilmington, Del.

**m & m's**

For Candy.

418,332. Dec. 18, 1945. M & M Limited, Newark, N.J. Pub. by Mars, Incorporated, Wilmington, Del.

**m**

For Candy.

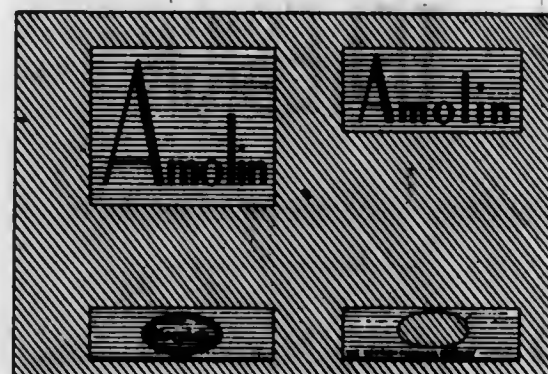
**Class 51 — Cosmetics and Toilet Preparations**

247,552. Oct. 2, 1928. Johann Maria Farina, Inc., New York, N.Y. Pub. by Johann Maria Farina Gegenuber Dem Jullichs-Platz, Cologne, Germany.



For Eau de Cologne (Int. Cl. 3).

272,477. July 8, 1930. The Norwich Pharmacal Company, Norwich, N.Y. Pub. by registrant.



For Deodorant Powder, Toilet Powder, Antiseptic Powder, etc. (Int. Cl. 5).

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(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

ARS Nova ARS Antiqua Recordings, Washington, D.C. 894,151, pub. 4-21-70. Cl. 36.  
 Acromag Inc., Wixom, Mich. 894,041, pub. 4-21-70. Multiple Class (Classes 21 and 26).  
 Acton Laboratories, Inc., Acton, Mass. 894,042, pub. 4-21-70. Cl. 21.  
 Adamek, Benf, d.b.a. Sunrise Packing Co., Blythe, Calif. 770,058, can. Cl. 46.  
 Adams, Thomas F., Farmington, Mich. 894,075, pub. 4-21-70. Cl. 23.  
 Advertising Metal Display Co., Chicago, Ill. 894,182, pub. 4-21-70. Cl. 32.  
 Aero-Flow Dynamics, Inc., Linden, N.J. 894,187, pub. 4-21-70. Cl. 34.  
 Aeronca, Inc., Torrance, Calif. 893,959, pub. 4-21-70. Cl. 2.  
 Air Conditioning and Refrigeration Institute, Washington, D.C. 770,097, can. Cl. 100.  
 Alaskan Glacier Sea Food Co., Seattle, Wash. 526,734, ren. 7-7-70. Cl. 46.  
 Alba-Waldensian, Inc., Valdese, N.C. 894,205, pub. 4-21-70. Cl. 39.  
 Alba-Waldensian, Inc., Valdese, N.C. 894,239, pub. 4-21-70. Cl. 43.  
 Albin Enterprise, Inc., d.b.a. Jack Bull Toy Mfg. Co., Burbank, Calif. 769,884, can. Cl. 22.  
 Alco Standard Corp., d.b.a. Alco Chemical Corp., Valley Forge, Pa. 530,974, ren. 7-7-70. Cl. 52.  
 Alessi, Vincent J., d.b.a. Alessi Industries, El Segundo, Calif. 894,108, pub. 4-21-70. Cl. 26.  
 Alexander's Rent-A-Car, Inc., New York, N.Y. 894,335-6, pub. 4-21-70. Cl. 100.  
 Alice Frock Co., San Francisco, Calif. 894,188, pub. 4-21-70. Cl. 39.  
 All Star Foods, Inc., Albemarle, N.C. 894,252, pub. 4-21-70. Cl. 46.  
 Allen Products Co., Inc., Allentown, Pa. 894,292, pub. 4-21-70. Cl. 46.  
 Allen-Sherman-Hoff Co., Inc., The Wynewood, Pa. 580,782, ren. 7-7-70. Cl. 23.  
 Allied Chemical Corp., New York, N.Y. 519,893, ren. 7-7-70. Cl. 6.  
 Allied Chemical Corp., New York, N.Y. 525,229, ren. 7-7-70. Cl. 6.  
 Allied Chemical Corp., New York, N.Y. 525,502, ren. 7-7-70. Cl. 6.  
 Allis-Chalmers Mfg. Co., Milwaukee, Wis. 894,074, pub. 4-21-70. Cl. 23.  
 All-Steel Equipment Inc., Aurora, Ill. 525,971, ren. 7-7-70. Cl. 21.  
 Amerad Corp., Charlottesville, Va. 770,102, ren. 7-7-70. Cl. 101.  
 American Biological Control Laboratories, Inc., Tenafly, N.J. 893,977, pub. 4-21-70. Multiple Class (Classes 6 and 100).  
 American Brands, Inc., from The American Tobacco Co., New York, N.Y. 894,018, pub. 4-21-70. Cl. 17.  
 American Breeders Service, Inc., DeForest, Wis. 894,179, pub. 4-21-70. Cl. 38.  
 American Can Co., New York, N.Y. 769,946, can. Cl. 37.  
 American Express Co., New York, N.Y. 894,356, pub. 4-21-70. Cl. 105.  
 American Home Products Corp., New York, N.Y. 524,616, ren. 7-7-70. Cl. 4.  
 American Home Products Corp., New York, N.Y. 770,033, can. Cl. 46.  
 American Humates, Inc., Dallas, Tex. 769,808, can. Cl. 10.  
 American Israelite Co., The Cincinnati, Ohio. 894,183, pub. 4-21-70. Cl. 38.  
 American Machine & Tool Co. Inc., Royersford, Pa. 894,080, pub. 4-21-70. Cl. 23.  
 American Metal Climax, Inc., New York, N.Y. 893,989, pub. 4-21-70. Cl. 12.  
 American Optical Corp., Southbridge, Mass. 894,109, pub. 4-21-70. Cl. 26.  
 American Optical Corp., Southbridge, Mass. 894,112, pub. 4-21-70. Cl. 26.  
 American Optical Corp., Southbridge, Mass. 894,115, pub. 4-21-70. Cl. 26.  
 American Pop Corn Co., Sioux City, Iowa. 275,421, ren. 7-7-70. Cl. 46.  
 American Rehabilitation Foundation, Inc., d.b.a. Institute for Interdisciplinary Studies, Minneapolis, Minn. 894,177, pub. 4-21-70. Cl. 38.  
 American Rehabilitation Foundation, Inc., d.b.a. Institute for Interdisciplinary Studies, Minneapolis, Minn. 894,347, pub. 4-21-70. Cl. 100.  
 American Tobacco Co., The: See—  
 American Brands, Inc.  
 Ampress Brick Co., Inc., Des Plaines, Ill. 893,991, pub. 4-21-70. Cl. 12.  
 Anker-Phoenix Maschinen A.G., Bielefeld, Germany. 769,901, can. Cl. 23.  
 Antique Auto Parts, Inc., Rosemead, Calif. 894,024, pub. 4-21-70. Cl. 19.  
 Antoinette Fashions, Inc., Cleveland, Ohio. 769,994, can. Cl. 39.  
 Aristocrat Travel Products Co., from Aristocrat Travel Products, Morgan Hill, Calif. 894,022, pub. 4-21-70. Cl. 19.  
 Arkansas Co., Inc., Newark, N.J. 523,441, ren. 7-7-70. Cl. 6.  
 Armour-Dial, Inc., Chicago, Ill. 894,317, pub. 4-21-70. Multiple Class (Classes 51 and 52).  
 Associated Dry Goods Corp., d.b.a. J. W. Robinson Co., New York, N.Y. 894,203, pub. 4-21-70. Cl. 39.  
 Atlas Corp., New York, N.Y. 893,993, pub. 4-21-70. Cl. 13.  
 Avon Products, Inc., New York, N.Y. 894,313, pub. 4-21-70. Cl. 51.  
 Azagra Ramon Coscollin, Saragossa, Spain. 894,012, pub. 4-21-70. Cl. 17.  
 Baker Perkins Inc., Saginaw, Mich. 525,432, ren. 7-7-70. Cl. 34.  
 Baldt Anchor & Chain Corp., Chester, Pa. 530,291, ren. 7-7-70. Cl. 14.  
 Banuelos, John, Bakersfield, Calif. 894,286, pub. 4-21-70. Cl. 46.  
 Barrist, Kenneth J., d.b.a. National Collection Service, Philadelphia, Pa. 769,964, can. Cl. 38.  
 Barry Mfg. Co., Inc., Lynn, Mass. 894,213, pub. 4-21-70. Cl. 39.  
 Basswood Springs Water Co., Platte City, Mo. 894,247, pub. 4-21-70. Cl. 45.  
 Baxter Laboratories, Inc., Morton Grove, Ill. 527,581, ren. 7-7-70. Cl. 44.  
 Baxter Laboratories, Inc., Morton Grove, Ill. 528,966, ren. 7-7-70. Cl. 44.  
 Baxter Laboratories, Inc., Morton Grove, Ill. 530,338, ren. 7-7-70. Cl. 6.  
 Bayard Shirt Corp., New York, N.Y. 894,215, pub. 4-21-70. Cl. 39.  
 Bear Brand Hosiery Co., Chicago, Ill. 525,551, ren. 7-7-70. Cl. 39.  
 Beatrice Foods Co., Chicago, Ill. 894,273, pub. 4-21-70. Cl. 46.  
 Beaunit Corp., New York, N.Y. 894,235, pub. 4-21-70. Cl. 42.  
 Beauticontrol, Inc., Dallas, Tex. 894,315, pub. 4-21-70. Cl. 51.  
 Becken, A. C., Co., Chicago, Ill. 270,042, Am. 7(d). Cl. 38.  
 Becton, Dickinson & Co., East Rutherford, N.J. 894,099-100, pub. 4-21-70. Cl. 26.  
 Belle Furs, Inc., New York, N.Y. 769,985, can. Cl. 39.  
 Beloit Corp., Beloit, Wis. 894,084, pub. 4-21-70. Cl. 23.  
 Beltz Corp., St. Louis, Mo. 894,230, pub. 4-21-70. Cl. 40.  
 Berles Carton Co., Inc., Paterson, N.J. 769,772, can. Cl. 2.  
 Berman, Jules, & Associates, Inc., Los Angeles, Calif. 894,274, pub. 4-21-70. Cl. 46.  
 Berns O Matic Corp., Rochester, N.Y. 769,823, can. Cl. 16.  
 Biltmore Tissue Corp., Bronx, N.Y. 267,037, ren. 7-7-70. Cl. 37.  
 Board of Publication of the Methodist Church, Inc., Nashville, Tenn. 523,353, ren. 7-7-70. Cl. 38.  
 Bollden Aktiebolag, Stockholm, Sweden. 893,973, pub. 4-21-70. Multiple Class (Classes 6 and 12).  
 Bradley, Donald F., d.b.a. Concepto Tech Co., Springfield, Mass. 770,044, can. Cl. 46.  
 Braemar Knitwear Ltd., Hawick, Scotland. 524,900, ren. 7-7-70. Cl. 39.  
 Brecher, Nicholas, d.b.a. Brevoni Creations, New York, N.Y. 894,227, pub. 4-21-70. Cl. 39.  
 Breck, John H., Inc., Wayne, N.J. 894,320-2, pub. 4-21-70. Cl. 51.  
 Breck, John H., Inc., Wayne, N.J. 894,330, pub. 4-21-70. Cl. 52.  
 Brenner Candies, Inc., Atlantic City, N.J. 894,271, pub. 4-21-70. Cl. 46.  
 Brewer, E. F. Co., Butler, Wis. 770,131, can. Cl. 44.  
 Bristol Myers Co., New York, N.Y. 894,020, pub. 4-21-70. Cl. 18.  
 Brock, George F., Jr., d.b.a. L. R. Brock Co., El Monte, Calif. 894,076, pub. 4-21-70. Cl. 23.  
 Brookshire Ice Cream Co., d.b.a. Brookshire Dairy Products Co., and Brookshire's Dairy Products Co., Meridian, Miss. 894,298, pub. 4-21-70. Cl. 46.  
 Brown Co., New York, N.Y. 894,170, pub. 4-21-70. Cl. 37.  
 Brown Shoe Co., Inc., St. Louis, Mo. 893,951, pub. 4-21-70. Cl. 1.  
 Bruce, E. L., Co., Inc., Memphis, Tenn. 266,804, ren. 7-7-70. Cl. 12.  
 Budd Co., The, Philadelphia, Pa. 893,958, pub. 4-21-70. Cl. 2.  
 Bulova Watch Co., Inc., Flushing, N.Y. 271,234, ren. 7-7-70. Cl. 27.  
 Bulova Watch Co., Inc., Flushing, N.Y. 525,349, ren. 7-7-70. Cl. 28.  
 Bulova Watch Co., Inc., Flushing, N.Y. 894,120, pub. 4-21-70. Cl. 27.  
 Burnham Products Corp., Long Island City, N.Y. 894,156, pub. 4-21-70. Cl. 37.  
 Burrus Mills, Inc., Dallas, Tex. 894,278, pub. 4-21-70. Cl. 46.  
 CMP Industries, Inc., Albany, N.Y. 893,972, pub. 4-21-70. Cl. 6.  
 CPC International Inc., Englewood Cliffs, N.J. 894,233, pub. 4-21-70. Cl. 46.  
 CVI Corp., Columbus, Ohio. 894,141, pub. 4-21-70. Cl. 34.  
 Calrens, Warren G., d.b.a. C & C Supply Co., Honeshoe, N.C. 894,290, pub. 4-21-70. Cl. 46.



Caled Products Co., Inc., Brentwood, Md. 894,825, pub. 8-5-69. Cl. 52.  
 California Products Corp., Cambridge, Mass. 894,011, pub. 4-21-70. Cl. 18.  
 Calumet & Hecla Corp.: See—  
 Universal Oil Products Co.  
 Calumet Steel Castings Corp., Hammond, Ind. 278,748, ren. 7-7-70. Cl. 14.  
 Calumet Steel Castings Corp., Hammond, Ind. 527,808, ren. 7-7-70. Cl. 14.  
 Calumet Steel Castings Corp., Hammond, Ind. 531,225, ren. 7-7-70. Cl. 14.  
 Calvin Communications, Inc., Kansas City, Mo. 894,175, pub. 4-21-70. Cl. 38.  
 Canada Dry Corp., New York, N.Y. 527,108, ren. 7-7-70. Cl. 45.  
 Caribbean Shoe Corp., Miami, Fla. 894,194, pub. 4-21-70. Cl. 89.  
 Carreras Ltd., Basildon, Essex, England. 894,014, pub. 4-21-70. Cl. 17.  
 Ceccarelli, Giovanna, d.b.a. Theatre Arts, Ossining, N.Y. 894,176, pub. 4-14-70. Cl. 38.  
 Ce De Candy, Inc., Elizabeth, N.J. 894,250, pub. 7-2-68. Cl. 46.  
 Chain Link Fence Manufacturers' Institute, New York, N.Y. 770,120, can. Cl. A.  
 Chemtrust Industries Corp., Madison Chemical Division, Maywood, Ill. 893,966, pub. 4-21-70. Cl. 4.  
 Chestnut Hill Industries, Inc., Hollywood, Fla. 769,967, can. Cl. 29.  
 Chicago Faucet Co., The, Des Plaines, Ill. 278,725, ren. 7-7-70. Cl. 13.  
 Church & Dwight Co., Inc., New York, N.Y. 524,052, ren. 7-7-70. Cl. 46.  
 Ciba Ltd., Basle, Switzerland. 525,112-13, ren. 7-7-70. Cl. 5.  
 Ciba Ltd., Basle, Switzerland. 525,837-9, ren. 7-7-70. Cl. 6.  
 Ciba Ltd., Basle, Switzerland. 525,452-3, ren. 7-7-70. Cl. 6.  
 Ciba Ltd., Basle, Switzerland. 525,695, ren. 7-7-70. Cl. 6.  
 Cincinnati Industries, Inc., Cincinnati, Ohio. 893,981, pub. 4-21-70. Cl. 9.  
 Cincinnati Milling Machine Co., The, Cincinnati, Ohio. 893,967, pub. 4-21-70. Cl. 4.  
 Cincinnati Milling Machine Co., The, Cincinnati, Ohio. 894,004, pub. 4-21-70. Cl. 15.  
 Cincinnati Milling Machine Co., The, Cincinnati, Ohio. 894,092, pub. 4-21-70. Cl. 23.  
 Clair Inc., New York, N.Y. 894,018, pub. 4-21-70. Cl. 18.  
 Claridge Frozen Foods, Inc., from Claridge Food Co., Inc., Flushing, N.Y. 894,272, pub. 4-21-70. Cl. 46.  
 Clark Equipment Co., Buchanan, Mich. 769,906, can. Cl. 23.  
 Cluett, Peabody & Co., Inc., New York, N.Y. 894,189, pub. 4-21-70. Cl. 39.  
 Coast Carton Corp., Montebello, Calif. 893,955, pub. 4-21-70. Cl. 2.  
 Coca-Cola Co., The, Atlanta, Ga. 894,804, pub. 4-21-70. Cl. 46.  
 Coin Sales Corp., from Gulford Industries, Inc., New York, N.Y. 771,958, Am. 7(d). Cl. 42.  
 Colgate-Palmolive Co., New York, N.Y. 894,329, pub. 4-21-70. Cl. 52.  
 Combined Engineered Products Ltd., Toronto, Ontario, Canada. 894,089, pub. 4-21-70. Cl. 23.  
 Combined Paper Mills, Inc., Combined Locks, Wis. 894,162, pub. 4-21-70. Cl. 37.  
 Companhia Uniao Fabril Portuense S.A.R.L., Porto, Portugal. 770,016, can. Multiple Class (Classes 45 and 48).  
 Components, Inc., Biddeford, Maine. 894,044, pub. 4-21-70. Cl. 21.  
 Computer College of Technology, Inc., Miami Beach, Fla. 894,181, pub. 4-21-70. Cl. 38.  
 Concel Inc., New York, N.Y. 894,157, pub. 4-21-70. Cl. 37.  
 Concept Visuals, Inc., Madison, Wis. 894,353, pub. 4-21-70. Cl. 101.  
 Concord Mobile Homes, Inc., Elkhart, Ind. 769,855, can. Cl. 19.  
 Consolidated Apparel Corp., Greensboro, N.C. 894,201, pub. 4-21-70. Cl. 39.  
 Containair Systems Corp., Springfield Gardens, N.Y. 893,961, pub. 4-21-70. Cl. 2.  
 Continental Steel Corp., Kokomo, Ind. 894,001, pub. 4-21-70. Cl. 13.  
 Continental Copper & Steel Industries, Inc., New York, N.Y. 893,999, pub. 4-21-70. Cl. 13.  
 Controlled Air & Water Equipment Co., Brentwood, Mo. 769,941, can. Cl. 34.  
 Controlled Power Corp., Farmington, Mich. 894,046, pub. 4-21-70. Cl. 21.  
 Convallariums of America, Inc., Santa Monica, Calif. 894,337-8, pub. 4-21-70. Cl. 100.  
 Cooper's, Inc., Kenosha, Wis. 525,193, ren. 7-7-70. Cl. 39.  
 Coronet Mfg. Corp., Pittsburgh, Pa. 894,130, pub. 4-21-70. Cl. 32.  
 Corwin Co., Kansas City, Mo. 894,198, pub. 4-21-70. Cl. 39.  
 Cotton Club Frocks Inc., New York, N.Y. 894,182, cor. Cl. 39.  
 Cotton Razor Blade Co., Boston, Mass. 276,138, ren. 7-7-70. Cl. 23.  
 Craft-Bilt Homes, Inc., Pampa, Tex. 769,960, can. Cl. 38.  
 Crescent Cardboard Co., Wheeling, Ill. 530,526, ren. 7-7-70. Cl. 37.  
 Cuna Mutual Insurance Society, Madison, Wis. 894,360-1, pub. 4-21-70. Cl. 107.  
 Cutter Laboratories, Inc., Berkeley, Calif. 443,523, ren. 7-7-70. Cl. 6.  
 Cypress Gardens Skis, Inc., Cypress Gardens, Fla. 894,053, pub. 4-21-70. Cl. 22.  
 Dart Industries Inc., d.b.a. Syroco, Los Angeles, Calif. 894,180, pub. 4-21-70. Multiple Class (Classes 32 and 38).  
 Decolage, Inc., Los Angeles, Calif. 894,155, pub. 4-21-70. Cl. 37.  
 De Erven De Wed. J. Van Nelle N.V., Rotterdam, Netherlands. 84,487, ren. 7-7-70. Cl. 17.  
 De Erven De Wed. J. Van Nelle N.V., Rotterdam, Netherlands. 84,592, ren. 7-7-70. Cl. 17.  
 Department of the Treasury of The United States, Washington, D.C. 894,359, pub. 4-21-70. Cl. 107.  
 Detrex Chemical Industries, Inc., Detroit, Mich. 525,641, ren. 7-7-70. Cl. 52.  
 Dietzgen, Eugene, Co., Chicago, Ill. 525,857, ren. 7-7-70. Cl. 26.  
 Digital Automation Co., Inc., Pennington, N.J. 894,103, pub. 4-21-70. Cl. 26.  
 Director Publications, Inc., St. Louis, Mo. 894,171, pub. 4-21-70. Cl. 38.  
 Division Sales Specialty Merchandise Assoc., Chicago, Ill. 770,072, can. Cl. 51.  
 Dr. Atsinger & Co., K.G. Pharmazeutische Fabrik, Passau, Germany. 894,016, pub. 4-21-70. Cl. 18.  
 Dolphin Seafood, Inc., Cleveland, Ohio. 894,285, pub. 4-21-70. Cl. 46.  
 Drain Master Equipment Co., Algona, Iowa. 893,994, pub. 10-14-69. Cl. 13.  
 Dresser Industries, Inc., Dallas, Tex. 531,140, ren. 7-7-70. Cl. 13.  
 Drexel Enterprises, Inc., Drexel, N.C. 769,936, can. Cl. 32.  
 Dubois-Prevost, Raoul, Paris (Seine), France. 770,023, can. Cl. 46.  
 Dunlop Tire & Rubber Corp., Buffalo, N.Y. 894,145, pub. 4-21-70. Cl. 35.  
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 529,087, ren. 7-7-70. Cl. 6.  
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 529,412, ren. 7-7-70. Cl. 6.  
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 769,794, can. Cl. 6.  
 Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. 893,947, pub. 4-21-70. Multiple Class (Classes 1, 7, 20, 42, and 60).  
 EVB Entwicklungs- & Verwertungs-Gesellschaft mbH, Graz, Austria. 894,072, pub. 4-21-70. Cl. 34.  
 Early California Industries Inc., from Arizona Agrochemical Corp., Los Angeles, Calif. 886,183, cor. Cl. 6.  
 Easy-Spread, Inc., Bradenton, Fla. 893,990, pub. 4-21-70. Cl. 12.  
 Eaton Allen Corp., Brooklyn, N.Y. 893,987, pub. 4-21-70. Multiple Class (Classes 11 and 37).  
 Eilers Mfg. Inc., Huron, S. Dak. 894,161, pub. 4-21-70. Cl. 37.  
 Elilio's Pizza House Inc., Long Island City, N.Y. 894,297, pub. 4-21-70. Cl. 46.  
 Ellison, Mearl E., d.b.a. Mearl Ellison, Bellflower, Calif. 894,140, pub. 4-21-70. Cl. 34.  
 Elm Tree Baking Co., d.b.a. Elm Tree Bakery, Appleton, Wis. 894,266, pub. 4-21-70. Cl. 46.  
 Empire Bloomer Co., New York, N.Y. 526,683, ren. 7-7-70. Cl. 39.  
 Energy Research & Generation, Inc., Oakland, Calif. 899,217, cor. Cl. 1.  
 Engelhard Minerals & Chemicals Corp., Newark, N.J. 894,038, pub. 10-21-69. Cl. 21.  
 Eskimo Pie Corp., Richmond, Va. 893,953, pub. 4-21-70. Multiple Class (Classes 2, 14, 37, 46, and 101).  
 Etablissement Actimonde, Vaduz, Liechtenstein. 894,305, pub. 4-21-70. Cl. 47.  
 Ethyl Corp., Richmond, Va. 894,158, pub. 4-21-70. Cl. 37.  
 Eitelbrick Shoe Co., Greenup, Ill. 770,127, can. Cl. 39.  
 Euclid, Inc., Cleveland, Ohio. 525,894, ren. 7-7-70. Cl. 19.  
 Euclid, Inc., Cleveland, Ohio. 527,789, ren. 7-7-70. Cl. 23.  
 Evans, Robert B., d.b.a. M-B Co., New Holstein, Wis. 894,082, pub. 4-21-70. Cl. 23.  
 Ever-Dry Corp., Memphis, Tenn. 524,508, ren. 7-7-70. Cl. 51.  
 Evaco Pharmaceutical Corp., from Evaco Pharmaceutical Co., Oceanside, N.Y. 894,017, pub. 2-24-70. Cl. 18.  
 Extermetal Chemicals, Inc., Dayton, Ohio. 524,253, ren. 7-7-70. Cl. 103.  
 Fabrique des Montres Wyler Societe Anonyme, Bienne, Switzerland. 524,526, ren. 7-7-70. Cl. 27.  
 Falconer, Claude J., d.b.a. Falconer Products, Inc., Sonoma, Calif. 769,908, can. Cl. 24.  
 Farenwald Enterprises, Inc., Lancaster, Pa. 894,081, pub. 4-21-70. Cl. 19.  
 Federal Employees' Distributing Co., d.b.a. Fedco, Inc., Los Angeles, Calif. 893,968, pub. 4-21-70. Multiple Class (Classes 4, 6, 15, 21, 22, and 52).  
 Federated Foods, Inc., d.b.a. National Brand Sales Division, Chicago, Ill. 894,253, pub. 4-21-70. Cl. 46.  
 Fedtro, Inc., Rockville Centre, N.Y. 894,048, pub. 4-21-70. Cl. 21.  
 Fibre-Metal Products Co., The, Chester, Pa. 894,204, pub. 4-21-70. Cl. 39.  
 Fieldcrest Mills, Inc., Eden, N.C. 523,990, ren. 7-7-70. Cl. 42.  
 Fit-Bite Pants Co., Inc., New York, N.Y. 769,976, can. Cl. 39.  
 Fleetwood Sportswear, Inc., New York, N.Y. 769,989, can. Cl. 39.  
 Ford Motor Co., Dearborn, Mich. 528,745-52, ren. 7-7-70. Cl. 52.  
 Food Facilities Management Corp., Chicago, Ill. 894,258, pub. 4-21-70. Cl. 46.  
 Fouke Co., The, Greenville, S.C. 893,950, pub. 4-21-70. Cl. 1.  
 Franklin Mint, Inc., The, Yeadon, Pa. 894,306-11, pub. 4-21-70. Cl. 50.  
 Franklin Mint, Inc., The, Yeadon, Pa. 894,352, pub. 4-21-70. Cl. 101.  
 Frohlich, E., AG, Muhlehorn, Switzerland. 894,085, pub. 4-21-70. Cl. 28.

Frye, Micaela D., d.b.a. Lightning Hair Products Co., Chicago, Ill. 769,833, can. Cl. 18.  
 Fuller Brush Co., The, East Hartford, Conn. 731,093, ren. 7-7-70. Cl. 23.  
 Fuller Laboratories, Inc., Eden Prairie, Minn. 894,008, pub. 4-21-70. Cl. 16.  
 GAF Corp., New York, N.Y. 894,118, pub. 4-21-70. Cl. 26.  
 Garland Mfg. Co., Saco, Maine. 530,776, ren. 7-7-70. Cl. 23.  
 Gehl, Fend, Pforzheim, Baden, Germany. 769,949-50, can. Cl. 37.  
 General Electric Co., Schenectady, N.Y. 77,779, ren. 7-7-70. Cl. 21.  
 General Electric Co., Schenectady, N.Y. 894,113, pub. 4-21-70. Cl. 26.  
 General Foods Corp., White Plains, N.Y. 894,296, pub. 4-21-70. Cl. 46.  
 General Motors Corp., Detroit, Mich. 894,036, pub. 4-21-70. Multiple Class (Classes 21, 24, 31, and 34).  
 General Signal Corp., Rochester, N.Y. 894,035, pub. 4-21-70. Cl. 21.  
 Genie Ltd., Newport Beach, Calif. 894,191, pub. 4-21-70. Cl. 39.  
 Gibson, C. R., Co., The, Norwalk, Conn. 894,160, pub. 4-21-70. Cl. 37.  
 Gibson, Gay, Inc., Kansas City, Mo. 769,973, can. Cl. 39.  
 Gibson Greeting Cards, Inc., Cincinnati, Ohio. 894,003, pub. 4-21-70. Cl. 15.  
 Gillette Co., The, Boston, Mass. 894,316, pub. 8-12-69. Cl. 51.  
 Givaudan Corp., Clifton, N.J. 894,256, pub. 4-21-70. Cl. 46.  
 Glamorise Foundations, Inc., New York, N.Y. 894,209, pub. 4-21-70. Multiple Class (Classes 39 and 42).  
 Glasser, Alfred H., Corp., New York, N.Y. 769,923, can. Cl. 28.  
 Godbold, Inc., Maria, Tex. 894,259, pub. 4-21-70. Cl. 46.  
 Golke, Mabel M., executrix of the will of John A. Golke, deceased, d.b.a. Golke's Kashub Snuff Co., Detroit, Mich. 769,832, can. Cl. 17.  
 Golden Arrow Mfg. Ltd., Calgary, Alberta, Canada. 894,086, pub. 4-21-70. Cl. 23.  
 Good Cents Products, Portland, Oreg. 894,326, pub. 4-21-70. Cl. 52.  
 Gordon, Claud S., Co., Cleveland, Ohio. 769,859, can. Cl. 21.  
 Gotham Ink & Color Co., Inc., Long Island City, N.Y. 893,988, pub. 4-21-70. Cl. 11.  
 Grace, W. R., & Co., Duncan, S.C. 893,956, pub. 4-21-70. Cl. 2.  
 Graf's Beverages, Inc., Milwaukee, Wis. 894,243, pub. 4-21-70. Cl. 46.  
 Graham Mfg. Co., Inc., New York, N.Y. 537,759, ren. 7-7-70. Cl. 34.  
 Great American Knitting Mills, Inc., New York, N.Y. 526,188, ren. 7-7-70. Cl. 39.  
 Grubbens & Co., Aktiebolag, Stockholm, Sweden. 769,837, can. Cl. 23.  
 Guard Chemical Co., Inc., Ossining, N.Y. 769,786-7, can. Cl. 6.  
 Gulf Oil Corp., Pittsburgh, Pa. 893,986, pub. 4-21-70. Cl. 10.  
 Gump's Inc., San Francisco, Calif. 523,729, ren. 6-6-70. Cl. 50.  
 Gyro Universal Joint Corp., Glenwood, Minn. 769,905, can. Cl. 23.  
 Haas, John I., Inc., Washington, D.C. 527,597, ren. 7-7-70. Cl. 1.  
 Hammond Corp., Deerfield, Ill. 894,154, pub. 4-21-70. Cl. 36.  
 Hancock, John Mutual Insurance Co., Boston, Mass. 894,354, pub. 4-21-70. Cl. 102.  
 Hand, Peter, Foundation, Inc.: See—  
 Hand, Peter, Inc.  
 Hand, Peter, Inc., from Peter Hand Foundation, Inc., Waukegan, Ill. 894,019, pub. 4-21-70. Cl. 18.  
 Hanes Corp., Winston-Salem, N.C. 894,211, pub. 4-21-70. Cl. 39.  
 Hanna, Daniel C., d.b.a. Hanna Enterprises, Portland, Oreg. 894,174, pub. 4-21-70. Cl. 38.  
 Hansley Industries, Inc., from Stadium Mfg. Co., Inc., New York, N.Y. 894,193, pub. 4-21-70. Cl. 39.  
 Harco Chemical Co., Cranford, N.J. 894,010, pub. 4-21-70. Cl. 46.  
 Harris, D. P., Hardware & Mfg. Co., Inc., New York, N.Y. 531,201, ren. 7-7-70. Cl. 22.  
 Harvey Famous Cartoons, New York, N.Y. 894,276, pub. 4-21-70. Cl. 46.  
 Hasbro Industries, Inc., Pawtucket, R.I. 894,166, pub. 4-21-70. Cl. 37.  
 Hat Corp. of America, New York, N.Y. 526,514, ren. 7-7-70. Cl. 39.  
 Hat Corp. of America, New York, N.Y. 526,778, ren. 7-7-70. Cl. 39.  
 Hawthorn Melody, Inc., Chicago, Ill. 894,261, pub. 4-21-70. Cl. 46.  
 Health-O-Swim Products, Inc., New York, N.Y. 770,128, can. Cl. 39.  
 Heatherwood Farms Co., Lansing, Mich. 894,244, pub. 4-21-70. Cl. 45.  
 Hertz System, Inc., New York, N.Y. 770,111, can. Cl. 105.  
 Hirsh Co., The, Skokie, Ill. 522,311, ren. 7-7-70. Cl. 32.  
 Hoffberger, Charles C., Baltimore, Md. 769,959, can. Cl. 38.  
 Hogar Industries, Inc., Los Angeles, Calif. 769,774, can. Cl. 3.  
 Holtzinger, C. M., Fruit Co., Inc., d.b.a. C. M. Holtzinger Fruit Co., Yakima, Wash. 894,277, pub. 4-21-70. Cl. 46.  
 Hudson, H. D., Mfg. Co., Chicago, Ill. 894,093, pub. 4-21-70. Cl. 23.  
 Hunter Products Corp., San Antonio, Tex. 443,764, ren. 7-7-70. Cl. 6.  
 Hydril Corp. of California, Los Angeles, Calif. 264,030, ren. 7-7-70. Cl. 23.  
 Hyster Co., Portland, Oreg. 528,531, ren. 7-7-70. Cl. 23.  
 Ideal Toy Corp., Hollis, N.Y. 894,069, pub. 4-21-70. Cl. 22.  
 Imprinting Corp. of America, New York, N.Y. 769,951, can. Cl. 37.  
 Independent Grocers' Alliance Distributing Co., Chicago, Ill. 894,282, pub. 4-21-70. Cl. 46.  
 Individualized Systems, Inc., Atlanta, Ga. 894,164, pub. 4-21-70. Cl. 37.  
 Industrial Sales Co., Inc., Baltimore, Md. 893,978, pub. 4-21-70. Cl. 7.  
 Information Control Corp., El Segundo, Calif. 894,114, pub. 4-21-70. Cl. 26.  
 Ingram Pharmaceutical Co., San Francisco, Calif. 894,021, pub. 4-21-70. Cl. 18.  
 Inmont Corp., New York, N.Y. 893,975, pub. 4-21-70. Cl. 6.  
 Instant Fold Products, Inc., Garfield, N.J. 770,129, can. Cl. 39.  
 Institute of Scrap Iron & Steel, Inc., Washington, D.C. 894,184-5, pub. 4-21-70. Cl. 38.  
 International Forwarding Co., Chicago, Ill. 528,872, ren. 7-7-70. Cl. 103.  
 International Merchants, Ltd., New York, N.Y. 894,260, pub. 4-21-70. Cl. 46.  
 International Paper Co., New York, N.Y. 894,231, pub. 4-21-70. Cl. 42.  
 International Salt Co., Clarks Summit, Pa. 894,263-4, pub. 4-21-70. Cl. 46.  
 Interstate Bakeries Corp., Kansas City, Mo. 894,280-1, pub. 4-21-70. Cl. 46.  
 Interstate Brands Corp., Kansas City, Mo. 270,774, ren. 7-7-70. Cl. 46.  
 Jay & Ell Enterprises, Inc., Worthington, Ohio. 894,228, pub. 4-21-70. Cl. 40.  
 Jen-Cel-Lite Corp., Seattle, Wash. 531,131, ren. 7-7-70. Cl. 1.  
 Jeneal Studios, Inc., Houston, Tex. 894,313, pub. 4-21-70. Multiple Class (Classes 51 and 53).  
 Jiffy Jem Corp., Cambridge, Mass. 894,254, pub. 4-21-70. Cl. 46.  
 Joanna Western Mills Co., Chicago, Ill. 894,184, pub. 4-21-70. Cl. 32.  
 Jorgensen Conveyors, Inc., Milwaukee, Wis. 769,886, can. Cl. 23.  
 Jover, Isidro, & Ca. S.A., Barcelona, Spain. 769,981, can. Cl. 39.  
 Kaiser, John C., Co., Dubuque, Iowa. 894,007, pub. 4-21-70. Cl. 16.  
 Karlan, Mac, New York, N.Y. 894,163, pub. 4-21-70. Cl. 37.  
 Kaydon Engineering Corp., The, Muskegon, Mich. 894,083, pub. 4-21-70. Cl. 23.  
 Kaydon Engineering Corp., The, Muskegon, Mich. 894,088, pub. 4-21-70. Cl. 23.  
 Keebler Co., Elmhurst, Ill. 894,295, pub. 4-21-70. Cl. 46.  
 Kelsey-Hayes Co., Romulus, Mich. 894,032, pub. 4-21-70. Cl. 19.  
 Kern Foods, Inc., City of Industry, Calif. 894,265, pub. 4-21-70. Cl. 46.  
 Keyes Fibre Co., Waterville, Maine. 893,960, pub. 4-21-70. Cl. 2.  
 Kiddie Brush & Toy Co., Jonesville, Mich. 894,050, pub. 4-21-70. Cl. 22.  
 Kimberly-Clark Corp., Neenah, Wis. 894,240-1, pub. 4-21-70. Cl. 44.  
 King, Geo. W., Ltd., Stevenage, England. 769,891, can. Cl. 23.  
 Kirsch Co., Sturgis, Mich. 894,000, pub. 4-21-70. Cl. 13.  
 Kline Bros. Co., New York, N.Y. 270,050, ren. 7-7-70. Cl. 42.  
 Kline Bros. Co., New York, N.Y. 274,921, ren. 7-7-70. Cl. 39.  
 Knight Homes Corp., Savannah, Ga. 894,028, pub. 4-21-70. Cl. 19.  
 Koracorp Industries Inc., San Francisco, Calif. 894,226, pub. 4-21-70. Cl. 39.  
 Korell Corp., New York, N.Y. 524,397, ren. 7-7-70. Cl. 39.  
 Kornylak Corp., Hamilton, Ohio. 894,135, pub. 4-21-70. Cl. 32.  
 Kreis, Robert, d.b.a. R.K. Foods, Los Angeles, Calif. 770,019, can. Cl. 46.  
 Kreiser, Jacques, Mfg. Corp., North Bergen, N.J. 769,928, can. Cl. 28.  
 Kresge, S. S., Co., Detroit, Mich. 893,954, pub. 4-21-70. Cl. 2.  
 Kresge, S. S., Co., Detroit, Mich. 894,146, pub. 4-21-70. Cl. 35.  
 Kretschmer Wheat Germ Corp., Saginaw, Mich. 770,021, can. Cl. 46.  
 Krieger Co., The, Cincinnati, Ohio. 894,269, pub. 4-21-70. Cl. 46.  
 Kroger Co., The, Cincinnati, Ohio. 894,275, pub. 4-21-70. Cl. 46.  
 L. & A. Pipe Co., Queens Village, N.Y. 769,801, can. Cl. 8.  
 Laboratoires I.T.C., Paris, France. 894,255, pub. 4-21-70. Cl. 46.  
 Laclede Steel Co., St. Louis, Mo. 530,765, ren. 7-7-70. Cl. 2.  
 Laitner Brush Co., Detroit, Mich. 894,126, pub. 4-21-70. Cl. 29.  
 Latimer, W. H., d.b.a. San Antonio Orchard Co., Ontario, Calif. 894,270, pub. 4-21-70. Cl. 46.  
 Layne & Bowler Pump Co., City of Industry, Calif. 894,081, pub. 4-21-70. Cl. 28.  
 Lea Co., The, Elgin, Ill. 893,962, pub. 4-21-70. Cl. 3.  
 Le Trappeur, Inc., Westwood, Mass. 770,068, can. Cl. 50.  
 Lever Bros. Co., New York, N.Y. 35,228, ren. 7-7-70. Cl. 52.  
 Liberty Leasing Co., Inc., Chicago, Ill. 894,331, pub. 4-21-70. Cl. 100.  
 Lily Mills Co., Shelby, N.C. 893,995, pub. 4-21-70. Cl. 13.  
 Lipman, Julian A., d.b.a. Chemiquip Co., New York, N.Y. 893,998, pub. 4-21-70. Cl. 13.  
 Litton Precision Products, Inc., Morris Plains, N.J. 894,124, pub. 4-21-70. Cl. 28.  
 Longchamps, Inc., New York, N.Y. 894,348, pub. 4-21-70. Cl. 100.  
 Lovelace Candy Mfg. Co., Nashville, Tenn. 770,054, can. Cl. 46.



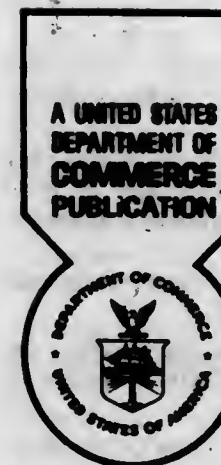
Luben, Bearnet, and Selwyn Luben, d.b.a. National Clothing Co., Kansas City, Mo. 894,202, pub. 4-21-70. Cl. 39.  
 Lubrisol Corp., The, Cleveland, Ohio. 275,737, ren. 7-7-70. Cl. 16.  
 Ludlow Corp., Needham, Mass. 894,163, pub. 4-21-70. Cl. 37.  
 Lynn, Harry G., Inc., d.b.a. Uline Ice Co., Washington, D.C. 769,764, can. Cl. 2.  
 M.G. Plastics Ltd., Blackburn, England. 769,806, can. Cl. 12.  
 Maidenform, Inc., New York, N.Y. 894,218-25, pub. 4-21-70. Cl. 39.  
 Manufacture des Montres Universal Perret Freres S.A., Geneva, Switzerland. 894,121, pub. 4-21-70. Cl. 27.  
 Magid-Robinson Co., Inc., New York, N.Y. 893,949, pub. 4-21-70. Multiple Class (Classes 1, 20, and 42).  
 Marvel & Marcus Jewelry Co., Inc., Miami, Fla. 894,123, pub. 4-21-70. Cl. 28.  
 Marden-Kane, Inc., New York, N.Y. 894,850-1, pub. 4-21-70. Cl. 101.  
 Mark III Enterprises, Inc., San Francisco, Calif. 770,059, can. Cl. 46.  
 Mars, Inc., Wilmington, Del. 522,027, ren. 7-7-70. Cl. 46.  
 Masonite Corp., Chicago, Ill. 894,131, pub. 4-21-70. Multiple Class (Classes 32 and 50).  
 Masterpiece Mirror Corp., Memphis, Tenn. 769,934, can. Cl. 32.  
 Matavelli, San Francisco, Calif. 769,885, can. Cl. 22.  
 Mathews Electronics Corp., Mobile, Ala. 894,040, pub. 4-21-70. Cl. 21.  
 Mattel Bros., Inc., Long Island City, N.Y. 894,195, pub. 4-21-70. Cl. 39.  
 Matsushita Electric Industrial Co., Ltd., Osaka, Japan. 894,150, pub. 8-26-69. Cl. 36.  
 Mattel, Inc., Hawthorne, Calif. 894,054-64, pub. 4-21-70. Cl. 22.  
 Mattel, Inc., Hawthorne, Calif. 894,087-8, pub. 4-21-70. Cl. 22.  
 Mattel, Inc., Hawthorne, Calif. 894,070-1, pub. 4-21-70. Cl. 22.  
 May, James, Organisation, Inc., New York, N.Y. 894,834, pub. 4-21-70. Cl. 100.  
 McGraw-Edison Co., Elgin, Ill. 894,087, pub. 4-21-70. Cl. 21.  
 McGraw-Edison Co., Elgin, Ill. 894,188, pub. 4-21-70. Cl. 34.  
 McGraw-Hill, Inc., New York, N.Y. 530,418, ren. 7-7-70. Cl. 38.  
 McGregor-Doniger Inc., New York, N.Y. 894,214, pub. 4-21-70. Cl. 39.  
 Melville Shoe Corp., New York, N.Y. 769,998, can. Cl. 39.  
 Melville Shoe Corp., New York, N.Y. 770,000, can. Cl. 39.  
 Metropolitan Life Insurance Co., New York, N.Y. 894,355, pub. 4-21-70. Cl. 102.  
 Michaels of Oregon Co., Portland, Oreg. 893,980, pub. 4-21-70. Cl. 9.  
 Michigan Co., Inc., Lansing, Mich. 894,323, pub. 4-21-70. Cl. 52.  
 Microdyne, Inc., Holling Meadows, Ill. 894,095, pub. 4-21-70. Cl. 26.  
 Micropoint Engineering Co., Sunnyvale, Calif. 894,166, pub. 4-21-70. Cl. 37.  
 Micropoint Engineering Co., Sunnyvale, Calif. 894,167, pub. 4-21-70. Cl. 37.  
 Miner's, Inc., New York, N.Y. 770,084, can. Cl. 51.  
 Mr. Tire Inc., McKee City, N.J. 894,144, pub. 4-21-70. Cl. 35.  
 Mithum Co., The, Paris, Tenn. 894,182, pub. 4-21-70. Cl. 38.  
 Mohawk Industrial Laboratories, Inc., Vernon, N.Y. 894,107, pub. 4-21-70. Cl. 26.  
 Monsanto Chemical Co., St. Louis, Mo. 769,797, can. Cl. 6.  
 Monsanto Co., St. Louis, Mo. 893,976, pub. 4-21-70. Cl. 6.  
 Monument Record Corp., Hendersonville, Tenn. 894,152, pub. 4-21-70. Cl. 36.  
 Morton International, Inc., Chicago, Ill. 894,284, pub. 4-21-70. Cl. 46.  
 Movie Star, Inc., New York, N.Y. 894,210, pub. 4-21-70. Cl. 39.  
 Mueller, Leo B., d.b.a. Brimar Co., Audubon, N.Y. 894,319, 4-21-70. Cl. 51.  
 Mueller Welt Contact Lenses, Inc., Chicago, Ill. 894,111, pub. 4-21-70. Cl. 26.  
 Murphy Finance Co., St. Paul, Minn. 770,107, can. Cl. 102.  
 Murphy, G. C., Co., McKeesport, Pa. 894,159, pub. 4-21-70. Cl. 37.  
 NBC Corp., Chicago, Ill. 894,125, pub. 4-21-70. Cl. 28.  
 NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Wurttemberg, Germany. 769,852, can. Cl. 19.  
 Nalco Chemical Co., Chicago, Ill. 894,116, pub. 4-21-70. Cl. 26.  
 National Mattress Co., Huntington, W. Va. 531,232, ren. 7-7-70. Cl. 32.  
 National Plumbing Stores, Columbus, Ohio. 894,136, pub. 8-15-67. Cl. 34.  
 National Slurry Seal Assoc., Waco, Tex. 770,119, can. Cl. 200.  
 National Tea Co., Chicago, Ill. 894,169, pub. 4-21-70. Cl. 37.  
 National Union Electric Corp., Jersey City, N.J. 527,505, ren. 7-7-70. Cl. 21.  
 National-Standard Co., Niles, Mich. 531,125, ren. 7-7-70. Cl. 14.  
 Neiman Steel Equipment Co., Inc., Philadelphia, Pa. 894,128, pub. 4-21-70. Cl. 32.  
 Neotec Corp., Rockville, Md. 894,110, pub. 4-21-70. Cl. 26.  
 New York Merchandise Co., Inc., New York, N.Y. 443,863, ren. 7-7-70. Cl. 21.  
 Newberry, J. J., Co., New York, N.Y. 769,887, can. Cl. 18.  
 Newberry, J. J., Co., New York, N.Y. 770,074, can. Cl. 51.  
 Newspaper Enterprise Association, Inc., Cleveland, Ohio. 769,955, can. Cl. 38.  
 Niagara Lubricant Co., Inc., Buffalo, N.Y. 269,895, ren. 7-7-70. Cl. 16.  
 Nicholson File Co., Providence, R.I. 894,077, pub. 4-21-70. Cl. 23.  
 Nippon Denso Kabushiki Kaisha, Kariya, Aichi, Japan. 893,878, pub. 4-21-70. Cl. 6.  
 Nitto Boseki Co., Ltd., Fukushima, Japan. 894,238, pub. 4-21-70. Cl. 42.  
 Non-Fluid Oil Corp., New York, N.Y. 526,497, ren. 7-7-70. Cl. 15.  
 Nordac S.A., Archamps, France. 894,101, pub. 4-21-70. Cl. 26.  
 Norden Co., Inc., New York, N.Y. 769,808, can. Cl. 13.  
 Norris Dispensers, Inc., Hot Springs, Ark. 893,997, pub. 4-21-70. Cl. 13.  
 North American Rockwell Corp., Pittsburgh, Pa. 275,550, ren. 7-7-70. Cl. 23.  
 Northwestern Golf Co., Chicago, Ill. 894,051, pub. 4-21-70. Cl. 22.  
 Nutro Dog Food, Inc., El Monte, Calif. 525,385, ren. 7-7-70. Cl. 46.  
 Oneida Ltd., Oneida, N.Y. 894,078-9, pub. 4-21-70. Cl. 23.  
 Oppenheimer, David Ltd. & Associates, d.b.a. Mandarin Orange Co., Vancouver, British Columbia, Canada. 894,262, pub. 4-21-70. Cl. 46.  
 Oxford Speaker Co., Chicago, Ill. 512,411, ren. 7-7-70. Cl. 21.  
 Parfums Marcel Rochas, Inc., New York, N.Y. 529,408, ren. 7-7-70. Cl. 51.  
 Paris Presents, Ltd., Chicago, Ill. 894,229, pub. 4-21-70. Cl. 40.  
 Parker Bros., Inc., Salem, Mass. 894,065-6, pub. 4-21-70. Cl. 22.  
 Parker-Hannifin Corp., Cleveland, Ohio. 893,996, pub. 4-21-70. Cl. 13.  
 Patnaude, Henry A., d.b.a. Hydro Systems Engineering Co., Sacramento, Calif. 894,023, pub. 4-21-70. Cl. 19.  
 Pearson Publishing, Inc., Glendale, Calif. 894,186, pub. 4-21-70. Cl. 38.  
 Pendleton Tool Industries, Inc., Los Angeles, Calif. 530,257, ren. 7-7-70. Cl. 23.  
 Penn Crete Products Co., Inc., Philadelphia, Pa. 769,825, can. Cl. 16.  
 PepsiCo, Inc., New York, N.Y. 894,249, pub. 4-21-70. Cl. 45.  
 Pfizer, Chas., & Co., Inc., New York, N.Y. 770,060, can. Cl. 46.  
 Phoenix Products Co., Milwaukee, Wis. 531,363, ren. 7-7-70. Cl. 106.  
 Photocompositors, Inc., Shawnee Mission, Kans. 894,173, pub. 4-21-70. Cl. 33.  
 Phywe Aktiengesellschaft, Göttingen, Germany. 894,105, pub. 4-21-70. Multiple Class (Classes 26, 38, and 50).  
 Picaso-Anstalt, Vaduz, Liechtenstein. 770,070, can. Cl. 51.  
 Pierce's Properties, Inc., New York, N.Y. 529,075, ren. 7-7-70. Cl. 18.  
 Pillsbury Co., The, Minneapolis, Minn. 894,279, pub. 4-21-70. Cl. 46.  
 Plastic & Rubber Products Co., Ontario, Calif. 894,147, pub. 4-21-70. Cl. 35.  
 Plymouth Penant Squadron, Plymouth, England. 770,117, can. Cl. 200.  
 Polaroid Corp., Cambridge, Mass. 894,087, pub. 4-21-70. Cl. 23.  
 Ponte Vedra Corp., d.b.a. Ponte Vedra Club, Ponte Vedra Beach, Fla. 894,349, pub. 4-21-70. Multiple Class (Classes 100 and 107).  
 Precision Winding Co., Inc., Santa Ana, Calif. 894,033, pub. 4-21-70. Cl. 21.  
 Premiere of Hollywood, Inc., d.b.a. Sun to Sun Enterprises, North Hollywood, Calif. 894,314, pub. 4-21-70. Cl. 51.  
 Presentation, Inc., New York, N.Y. 769,935, can. Cl. 32.  
 Presswork Inc., Detroit, Mich. 524,228, ren. 7-7-70. Cl. 14.  
 Procter & Gamble Co., The, Cincinnati, Ohio. 275,166, ren. 7-7-70. Cl. 6.  
 Proctor-Sillex Inc., Philadelphia, Pa. 894,045, pub. 4-21-70. Cl. 21.  
 Prolico Industries, Inc., Mobile, Ala. 894,291, pub. 4-21-70. Cl. 46.  
 Pro-Tel Products Co., Los Angeles, Calif. 894,192, pub. 4-21-70. Cl. 39.  
 Prototron Industries, Inc., Anaheim, Calif. 894,139, pub. 4-21-70. Cl. 34.  
 Pulitzer Publishing Co., The, St. Louis, Mo. 531,398, ren. 7-7-70. Cl. 38.  
 Pure Dairy & Food Products Corp., Brooklyn, N.Y. 770,043, can. Cl. 46.  
 Quaker Oats Co., The, Chicago, Ill. 770,056, can. Cl. 46.  
 Quinlan Pretzel Co., Denver, Pa. 894,293, pub. 4-21-70. Cl. 46.  
 RCA Corp., New York, N.Y. 521,013, ren. 7-7-70. Cl. 36.  
 Radiation Materials Corp., Waltham, Mass. 894,098, pub. 4-21-70. Cl. 26.  
 Rajkovich Bros., d.b.a. Martin P. & George A. Rajkovich, Hollister, Calif. 894,239, pub. 4-21-70. Cl. 46.  
 Ralston Purina Co., St. Louis, Mo. 894,299-303, pub. 4-21-70. Cl. 46.  
 Randa Neckwear Corp., Hackensack, N.J. 894,197, pub. 4-21-70. Cl. 39.  
 Rapid-American Corp., New York, N.Y. 893,964, pub. 4-21-70. Cl. 3.  
 Rath Packing Co., The, Waterloo, Iowa. 271,690, ren. 7-7-70. Cl. 46.  
 Raybrooke Sportswear Co., Inc., New York, N.Y. 894,200, pub. 4-21-70. Cl. 39.  
 Rayflex Exploration Co., Dallas, Tex. 770,101, can. Cl. 101.  
 Regional Film Distributors, Inc., New York, N.Y. 894,187, pub. 4-21-70. Cl. 38.  
 Rembrandt Tobacco Corp. (Overseas) Ltd., Zurich, Switzerland. 894,013, pub. 4-21-70. Cl. 17.  
 Research Products Corp., Madison, Wis. 894,127, pub. 8-27-68. Cl. 31.

Richardson-Merrell Inc., New York, N.Y. 272,876, ren. 7-7-70. Cl. 51.  
 Robertson Photo-Mechanix, Inc., Des Plaines, Ill. 894,117, pub. 4-21-70. Cl. 26.  
 Robins, A. H., Co., Inc., Richmond, Va. 893,965, pub. 4-21-70. Cl. 8.  
 Robins, A. H., Co., Inc., Richmond, Va. 894,294, pub. 4-21-70. Cl. 46.  
 Royce Hosiery Mills, Inc., New York, N.Y. 894,208, pub. 4-21-70. Cl. 39.  
 Rubbert Co., East Newark, N.J. 769,930, can. Cl. 29.  
 Rust-Oleum Corp., Evanston, Ill. 894,006, pub. 4-21-70. Cl. 16.  
 SCOA Industries Inc., Columbus, Ohio. 894,206, pub. 4-21-70. Cl. 39.  
 S.p.A. Teodoro Carnielli & C., Vittorio Veneto (Treviso), Italy. 894,026, pub. 4-21-70. Cl. 19.  
 Safeway Stores, Inc., Baltimore, Md. 531,195, ren. 7-7-70. Cl. 46.  
 Safeway Stores, Inc., Oakland, Calif. 893,952, pub. 4-21-70. Cl. 1.  
 Sales Training, Inc., Seattle, Wash. 894,362, pub. 4-21-70. Cl. 107.  
 Santa Clara Lemon Association, Oxnard, Calif. 523,391-2, ren. 7-7-70. Cl. 46.  
 Santa Clara Lemon Association, Oxnard, Calif. 523,394-5, ren. 7-7-70. Cl. 46.  
 Santa Monica Chemical Corp., Santa Monica, Calif. 894,328, pub. 4-21-70. Cl. 52.  
 Saval Apparatenfabriek N.V., Breda, Netherlands. 883,287, cor. Cl. 23.  
 Saxon Industries, Inc., New York, N.Y. 893,957, pub. 4-21-70. Multiple Class (Classes 2, 7, 12, and 37).  
 Scenic Fruit Co., Gresham, Oreg. 894,288, pub. 4-21-70. Cl. 46.  
 Schaper Mfg. Co., Inc., Minneapolis, Minn. 770,122, can. Cl. 22.  
 Scherer, R. P., Corp., Detroit, Mich. 769,834-5, can. Cl. 18.  
 Schreiber Mills, Inc., St. Joseph, Mo. 525,450, ren. 7-7-70. Cl. 46.  
 Screw Conveyor Corp., Hammond, Ind. 530,578, ren. 7-7-70. Cl. 23.  
 Sealy, Inc., Chicago, Ill. 894,129, pub. 4-21-70. Cl. 32.  
 Seamless Rubber Co., The, New Haven, Conn. 769,769, can. Cl. 2.  
 Searle, G. D., & Co., Chicago, Ill. 525,047, ren. 7-7-70. Cl. 18.  
 Searle, G. D., & Co., Chicago, Ill. 527,862, ren. 7-7-70. Cl. 18.  
 Seiko Trading Co., Ltd., d.b.a. Seiko Trading Co., Shizuoka-Ken, Japan. 894,287, pub. 4-21-70. Cl. 46.  
 Semel, Bernard J., c/o Eastern Import-Export, Inc., Washington, D.C. 893,982-3, pub. 4-21-70. Cl. 9.  
 Servco, Inc., Athens, Ga. 894,339, pub. 4-21-70. Cl. 100.  
 Service Parts, Inc., South Bend, Ind. 894,029, pub. 4-21-70. Cl. 19.  
 Shakespeare Co., Kalamazoo, Mich. 531,499, ren. 7-7-70. Cl. 15.  
 Shepherd, William F. Inc., Cincinnati, Ohio. 894,073, pub. 4-21-70. Cl. 23.  
 Signal Companies, Inc., The, d.b.a. Signal Oil & Gas Co., Los Angeles, Calif. 894,143, pub. 4-21-70. Cl. 35.  
 Signetics Corp., Sunnyvale, Calif. 769,865, can. Cl. 21.  
 Silverlith Corp., Edmonston, Md. 769,800, can. Cl. 6.  
 Simmons Gun Specialties, Inc., Olathe, Kans. 894,190, pub. 4-21-70. Cl. 39.  
 Sioux Steel Co., d.b.a. The Sioux Steel Co., Sioux Falls, S. Dak. 529,775, ren. 7-7-70. Cl. 50.  
 Sippel, B. & J., Ltd., Sheffield, England. 523,965, ren. 7-7-70. Cl. 28.  
 Sir George's Smorgasbord House, Inc., Orange, Calif. 894,383, pub. 4-21-70. Cl. 100.  
 Sirco Mfg., Inc., Missoula, Mont. 894,133, pub. 4-21-70. Cl. 32.  
 Smith, James P. & Co., Inc., New York, N.Y. 529,319, ren. 7-7-70. Cl. 46.  
 Smith-Blair, Inc., South San Francisco, Calif. 894,149, pub. 4-21-70. Cl. 35.  
 Snyder, Leonard M., Pasadena, Calif. 894,027, pub. 4-21-70. Cl. 19.  
 Societe Rhodiaceta, Paris, France. 770,004-5, can. Cl. 42.  
 Solitest, Inc., Evanston, Ill. 894,104, pub. 4-21-70. Cl. 26.  
 Sonic Distributors, Inc., Southfield, Mich. 894,148, pub. 4-21-70. Cl. 35.  
 Soul Brands, Inc., Memphis, Tenn. 894,324, pub. 4-21-70. Cl. 52.  
 Sound Ear, Inc., Mt. Kisco, N.Y. 894,242, pub. 4-21-70. Cl. 44.  
 Southland Corp., The, Dallas, Tex. 894,246, pub. 4-21-70. Cl. 45.  
 Spec-Tickles, Inc., Great Neck, N.Y. 769,877, can. Cl. 22.  
 Sperry Rand Corp., New York, N.Y. 769,867, can. Multiple Class (Classes 21 and 28).  
 Sperry Rand Corp., New York, N.Y. 893,970, pub. 4-21-70. Multiple Class (Classes 6, 11, 14, 16, 23, 29, 32, and 37).  
 Stadler's Country Hams, Inc., Elion College, N.C. 894,267, pub. 4-21-70. Cl. 46.  
 Standard Milling Co., Kansas City, Mo. 769,958, can. Cl. 38.  
 Stanley Publishing Co., d.b.a. High Performance News & Products Publishing Corp., Chicago, Ill. 894,172, pub. 4-21-70. Cl. 38.  
 Stecker Chemicals, Inc., Ho-Ho-Kus, N.J. 769,791, can. Cl. 6.  
 Stephens, L. E., Co., Inc., Blackfoot, Idaho. 523,210, ren. 7-7-70. Cl. 46.  
 Stetson, John B., Co., Philadelphia, Pa. 894,207, pub. 4-21-70. Cl. 39.  
 Stevens, J. P., & Co., Inc., New York, N.Y. 894,232-4, pub. 4-21-70. Cl. 42.  
 Stolpen, Beulah Harris, d.b.a. The Rolling Reader Publishing Co., Westport, Conn. 894,052, pub. 4-21-70. Cl. 22.  
 Storch, Felix, Inc., Astoria, N.Y. 894,094, pub. 4-21-70. Multiple Class (Classes 24 and 31).  
 Storer Broadcasting Co., Miami Beach, Fla. 770,114, can. Cl. 107.  
 Strauss & Co., Inc., Baltimore, Md. 894,237, pub. 4-21-70. Cl. 42.  
 Strauss, Ray Unlimited, Inc., New York, N.Y. 769,987, can. Cl. 39.  
 Strawbridge & Clothier, Philadelphia, Pa. 530,895, ren. 7-7-70. Cl. 39.  
 Stromberg-Carlson Corp., Rochester, N.Y. 894,049, pub. 4-21-70. Cl. 21.  
 Sunaid Food Products, Inc., Miami, Fla. 894,251, pub. 12-31-68. Cl. 46.  
 Sunb Candle Corp., Redwood City, Calif. 894,005, pub. 4-21-70. Cl. 15.  
 Superba Cravats, Inc., Rochester, N.Y. 894,199, pub. 4-21-70. Cl. 39.  
 Swasey Paper Co., Inc., New York, N.Y. 894,216, pub. 4-21-70. Cl. 39.  
 Sweetheart Plastics, Inc., Wilmington, Mass. 894,091, pub. 4-21-70. Cl. 23.  
 Swing Precision Products, Inc., White Plains, N.Y. 769,904, can. Cl. 23.  
 TAC Technical Instrument Corp., Trenton, N.J. 894,084, pub. 4-21-70. Multiple Class (Classes 21, 26, and 100).  
 T. E. K. Van Lines, Inc., South El Monte, Calif. 770,110, can. Cl. 105.  
 T & L Air Freight, Inc., Houston, Tex. 894,357, pub. 4-21-70. Cl. 105.  
 Taco, Inc., Cranston, R.I. 526,614, ren. 7-7-70. Cl. 13.  
 Taproot Republicans of the 14th Congressional District, Villa Park, Ill. 894,363, pub. 4-21-70. Cl. 200.  
 Tasty-Mates Co., from S. Twitchell Co., d.b.a. The Soda Barrel Co., Camden, N.J. 894,245, pub. 4-21-70. Cl. 45.  
 Taylor Food Products, Inc., El Segundo, Calif. 894,268, pub. 4-21-70. Cl. 46.  
 Teledyne Industries, Inc., Los Angeles, Calif. 524,267, ren. 7-7-70. Cl. 23.  
 Temple Corp., Munster, Ind. 769,849, can. Cl. 18.  
 Terry, Arthur, III, d.b.a. The Townsend Co., Newton, Conn. 520,377, ren. 7-7-70. Cl. 8.  
 Texan Drive-Inn Ltd., The, Vancouver, British Columbia, Canada. 894,382, pub. 4-21-70. Cl. 100.  
 Texas Instruments Inc., Dallas, Tex. 893,974, pub. 4-21-70. Cl. 6.  
 Texas Plastics, Inc., Elasa, Tex. 769,758, can. Cl. 1.  
 Texize Chemicals, Inc., Greenville, S.C. 770,090, can. Cl. 52.  
 Textile Corp. of America, Los Angeles, Calif. 770,008, can. Cl. 42.  
 Textron, Inc., Providence, R.I. 523,639, ren. 7-7-70. Cl. 23.  
 The's, Inc., Austin, Tex. 894,312, pub. 10-15-68. Cl. 51.  
 Thexton Mfg. Co., Hopkins, Minn. 894,119, pub. 4-21-70. Cl. 26.  
 Thomas & Betts Corp., Elizabeth, N.J. 894,043, pub. 4-21-70. Cl. 21.  
 Toro Mfg. Corp., Minneapolis, Minn. 894,142, pub. 4-21-70. Cl. 35.  
 Trans-Continental Industries, Inc., Fullerton, Calif. 769,933, can. Cl. 32.  
 Transmation, Inc., Rochester, N.Y. 894,102, pub. 4-21-70. Cl. 26.  
 Trigg, Vincent P., d.b.a. Vincent P. Trigg & Sons, West Hartford, Conn. 769,952, can. Cl. 37.  
 Troy Mills, Inc., Troy, N.H. 770,007, can. Cl. 42.  
 True Temper Corp., Cleveland, Ohio. 894,090, pub. 4-21-70. Cl. 23.  
 Tubal Industries, Inc., Elk Grove Village, Ill. 894,047, pub. 4-21-70. Cl. 21.  
 USM Corp., Boston, Mass. 893,969, pub. 4-21-70. Cl. 5.  
 U-Haul Co., from Amform, Inc., Glendale, Ariz. 894,025, pub. 10-23-69. Cl. 19.  
 Union Carbide Corp., Portsmouth, Va. 894,346, pub. 4-21-70. Cl. 100.  
 Union Carbide Corp., New York, N.Y. 443,800, ren. 7-7-70. Cl. 12.  
 Union Carbide Corp., New York, N.Y. 527,477, ren. 7-7-70. Cl. 21.  
 Union Carbide Corp., New York, N.Y. 894,217, pub. 4-21-70. Cl. 39.  
 United Co-Operatives, Inc., Alliance, Ohio. 894,039, pub. 4-21-70. Cl. 21.  
 United Merchants & Manufacturers, Inc., New York, N.Y. 524,504, ren. 7-7-70. Cl. 6.  
 United States Leasing Corp., San Francisco, Calif. 894,340-5, pub. 4-21-70. Cl. 100.  
 United States Shoe Corp., Cincinnati, Ohio, from Pappagallo, Inc., New York, N.Y. 893,962, pub. 4-21-70. Cl. 3.  
 Universal Oil Products Co., Des Plaines, Ill. 769,940, can. Cl. 34.  
 Universal Oil Products Co., Des Plaines, Ill., from Calumet & Hecla Corp., Allen Park, Mich. 894,002, pub. 4-21-70. Cl. 13.  
 Univis, Inc., Fort Lauderdale, Fla. 522,918, ren. 7-7-70. Cl. 26.  
 Utica Tool Co., Inc., Orangeburg, S.C. 266,707, ren. 7-7-70. Cl. 23.  
 Valley Homes, Inc., Manchester, Vt. 894,257, pub. 4-21-70. Cl. 46.  
 Van Der Heem NV. Elektrotechnische Industrie, The Hague, Netherlands. 769,942, can. Cl. 34.  
 Venesta Ltd., London, England. 893,992, pub. 4-21-70. Cl. 12.  
 Vermont Marble Co., Proctor, Vt. 531,672, ren. 7-7-70. Cl. 50.  
 Viceroy Sportswear, Inc., New York, N.Y. 894,196, pub. 4-21-70. Cl. 39.  
 Vicki Foods, Inc., Detroit, Mich. 770,055, can. Cl. 46.



Victor Balata & Textile Belting Co., Easton, Pa. 274,865, ren. 7-7-70. Cl. 35.  
 Viking Press, Inc., The, New York, N.Y. 894,178, pub. 4-21-70. Cl. 38.  
 Visual Needs, Inc., Rochester, N.Y. 894,106, pub. 4-21-70. Cl. 26.  
 Viva Laboratories, Inc., Horsham, Pa. 769,841, can. Cl. 18.  
 Wallis Dove Bitumastic Ltd., Hebburn, Durham, England. 894,009, pub. 4-21-70. Cl. 16.  
 Waltham Watch Co., Chicago, Ill. 894,122, pub. 4-21-70. Cl. 27.  
 Wann, Richard H., Barrington, Ill. 769,870, can. Cl. 21.  
 Warnaco Inc., Bridgeport, Conn. 894,212, pub. 4-21-70. Cl. 39.  
 Warner Co., Philadelphia, Pa. 527,717, ren. 7-7-70. Cl. 6.  
 Wells Lamont Corp., Chicago, Ill. 526,269, ren. 7-7-70. Cl. 39.  
 Wells Lamont Corp., Chicago, Ill. 527,903, ren. 7-7-70. Cl. 39.  
 Western Air Lines, Inc., d.b.a. Western Airlines International, Los Angeles, Calif. 894,858, pub. 4-21-70. Cl. 106.  
 Western Motels, Inc., Phoenix, Ariz. 770,116, can. Cl. 200.  
 Western Transportation Co. Inc., Los Angeles, Calif. 770,112, can. Cl. 106.  
 Westinghouse Air Brake Co., Pittsburgh, Pa. 443,926, ren. 7-7-70. Cl. 21.  
 Westinghouse Air Brake Co., Pittsburgh, Pa. 520,423, ren. 7-7-70. Cl. 23.  
 Wheaton Glass Co., Millville, N.J. 894,096-7, pub. 4-21-70. Cl. 26.  
 Whitney-Fidalgo Seafoods, Inc., Seattle, Wash. 531,262, ren. 7-7-70. Cl. 46.  
 Wiener Laces, Inc., New York, N.Y. 894,236, pub. 4-21-70. Cl. 42.  
 Williams Gold Refining Co. Inc., Buffalo, N.Y. 894,827, pub. 4-21-70. Cl. 52.  
 Wilson-Jacobi, Inc., Syosset, N.Y. 770,031, can. Cl. 46.  
 Winarick, Ar. Inc., New York, N.Y. 275,460, ren. 7-7-70. Cl. 51.  
 Winthrop-Atkins Co., Inc., Middleboro, Mass. 769,881, can. Cl. 22.  
 Wisconsin Pattern Co., Racine, Wis. 893,948, pub. 6-24-69. Cl. 1.  
 Wisconsin Traller Co., Inc., Richfield, Wis. 894,030, pub. 4-21-70. Cl. 19.  
 Woolsey Marine Industries, Inc., New York, N.Y. 531,545, ren. 7-7-70. Cl. 16.  
 Wyandotte Chemicals Corp., Wyandotte, Mich. 783,971, pub. 4-21-70. Cl. 6.  
 Yeargin, Arnold E., d.b.a. Solid Gold Records, Nashville, Tenn. 894,153, pub. 4-21-70. Cl. 36.  
 Youngs Drug Products Corp., Piscataway, N.J. 894,243, pub. 4-21-70. Cl. 44.  
 Ziel & Co. Inc., San Francisco, Calif. 770,032, can. Cl. 46.

U.S. GOVERNMENT PRINTING OFFICE: O-1976



# U.S. DEPARTMENT OF COMMERCE

## Official Gazette of the United States Patent Office

July 14, 1970 Volume 876 Number 2

### PATENTS NOTICES

#### Board of Appeals Decisions Rendered in the Month of May 1970

Examiner affirmed	115
Examiner affirmed in part	17
Examiner reversed	37
Total	169

#### Examination of Patent Applications on Computer Programs

##### Notice of Recission of Guidelines

Notice regarding the adoption by the Patent Office of guidelines for the examination of patent applications on computer programs was published in the Federal Register of October 22, 1968 (33 F.R. 15609), and in the OFFICIAL GAZETTE of the Patent Office of October 22, 1968 (855 O.G. 829).

In view of the decision by the U.S. Court of Customs and Patent Appeals in "In re Prater et al.," 162 USPQ 541, 866 O.G. 1034 (1969), the adopted guidelines are hereby rescinded, effective immediately. For the time being, adoption of new guidelines for the examination of patent applications is being deferred pending further judicial interpretation of the law on a case-by-case basis.

Consideration of "In re Prater et al.," has brought into question the advisability of issuing guidelines for the examination of patent applications on computer programs. Parties who desire to present their views, recommendations, or suggestions concerning such guidelines are invited to do so, by letter addressed to the Commissioner of Patents, Washington, D.C. 20231. Those parties who recommend the issuance of such guidelines are invited to submit comments concerning the proposed language of the guidelines.

WILLIAM B SCHUYLER, JR.,  
Commissioner of Patents.

Approved: October 3, 1969.

MYRON TRIBUS,  
Assistant Secretary for  
Science and Technology.

[F.R. Doc. 69-12194, Filed, Oct. 9, 1969, 8:48 a.m.]

Published in 34 F.R. 15724, Oct. 10, 1969

#### Erratum

In the OFFICIAL GAZETTE of June 16, 1970, page 358, vol. 875, the title of the decision, "In re Louise H. Brown and Ronald Swidler" should read "In re Louise H. Brown and Ronald Swidler."

#### New Applications Received During May 1970

Patents	8198
Designs	462
Plant Patents	0
Reissues	38
Total	8707

#### Disclaimers

3,364,212—Arthur A. Patchett, Metuchen, N.J. DERIVATIVES OF 7-AMINOCEPHALOSPORANIC ACID. Patent dated Jan. 16, 1968. Disclaimer filed June 2, 1970, by the assignee, Merck & Co., Inc.

Hereby enters this disclaimer to claims 3 and 4 of said patent.

3,388,006—Guilford E. Kindig and Harold L. Malone, Rochester, N.Y. ALKALINE BATTERY PROVIDED WITH A TERMINAL PROTECTION PLATE. Patent dated June 11, 1968. Disclaimer filed June 4, 1970, by the assignee, Eastman Kodak Company.

Hereby enters this disclaimer to claims 1 and 2 of said patent.

3,506,035—Henri-Pierre Chabrier, Lyon, France. DISTRIBUTOR DEVICE FOR FLUIDS. Patent dated Apr. 14, 1970. Disclaimer filed June 5, 1970, by the assignee, SETARAM Societe d'Etudes d'Automatisation, de Regulation et d'Appareils de Mesures.

Hereby disclaims the terminal portion of the term of said patent subsequent to Dec. 13, 1983.

#### Classification Order No. 401

Classification Order No. 401, dated June 26, 1970, incorporates changes in the following classes:

- 16, MISCELLANEOUS HARDWARE
- 123, INTERNAL-COMBUSTION ENGINES
- 192, CLUTCHES AND POWER-STOP CONTROL
- 235, REGISTERS
- 242, WINDING AND REELING
- 267, SPRING DEVICES
- 292, CLOSURE FASTENERS
- 318, ELECTRICITY, MOTIVE POWER SYSTEMS
- 324, ELECTRICITY, MEASURING AND TESTING
- 415, ROTARY KINETIC FLUID MOTORS OR PUMPS

All changes will be incorporated in the Manual of Classification replacement pages dated July 1970.

WALTER W. BURNS, JR.,  
Administrator, Office of Search Systems  
and Documentation.

#### Issue—July 14, 1970

Patents	800—No. 3,520,001 to No. 3,520,800, incl.
Designs	81—No. 218,003 to No. 218,083, incl.
Total	881



## Certificates of Correction for the Week of July 14, 1970

Re. 26,805	3,484,883	3,493,629	3,497,139
D. 215,413	3,485,598	3,493,634	3,497,273
D. 216,238	3,485,601	3,493,638	3,497,302
3,043,646	3,485,612	3,493,745	3,497,334
3,247,376	3,485,822	3,493,840	3,497,343
3,263,608	3,485,971	3,493,874	3,497,470
3,350,419	3,487,128	3,493,889	3,497,572
3,400,019	3,487,226	3,493,925	3,497,635
3,413,264	3,487,554	3,494,177	3,497,674
3,413,433	3,487,639	3,494,281	3,497,692
3,426,004	3,487,815	3,494,439	3,497,763
3,444,210	3,487,840	3,494,520	3,498,056
3,444,238	3,487,870	3,494,534	3,498,063
3,444,322	3,488,083	3,494,640	3,498,075
3,453,160	3,488,099	3,494,804	3,498,092
3,453,277	3,488,104	3,494,848	3,498,306
3,456,209	3,488,146	3,494,866	3,498,314
3,456,334	3,488,155	3,494,869	3,498,321
3,456,444	3,488,544	3,494,877	3,498,371
3,459,402	3,488,727	3,495,155	3,498,453
3,459,733	3,489,778	3,495,168	3,498,456
3,459,759	3,489,804	3,495,221	3,498,815
3,462,248	3,489,814	3,495,486	3,498,912
3,462,249	3,489,967	3,495,620	3,498,987
3,464,105	3,489,977	3,495,629	3,499,266
3,465,746	3,490,008	3,495,707	3,499,383
3,468,158	3,490,047	3,495,940	3,499,588
3,468,940	3,490,266	3,495,967	3,499,600
3,470,041	3,490,344	3,495,982	3,499,636
3,470,079	3,490,367	3,495,998	3,499,828
3,471,774	3,491,048	3,496,440	3,499,910
3,472,078	3,491,070	3,496,519	3,500,499
3,472,872	3,491,232	3,496,554	3,500,671
3,473,768	3,491,601	3,496,601	3,500,813
3,474,373	3,492,081	3,496,602	3,501,155
3,476,306	3,492,131	3,496,611	3,501,531
3,476,974	3,492,158	3,496,703	3,502,171
3,480,177	3,492,653	3,496,772	3,502,314
3,482,150	3,492,686	3,496,801	3,503,904
3,482,164	3,492,816	3,496,872	3,504,041
3,483,162	3,492,826	3,496,958	3,504,135
3,483,198	3,493,031	3,496,968	3,504,755
3,484,001	3,493,057	3,496,992	3,515,535
3,484,367	3,493,290	3,497,006	
3,484,496	3,493,608	3,497,071	

## Adjudicated Patents

(C.A. Wis.) Welles Patent No. Re. 24,572 (10—152), for FLUTELESS SWAGING TAP, Held invalid. Bendix Corporation v. Balaz, Inc., 421 F.2d 809; 164 USPQ 485.

(C.A.N.Y.) Dickey Patent No. Re. 25,493 (156—82), for METHOD OF AND APPARATUS FOR FORMING LAMINATED STRUCTURE OF ADHERED MATERIALS, Held invalid and not infringed. Reeves Brothers, Inc. v. U.S. Laminating Corporation, 417 F.2d 869.

(D.C. Mass.) Anderson et al. Patent No. Re. 28,676 (76—112), for METHOD OF MAKING BAND SAW BLADE, Held valid and infringed. Contour Saws, Inc. v. The L. S. Starrett Company, 310 F. Supp. 207; 164 USPQ 208.

(D.C. Wis.) Wolf et al. Patent No. D. 194,094 (D13—1), for OVERHEAD GARAGE DOOR, Held valid and infringed. Frantz Manufacturing Company v. Phenix Manufacturing Company, 307 F. Supp. 822; 164 USPQ 381.

(D.C. Calif.) Hiatt et al. Patent No. D. 200,757 (D3—13), for HELMET, Held invalid. Bates Industries, Incorporated v. Daytona Sports Company, 310 F. Supp. 311.

(D.C. Ohio) Shaw Patent No. 2,497,961 (171—95), for ELECTRICAL MEASURING DEVICE, Claims 1 and 3 Held invalid and not infringed. Shaw v. Non-Linear Systems, Incorporated, 308 F. Supp. 343; 164 USPQ 120.

(Ct. Cl.) O'Brien Patent No. 2,568,250 (172—245), for PHASE COMPARATOR CIRCUITS, Claim 1 Held invalid. Decca Limited v. United States, 420 F.2d 1010; 164 USPQ 348.

(Ct. Cl.) O'Brien Patent No. 2,578,980 (343—103), for RADIO-FREQUENCY NAVIGATION SYSTEM, Claims 1, 2 and 3 Held invalid, claims 6 and 7 Held not infringed. Id.

(Ct. Cl.) O'Brien Patent No. 2,582,350 (343—105), for RADIO BEACON SYSTEM, Claim 3 Held invalid. Id.

(Ct. Cl.) O'Brien Patent No. 2,598,290 (343—105), for AREA IDENTIFICATION SYSTEM, Claims 15—19 Held not infringed. Id.

(D.C. Nebr.) Bourns Patent No. 2,777,926 (201—62), for VARIABLE RESISTOR, Claims 1, 2, 11, 14—16 and 20 Held invalid. Bourns, Incorporated v. Dale Electronics Incorporated, 308 F. Supp. 501; 165 USPQ 296.

(D.C. Nebr.) Royce Patent No. 2,898,569 (338—180), for POTENTIOMETER, Claim 3 Held invalid. Id.

(D.C. Nebr.) Bourns Patent No. 2,935,716 (338—180), for VARIABLE RESISTOR CONSTRUCTION, Claim 2 Held void for anticipation. Id.

(D.C. Nebr.) Bourns et al. Patent No. 2,953,763 (338—183), for VARIABLE RESISTOR CONSTRUCTION, Claim 6 Held invalid. Id.

(C.A.N.Y.) Dickey Patent No. 2,957,793 (154—100), for METHOD OF LAMINATING POLYMETHANE FOAM, Held invalid and not infringed. Reeves Bros. Incorporated v. U.S. Laminating Corporation, 417 F.2d 869.

(D.C. Tex.) Hopper Patent No. 3,001,950 (252—408), for REAGENT FOR DETERMINING THE AMOUNT OF CHOLESTEROL IN SERUM AND METHOD OF PREPARING SAME, Claims 1—6 Held invalid. Hopper Laboratories, Incorporated v. Standro Laboratories, Incorporated, 310 F. Supp. 30.

(D.C. Mich.) Muller et al. Patent No. 3,022,204 (148—15.5), for PROCESS FOR NITRIDING METALS, Claims 1 and 2 Held valid. Kalene Corporation v. Motor City Metal Treating Incorporated, 307 F. Supp. 1251.

(C.A. Fla.) Compiano Patent No. 3,031,680 (2—159), for BOWLING GLOVES, Claim 10 Held not invalid and was infringed. National Athletic Supply Corporation v. Tone-O-Matic Products, Incorporated, 421 F.2d 407; 164 USPQ 330.

(C.A.N.Y.) Zerbis Patent No. 3,036,009 (252—62.5), for FENOMAGNETIC CERAMIC BODY WITH HIGH QUALITY AT HIGH FREQUENCY, Held invalid. Indiana General Corporation v. Krystinel Corporation, 421 F.2d 1023; 164 USPQ 321.

(C.A. Wis.) Lenson et al. Patent No. 3,050,755 (18—5), for SPINNING OF CELLULOSE TRIM, Held invalid. Bendix Corporation v. Balaz, Incorporated, 421 F.2d 809; 164 USPQ 485.

(D.C.N.H.) Greig Patent No. 3,052,540 (96—1), for DYE SENSITIZATION OF ELECTROPHOTOGRAPHIC MATERIALS, Held invalid and infringed. Nashua Corporation v. RCA Corporation, 307 F. Supp. 152; 165 USPQ 89.

(D.C. W. Va.) Neville Patent No. 3,055,280 (94—42), for MEANS FOR TREATING BITUMINOUS PAVEMENT, Held invalid. Pavement Salvage Company v. Anderson's-Black Rock, Incorporated, 308 F. Supp. 941.

(C.A.N.Y.) Dickey Patent No. 3,057,766 (156—82), for METHOD AND APPARATUS FOR FORMING LAMINATED STRUCTURE OF ADHERED MATERIALS, Held invalid and not infringed. Reeves Brothers, Incorporated v. U.S. Laminating Corp., 417 F.2d 869.

(C.A. Oreg.) Gould Patent No. 3,067,816 (162—374), for APPARATUS AND PROCESS FOR THE MANUFACTURE OF PAPER, Held invalid. Carborundum Company v. Wetbanks, Incorporated, 420 F.2d 43; 164 USPQ 271.

(C.A. Calif.) Stubblefield Patent No. 3,090,431 (160—345), for DRAPERY SUPPORTING AND PLEATING APPARATUS, Held invalid. Spring Crest Company v. American Beauti Pleat Incorporated, 420 F.2d 950; 164 USPQ 281.

(C.A. Ohio) Svensson et al. Patent No. 3,107,867 (241—102), for WEAR LINING, Held invalid. Skega Aktiebolag v. B. F. Goodrich Company, 420 F.2d 1358; 164 USPQ 333.

(C.A. Ill.) Ludington et al. Patent No. 3,119,691 (99—2), for NOVEL FARINACEOUS ANIMAL FOOD, Held unpatentable. General Foods Corporation v. Perk Foods Company, 419 F.2d 944; 164 USPQ 1.

(D.C. Nebr.) Bourns Patent No. 3,161,849 (338—183), for POTENTIOMETER, Claim 12 Held invalid. Bourns, Incorporated v. Dale Electronics Incorporated, 308 F. Supp. 501; 165 USPQ 296.

(C.A. Ill.) Kromer Patent No. 3,162,323 (222—1), for METHOD OF AND APPARATUS FOR CARBONATING, COOLING, STORING, DISTRIBUTING AND DISPENSING BEVERAGES, Held invalid. Dale Valve Company v. Perfection Bar Equipment, Incorporated, 419 F.2d 968; 165 USPQ 296.

(D.C. Wis.) Wolf et al. Patent No. 3,169,612 (189—34), for OVERHEAD DOOR CONSTRUCTION, Held invalid. Frantz Manufacturing Company v. Phenix Manufacturing Company, 307 F. Supp. 822; 164 USPQ 381.

(D.C. Calif.) Hiatt et al. Patent No. 3,189,918 (2—9), for CRASH HELMET WITH A TRANSPARENT PLASTIC SHIELD PIVOTABLY MOUNTED TO ADAPTER BAND, Claims 1—2 Held invalid. Bates Industries, Incorporated v. Daytona Sports Company, 310 F. Supp. 311.

(C.A. Calif.) Hamlow et al. Patent No. 3,219,099 (159—6), for ROTARY EVAPORATOR AND SEPARATOR, Held invalid. Hamlow v. Scientific Glass Apparatus Corporation, 421 F.2d 173; 164 USPQ 340.

(D.C. Mass.) Anderson Patent No. 3,315,548 (76—112), for METHOD OF MAKING BAND SAW BLADE, Held valid and infringed. Contour Saws, Incorporated v. L. S. Starrett Company, 310 F. Supp. 207; 164 USPQ 208.

(D.C. Tex.) Stamps et al. Patent No. 3,326,232 (137—344), for FERTILIZER APPLICATOR AND APPARATUS THEREFOR, Held not infringed. Inject-O-Meter Manufacturing Company v. North Plains Fertilizer and Chemical, Incorporated, 308 F. Supp. 538; 164 USPQ 653.

(D.C. Tex.) Stamps et al. Patent No. 3,375,976 (239—10), for FERTILIZER APPLICATION PROCESS, Held invalid. Id.



# PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner  
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JUNE 30, 1970

## PATENT EXAMINING GROUPS

Actual  
Filing Date  
of Oldest  
New Case  
Awaiting  
Action

### CHEMICAL EXAMINING GROUPS

GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	12-03-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	4-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	8-13-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chem- ical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	1-02-69
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	3-11-68

### ELECTRICAL EXAMINING GROUPS

INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-01-69
SECURITY, GROUP 220—S. BOYD, Director..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio- Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	9-05-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	12-03-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	11-22-68
PHYSICS, GROUP 260—R. L. EVANS, Director..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	6-07-68
DESIGNS, GROUP 280—S. BOYD, Director..... Industrial Arts; Household, Personal and Fine Arts.	10-02-69

### MECHANICAL EXAMINING GROUPS

HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Recep- tacles and Packages.	5-16-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director..... Manufacturing Processes; Assembling; Combined Machines; Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding; Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	1-02-69
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Trolley; Printing; Typewriters; Stationery; Information Dissemination.	3-10-69
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lu- brication; Joint Packing.	7-01-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	3-10-69

Total number of pending applications (excluding Designs).....	184,894
Total number of Design applications pending.....	3,018

Expiration of patents: The patents within the range of numbers indicated below expire during July 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 600, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 86th Congress, approved August 28, 1964 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 283. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents..... Numbers 2,644,180 to 2,647,258, inclusive  
Plant Patents..... Numbers 1,201 to 1,207, inclusive

# U.S. DEPARTMENT OF COMMERCE UNITED STATES PATENT OFFICE PATENT COOPERATION TREATY

After more than three weeks of negotiation the Patent Cooperation Treaty was unanimously approved by the Plenary Session of the Diplomatic Conference of member States of the Paris Union. Seventy-seven countries, including fifty-four members of the Paris Union registered for the conference which was held in Washington, D.C. from May 25-June 19, 1970. On June 19, 1970, the Treaty was signed by twenty member States including the United States; a number of other countries have indicated an intention to sign it before December 31, 1970. The Treaty will enter into force three months after ratification by eight nations, four of which must be nations of major patent activity.

This Patent Cooperation Treaty is the result of nearly four years of effort by representatives of governments and representatives of the private sector in the international industrial property field. The three previous versions of the proposed Treaty were published on June 13, 1967, August 13, 1968, and July 15, 1969 in the OFFICIAL GAZETTE of the United States Patent Office. Published in this issue is the complete text of the Patent Cooperation Treaty and Regulations, as approved at the Conference.

Additional copies of this material are available upon request to the Commissioner of Patents.

June 26, 1970. WILLIAM E. SCHUYLER, JR.,  
Commissioner of Patents.

## PATENT COOPERATION TREATY

Done at Washington June 19, 1970

The Contracting States,  
Desiring to make a contribution to the progress of science and technology,  
Desiring to perfect the legal protection of inventions,  
Desiring to simplify and render more economical the obtaining of protection for inventions where protection is sought in several countries,  
Desiring to facilitate and accelerate access by the public to the technical information contained in documents describing new inventions,  
Desiring to foster and accelerate the economic development of developing countries through the adoption of measures designed to increase the efficiency of their legal systems, whether national or regional, instituted for the protection of inventions by providing easily accessible information on the availability of technological solutions applicable to their special needs and by facilitating access to the ever expanding volume of modern technology,  
Convinced that cooperation among nations will greatly facilitate the attainment of these aims,  
Have concluded the present Treaty.

construed as references to applications for patents for inventions, inventors' certificates, utility certificates, utility models, patents or certificates of addition, inventors' certificates of addition, and utility certificates of addition;

(ii) references to a "patent" shall be construed as references to patents for inventions, inventors' certificates, utility certificates, utility models, patents or certificates of addition, inventors' certificates of addition, and utility certificates of addition;

(iii) "national patent" means a patent granted by a national authority;

(iv) "regional patent" means a patent granted by a national or an intergovernmental authority having the power to grant patents effective in more than one State;

(v) "regional application" means an application for a regional patent;

(vi) references to a "national application" shall be construed as references to applications for national patents and regional patents, other than applications filed under this Treaty;

(vii) "international application" means an application filed under this Treaty;

(viii) references to an "application" shall be construed as references to international applications and national applications;

(ix) references to a "patent" shall be construed as references to national patents and regional patents;

(x) references to "national law" shall be construed as references to the national law of a Contracting State or, where a regional application or a regional patent is involved, to the treaty providing for the filing of regional applications or the granting of regional patents;

(xi) "priority date," for the purposes of computing time limits, means:

(a) where the international application contains a priority claim under Article 8, the filing date of the application whose priority is so claimed;

(b) where the international application contains several priority claims under Article 8, the filing date of the earliest application whose priority is so claimed;

(c) where the international application does not contain any priority claim under Article 8, the international filing date of such application;

## INTRODUCTORY PROVISIONS

### ARTICLE 1

#### Establishment of a Union

(1) The States party to this Treaty (hereinafter called "the Contracting States") constitute a Union for cooperation in the filing, searching, and examination, of applications for the protection of inventions, and for rendering special technical services. The Union shall be known as the International Patent Cooperation Union.

(2) No provision of this Treaty shall be interpreted as diminishing the rights under the Paris Convention for the Protection of Industrial Property of any national or resident of any country party to that Convention.

### ARTICLE 2

#### Definitions

For the purposes of this Treaty and the Regulations and unless expressly stated otherwise:

(i) "application" means an application for the protection of an invention; references to an "application" shall be



- (xii) "national Office" means the government authority of a Contracting State entrusted with the granting of patents; references to a "national Office" shall be construed as referring also to any intergovernmental authority which several States have entrusted with the task of granting regional patents, provided that at least one of those States is a Contracting State, and provided that the said States have authorized that authority to assume the obligations and exercise the powers which this Treaty and the Regulations provide for in respect of national Offices.
- (xiii) "designated Office" means the national Office of or acting for the State designated by the applicant under Chapter I of this Treaty;
- (xiv) "elected Office" means the national Office of or acting for the State elected by the applicant under Chapter II of this Treaty;
- (xv) "receiving Office" means the national Office or the intergovernmental organization with which the international application has been filed;
- (xvi) "Union" means the International Patent Cooperation Union;
- (xvii) "Assembly" means the Assembly of the Union;
- (xviii) "Organization" means the World Intellectual Property Organization;
- (xix) "International Bureau" means the International Bureau of the Organization and, as long as it subsists, the United International Bureaux for the Protection of Intellectual Property (BIRPI);
- (xx) "Director General" means the Director General of the Organization and, as long as BIRPI subsists, the Director of BIRPI.

## CHAPTER I: INTERNATIONAL APPLICATION AND INTERNATIONAL SEARCH

### ARTICLE 3

#### *The International Application*

- (1) Applications for the protection of inventions in any of the Contracting States may be filed as international applications under this Treaty.
- (2) An international application shall contain, as specified in this Treaty and the Regulations, a request, a description, one or more claims, one or more drawings (where required), and an abstract.
- (3) The abstract merely serves the purpose of technical information and cannot be taken into account for any other purpose, particularly not for the purpose of interpreting the scope of the protection sought.
- (4) The international application shall:
- be in a prescribed language;
  - comply with the prescribed physical requirements;
  - comply with the prescribed requirement of unity of invention;
  - be subject to the payment of the prescribed fees.

### ARTICLE 4

#### *The Request*

- (1) The request shall contain:
- a petition to the effect that the international application be processed according to this Treaty;
  - the designation of the Contracting State or States in which protection for the invention is desired on the basis of the international application ("designated States"); if for any designated State a regional patent is available and the applicant wishes to obtain a regional patent rather than a national patent, the request shall so indicate; if, under a treaty concerning a regional patent, the applicant cannot limit his application to

certain of the States party to that treaty, designation of one of those States and the indication of the wish to obtain the regional patent shall be treated as designation of all the States party to that treaty; if, under the national law of the designated State, the designation of that State has the effect of an application for a regional patent, the designation of the said State shall be treated as an indication of the wish to obtain the regional patent;

- the name of and other prescribed data concerning the applicant and the agent (if any);
- the title of the invention;
- the name of and other prescribed data concerning the inventor where the national law of at least one of the designated States requires that these indications be furnished at the time of filing a national application. Otherwise, the said indications may be furnished either in the request or in separate notices addressed to each designated Office whose national law requires the furnishing of the said indications but allows that they be furnished at a time later than that of the filing of a national application.

(2) Every designation shall be subject to the payment of the prescribed fee within the prescribed time limit.

(3) Unless the applicant asks for any of the other kinds of protection referred to in Article 43, designation shall mean that the desired protection consists of the grant of a patent by or for the designated State. For the purposes of this paragraph, Article 2(ii) shall not apply.

(4) Failure to indicate in the request the name and other prescribed data concerning the inventor shall have no consequence in any designated State whose national law requires the furnishing of the said indications but allows that they be furnished at a time later than that of the filing of a national application. Failure to furnish the said indications in a separate notice shall have no consequence in any designated State whose national law does not require the furnishing of the said indications.

### ARTICLE 5

#### *The Description*

The description shall disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art.

### ARTICLE 6

#### *The Claims*

The claim or claims shall define the matter for which protection is sought. Claims shall be clear and concise. They shall be fully supported by the description.

### ARTICLE 7

#### *The Drawings*

- (1) Subject to the provisions of paragraph (2)(ii), drawings shall be required when they are necessary for the understanding of the invention.
- (2) Where, without being necessary for the understanding of the invention, the nature of the invention admits of illustration by drawings:
- the applicant may include such drawings in the international application when filed;
  - any designated Office may require that the applicant file such drawings with it within the prescribed time limit.

### ARTICLE 8

#### *Claiming Priority*

(1) The international application may contain a declaration, as prescribed in the Regulations, claiming the priority of one or more earlier applications filed in or for any country party to the Paris Convention for the Protection of Industrial Property.

(2)(a) Subject to the provisions of subparagraph (b), the conditions for, and the effect of, any priority claim declared under paragraph (1) shall be as provided in Article 4 of the Stockholm Act of the Paris Convention for the Protection of Industrial Property.

(b) The international application for which the priority of one or more earlier applications filed in or for a Contracting State is claimed may contain the designation of that State. Where, in the international application, the priority of one or more national applications filed in or for a designated State is claimed, or where the priority of an international application having designated only one State is claimed, the conditions for, and the effect of, the priority claim in that State shall be governed by the national law of that State.

### ARTICLE 9

#### *The Applicant*

(1) Any resident or national of a Contracting State may file an international application.

(2) The Assembly may decide to allow the residents and the nationals of any country party to the Paris Convention, for the Protection of Industrial Property which is not party to this Treaty to file international applications.

(3) The concepts of residence and nationality, and the application of those concepts in cases where there are several applicants or where the applicants are not the same for all the designated States, are defined in the Regulations.

### ARTICLE 10

#### *The Receiving Office*

The international application shall be filed with the prescribed receiving Office, which will check and process it as provided in this Treaty and the Regulations.

### ARTICLE 11

#### *Filing Date and Effects of the International Application*

(1) The receiving Office shall accord as the international filing date the date of receipt of the international application, provided that that Office has found that, at the time of receipt:

- the applicant does not obviously lack, for reasons of residence or nationality, the right to file an international application with the receiving Office,
- the international application is in the prescribed language,
- the international application contains at least the following elements:

- an indication that it is intended as an international application,
- the designation of at least one Contracting State,
- the name of the applicant, as prescribed,
- a part which on the face of it appears to be a description,
- a part which on the face of it appears to be a claim or claims.

(2)(a) If the receiving Office finds that the international application did not, at the time of receipt, fulfill the requirements listed in paragraph (1), it shall, as provided in the Regulations, invite the applicant to file the required correction.

(b) If the applicant complies with the invitation, as provided in the Regulations, the receiving Office shall accord as the international filing date the date of receipt of the required correction.

(3) Subject to Article 64(4), any international application fulfilling the requirements listed in items (i) to (iii) of paragraph (1) and accorded an international filing date shall have the effect of a regular national application in each designated State as of the international filing date, which date shall be considered to be the actual filing date in each designated State.

(4) Any international application fulfilling the requirements listed in items (i) to (iii) of paragraph (1) shall be equivalent to a regular national filing within the meaning of the Paris Convention for the Protection of Industrial Property.

### ARTICLE 12

#### *Transmittal of the International Application to the International Bureau and the International Searching Authority*

(1) One copy of the international application shall be kept by the receiving Office ("home copy"); one copy ("record copy") shall be transmitted to the International Bureau, and another copy ("search copy") shall be transmitted to the competent International Searching Authority referred to in Article 16, as provided in the Regulations.

(2) The record copy shall be considered the true copy of the international application.

(3) The international application shall be considered withdrawn if the record copy has not been received by the International Bureau within the prescribed time limit.

### ARTICLE 13

#### *Availability of Copy of the International Application to Designated Offices*

(1) Any designated Office may ask the International Bureau to transmit to it a copy of the international application prior to the communication provided for in Article 20, and the International Bureau shall transmit such copy to the designated Office as soon as possible after the expiration of one year from the priority date.

(2)(a) The applicant may, at any time, transmit a copy of his international application to any designated Office.

(b) The applicant may, at any time, ask the International Bureau to transmit a copy of his international application to any designated Office, and the International Bureau shall transmit such copy to the designated Office as soon as possible.

(c) Any national Office may notify the International Bureau that it does not wish to receive copies as provided for in subparagraph (b), in which case that subparagraph shall not be applicable in respect of that Office.

### ARTICLE 14

#### *Certain Defects in the International Application*

(1)(a) The receiving Office shall check whether the international application contains any of the following defects, that is to say:

- it is not signed as provided in the Regulations;



- (ii) it does not contain the prescribed indications concerning the applicant;
- (iii) it does not contain a title;
- (iv) it does not contain an abstract;
- (v) it does not comply to the extent provided in the Regulations with the prescribed physical requirements.

(b) If the receiving Office finds any of the said defects, it shall invite the applicant to correct the international application within the prescribed time limit, failing which that application shall be considered withdrawn and the receiving Office shall so declare.

(2) If the international application refers to drawings which, in fact, are not included in that application, the receiving Office shall notify the applicant accordingly and he may furnish them within the prescribed time limit and, if he does, the international filing date shall be the date on which the drawings are received by the receiving Office. Otherwise, any reference to the said drawings shall be considered non-existent.

(3)(a) If the receiving Office finds that, within the prescribed time limits, the fees prescribed under Article 3(4)(iv) have not been paid, or no fee prescribed under Article 4(2) has been paid in respect of any of the designated States, the international application shall be considered withdrawn and the receiving Office shall so declare.

(b) If the receiving Office finds that the fee prescribed under Article 4(2) has been paid in respect of one or more (but less than all) designated States within the prescribed time limit, the designation of those States in respect of which it has not been paid within the prescribed time limit shall be considered withdrawn and the receiving Office shall so declare.

(4) If, after having accorded an international filing date to the international application, the receiving Office finds, within the prescribed time limit, that any of the requirements listed in items (i) to (iii) of Article 11(1) was not complied with at that date, the said application shall be considered withdrawn and the receiving Office shall so declare.

#### ARTICLE 15

##### *The International Search*

(1) Each international application shall be the subject of international search.

(2) The objective of the international search is to discover relevant prior art.

(3) International search shall be made on the basis of the claims, with due regard to the description and the drawings (if any).

(4) The International Searching Authority referred to in Article 16 shall endeavor to discover as much of the relevant prior art as its facilities permit, and shall, in any case, consult the documentation specified in the Regulations.

(5)(a) If the national law of the Contracting States so permits, the applicant who files a national application with the national Office of or acting for such State may, subject to the conditions provided for in such law, request that a search similar to an international search ("international-type search") be carried out on such application.

(b) If the national law of the Contracting State so permits, the national Office of or acting for such State may subject any national application filed with it to an international-type search.

(c) The international-type search shall be carried out by the International Searching Authority referred to in Article 16 which would be competent for an international search if the national application were an international application and were filed with the Office referred to in subparagraphs (a) and (b). If the national application

is in a language which the International Searching Authority considers it is not equipped to handle, the international-type search shall be carried out on a translation prepared by the applicant in a language prescribed for international applications and which the International Searching Authority has undertaken to accept for international applications. The national application and the translation, when required, shall be presented in the form prescribed for international applications.

#### ARTICLE 16

##### *The International Searching Authority*

(1) International search shall be carried out by an International Searching Authority, which may be either a national Office or an intergovernmental organization, such as the International Patent Institute, whose tasks include the establishing of documentary search reports on prior art with respect to inventions which are the subject of applications.

(2) If, pending the establishment of a single International Searching Authority, there are several International Searching Authorities, each receiving Office shall, in accordance with the provisions of the applicable agreement referred to in paragraph (3)(b), specify the International Searching Authority or Authorities competent for the searching of international applications filed with such Office.

(3)(a) International Searching Authorities shall be appointed by the Assembly. Any national Office and any intergovernmental organization satisfying the requirements referred to in subparagraph (c) may be appointed as International Searching Authority.

(b) Appointment shall be conditional on the consent of the national Office or intergovernmental organization to be appointed and the conclusion of an agreement, subject to approval by the Assembly, between such Office or organization and the International Bureau. The agreement shall specify the rights and obligations of the parties, in particular, the formal undertaking by the said Office or organization to apply and observe all the common rules of international search.

(c) The Regulations prescribe the minimum requirements, particularly as to manpower and documentation, which any Office or organization must satisfy before it can be appointed and must continue to satisfy while it remains appointed.

(d) Appointment shall be for a fixed period of time and may be extended for further periods.

(e) Before the Assembly makes a decision on the appointment of any national Office or intergovernmental organization, or on the extension of its appointment, or before it allows any such appointment to lapse, the Assembly shall hear the interested Office or organization and seek the advice of the Committee for Technical Cooperation referred to in Article 56 once that Committee has been established.

#### ARTICLE 17

##### *Procedure Before the International Searching Authority*

(1) Procedure before the International Searching Authority shall be governed by the provisions of this Treaty, the Regulations, and the agreement which the International Bureau shall conclude, subject to this Treaty and the Regulations, with the said Authority.

(2)(a) If the International Searching Authority considers

(i) that the international application relates to a subject matter which the International Searching Authority is

#### ARTICLE 20

##### *Communication to Designated Offices*

(1)(a) The international application, together with the international search report (including any indication referred to in Article 17(2)(b)) or the declaration referred to in Article 17(2)(a), shall be communicated to each designated Office, as provided in the Regulations, unless the designated Office waives such requirement in its entirety or in part.

(b) The communication shall include the translation (as prescribed) of the said report or declaration.

(2) If the claims have been amended by virtue of Article 19(1), the communication shall either contain the full text of the claims both as filed and as amended or shall contain the full text of the claims as filed and specify the amendments, and shall include the statement, if any, referred to in Article 19(1).

(3) At the request of the designated Office or the applicant, the International Searching Authority shall send to the said Office or the applicant, respectively, copies of the documents cited in the international search report, as provided in the Regulations.

#### ARTICLE 21

##### *International Publication*

(1) The International Bureau shall publish international applications.

(2)(a) Subject to the exceptions provided for in subparagraph (b) and in Article 64(3), the international publication of the international application shall be effected promptly after the expiration of 18 months from the priority date of that application.

(b) The applicant may ask the International Bureau to publish his international application any time before the expiration of the time limit referred to in subparagraph (a). The International Bureau shall proceed accordingly, as provided in the Regulations.

(3) The international search report or the declaration referred to in Article 17(2)(a) shall be published as prescribed in the Regulations.

(4) The language and form of the international publication and other details are governed by the Regulations.

(5) There shall be no international publication if the international application is withdrawn or is considered withdrawn before the technical preparations for publication have been completed.

(6) If the international application contains expressions or drawings which, in the opinion of the International Bureau, are contrary to morality or public order, or if, in its opinion, the international application contains disparaging statements as defined in the Regulations, it may omit such expressions, drawings, and statements, from its publications, indicating the place and number of words or drawings omitted, and furnishing, upon request, individual copies of the passages omitted.

#### ARTICLE 22

##### *Copy, Translation, and Fee, to Designated Offices*

(1) The applicant shall furnish a copy of the international application (unless the communication provided for in Article 20 has already taken place) and a translation thereof (as prescribed), and pay the national fee (if any), to each designated Office not later than at the expiration of 20 months from the priority date. Where the national law of the designated State requires the indication of the name of and other prescribed data concerning the inventor but allows that these indications be

not required, under the Regulations, to search, and in the particular case decides not to search, or

(ii) that the description, the claims, or the drawings, fail to comply with the prescribed requirements to such an extent that a meaningful search could not be carried out,

the said Authority shall so declare and shall notify the applicant and the International Bureau that no international search report will be established.

(b) If any of the situations referred to in subparagraph (a) is found to exist in connection with certain claims only, the international search report shall so indicate in respect of such claims, whereas, for the other claims, the said report shall be established as provided in Article 18.

(3)(a) If the International Searching Authority considers that the international application does not comply with the requirement of unity of invention as set forth in the Regulations, it shall invite the applicant to pay additional fees. The International Searching Authority shall establish the international search report on those parts of the international application which relate to the invention first mentioned in the claims ("main invention") and, provided the required additional fees have been paid within the prescribed time limit, on those parts of the international application which relate to inventions in respect of which the said fees were paid.

(b) The national law of any designated State may provide that, where the national Office of that State finds the invitation, referred to in subparagraph (a), of the International Searching Authority justified and where the applicant has not paid all additional fees, those parts of the international application which consequently have not been searched shall, as far as effects in that State are concerned, be considered withdrawn unless a special fee is paid by the applicant to the national Office of that State.

#### ARTICLE 18

##### *The International Search Report*

(1) The international search report shall be established within the prescribed time limit and in the prescribed form.

(2) The international search report shall, as soon as it has been established, be transmitted by the International Searching Authority to the applicant and the International Bureau.

(3) The international search report or the declaration referred to in Article 17(2)(a) shall be translated as provided in the Regulations. The translations shall be prepared by or under the responsibility of the International Bureau.

#### ARTICLE 19

##### *Amendment of the Claims Before the International Bureau*

(1) The applicant shall, after having received the international search report, be entitled to one opportunity to amend the claims of the international application by filing amendments with the International Bureau within the prescribed time limit. He may, at the same time, file a brief statement, as provided in the Regulations, explaining the amendments and indicating any impact that such amendments might have on the description and the drawings.

(2) The amendments shall not go beyond the disclosure in the international application as filed.

(3) If the national law of any designated State permits amendments to go beyond the said disclosure, failure to comply with paragraph (2) shall have no consequence in that State.



furnished at a time later than that of the filing of a national application, the applicant shall, unless they were contained in the request, furnish the said indications to the national Office of or acting for that State not later than at the expiration of 20 months from the priority date.

(2) Notwithstanding the provisions of paragraph (1), where the International Searching Authority makes a declaration, under Article 17(2)(a), that no international search report will be established, the time limit for performing the acts referred to in paragraph (1) of this Article shall be two months from the date of the notification sent to the applicant of the said declaration.

(3) Any national law may, for performing the acts referred to in paragraphs (1) or (2), fix time limits which expire later than the time limit provided for in those paragraphs.

#### ARTICLE 23

##### *Delaying of National Procedure*

(1) No designated Office shall process or examine the international application prior to the expiration of the applicable time limit under Article 22.

(2) Notwithstanding the provisions of paragraph (1), any designated Office may, on the express request of the applicant, process or examine the International application at any time.

#### ARTICLE 24

##### *Possible Loss of Effect in Designated States*

(1) Subject, in case (ii) below, to the provisions of Article 25, the effect of the international application provided for in Article 11(3) shall cease in any designated State with the same consequences as the withdrawal of any national application in that State:

- (i) if the applicant withdraws his international application or the designation of that State;
- (ii) if the international application is considered withdrawn by virtue of Articles 12(3), 14(1)(b), 14(3)(a), or 14(4), or if the designation of that State is considered withdrawn by virtue of Article 14(3)(b);
- (iii) if the applicant fails to perform the acts referred to in Article 22 within the applicable time limit.

(2) Notwithstanding the provisions of paragraph (1), any designated Office may maintain the effect provided for in Article 11(3) even where such effect is not required to be maintained by virtue of Article 25(2).

#### ARTICLE 25

##### *Review by Designated Offices*

(1)(a) Where the receiving Office has refused to accord an international filing date or has declared that the international application is considered withdrawn, or where the International Bureau has made a finding under Article 12(3), the International Bureau shall promptly send, at the request of the applicant, copies of any document in the file to any of the designated Offices named by the applicant.

(b) Where the receiving Office has declared that the designation of any given State is considered withdrawn, the International Bureau shall promptly send, at the request of the applicant, copies of any document in the file to the National Office of such State.

(c) The request under subparagraphs (a) or (b) shall be presented within the prescribed time limit.

(2)(a) Subject to the provisions of subparagraph (b), each designated Office shall, provided that the national fee (if any) has been paid and the appropriate translation

(as prescribed) has been furnished within the prescribed time limit, decide whether the refusal, declaration, or finding, referred to in paragraph (1) was justified under the provisions of this Treaty and the Regulations, and, if it finds that the refusal or declaration was the result of an error or omission on the part of the receiving Office or that the finding was the result of an error or omission on the part of the International Bureau, it shall, as far as effects in the State of the designated Office are concerned, treat the international application as if such error or omission had not occurred.

(b) Where the record copy has reached the International Bureau after the expiration of the time limit prescribed under Article 12(3) on account of any error or omission on the part of the applicant, the provisions of subparagraph (a) shall apply only under the circumstances referred to in Article 48(2).

#### ARTICLE 26

##### *Opportunity to Correct Before Designated Offices*

No designated Office shall reject an international application on the grounds of non-compliance with the requirements of this Treaty and the Regulations without first giving the applicant the opportunity to correct the said application to the extent and according to the procedure provided by the national law for the same or comparable situations in respect of national applications.

#### ARTICLE 27

##### *National Requirements*

(1) No national law shall require compliance with requirements relating to the form or contents of the international application different from or additional to those which are provided for in this Treaty and the Regulations.

(2) The provisions of paragraph (1) neither affect the application of the provisions of Article 7(2) nor preclude any national law from requiring, once the processing of the international application has started in the designated Office, the furnishing:

- (i) when the applicant is a legal entity, of the name of an officer entitled to represent such legal entity,
- (ii) of documents not part of the international application but which constitute proof of allegations or statements made in that application, including the confirmation of the international application by the signature of the applicant when that application, as filed, was signed by his representative or agent.

(3) Where the applicant, for the purposes of any designated State, is not qualified according to the national law of that State to file a national application because he is not the inventor, the international application may be rejected by the designated Office.

(4) Where the national law provides, in respect of the form or contents of national applications, for requirements which, from the viewpoint of applicants, are more favorable than the requirements provided for by this Treaty and the Regulations in respect of international applications, the national Office, the courts and any other competent organs of or acting for the designated State may apply the former requirements, instead of the latter requirements, to international applications, except where the applicant insists that the requirements provided for by this Treaty and the Regulations be applied to his international application.

(5) Nothing in this Treaty and the Regulations is intended to be construed as prescribing anything that would limit the freedom of each Contracting State to prescribe such substantive conditions of patentability as it desires.

In particular, any provision in this Treaty and the Regulations concerning the definition of prior art is exclusively for the purposes of the international procedure and, consequently, any Contracting State is free to apply, when determining the patentability of an invention claimed in an international application, the criteria of its national law in respect of prior art and other conditions of patentability not constituting requirements as to the form and contents of applications.

(6) The national law may require that the applicant furnish evidence in respect of any substantive condition of patentability prescribed by such law.

(7) Any receiving Office or, once the processing of the international application has started in the designated Office, that Office may apply the national law as far as it relates to any requirement that the applicant be represented by an agent having the right to represent applicants before the said Office and/or that the applicant have an address in the designated State for the purpose of receiving notifications.

(8) Nothing in this Treaty and the Regulations is intended to be construed as limiting the freedom of any Contracting State to apply measures deemed necessary for the preservation of its national security or to limit, for the protection of the general economic interests of that State, the right of its own residents or nationals to file international applications.

#### ARTICLE 28

##### *Amendment of the Claims, the Description, and the Drawings, Before Designated Offices*

(1) The applicant shall be given the opportunity to amend the claims, the description, and the drawings, before each designated Office within the prescribed time limit. No designated Office shall grant a patent, or refuse the grant of a patent, before such time limit has expired except with the express consent of the applicant.

(2) The amendments shall not go beyond the disclosure in the international application as filed unless the national law of the designated State permits them to go beyond the said disclosure.

(3) The amendments shall be in accordance with the national law of the designated State in all respects not provided for in this Treaty and the Regulations.

(4) Where the designated Office requires a translation of the international application, the amendments shall be in the language of the translation.

#### ARTICLE 29

##### *Effects of the International Publication*

(1) As far as the protection of any rights of the applicant in a designated State is concerned, the effects, in that State, of the international publication of an international application shall, subject to the provisions of paragraphs (2) to (4), be the same as those which the national law of the designated State provides for the compulsory national publication of unexamined national applications as such.

(2) If the language in which the international publication has been effected is different from the language in which publications under the national law are effected in the designated State, the said national law may provide that the effects provided for in paragraph (1) shall be applicable only from such time as:

- (i) a translation into the latter language has been published as provided by the national law, or

(ii) a translation into the latter language has been made available to the public, by laying open for public inspection as provided by the national law, or

(iii) a translation into the latter language has been transmitted by the applicant to the actual or prospective unauthorized user of the invention claimed in the international application, or

(iv) both the acts described in (i) and (iii), or both the acts described in (ii) and (iii), have taken place.

(3) The national law of any designated State may provide that, where the international publication has been effected, on the request of the applicant, before the expiration of 18 months from the priority date, the effects provided for in paragraph (1) shall be applicable only from the expiration of 18 months from the priority date.

(4) The national law of any designated State may provide that the effects provided for in paragraph (1) shall be applicable only from the date on which a copy of the international application as published under Article 21 has been received in the national Office of or acting for such State. The said Office shall publish the date of receipt in its gazette as soon as possible.

#### ARTICLE 30

##### *Confidential Nature of the International Application*

(1)(a) Subject to the provisions of subparagraph (b), the International Bureau and the International Searching Authorities shall not allow access by any person or authority to the international application before the international publication of that application, unless requested or authorized by the applicant.

(b) The provisions of subparagraph (a) shall not apply to any transmittal to the competent International Searching Authority, to transmittals provided for under Article 13, and to communications provided for under Article 20.

(2)(a) No national Office shall allow access to the international application by third parties, unless requested or authorized by the applicant, before the earliest of the following dates:

- (i) date of the international publication of the international application,
- (ii) date of the receipt of the communication of the international application under Article 20,
- (iii) date of the receipt of a copy of the international application under Article 22.

(b) The provisions of subparagraph (a) shall not prevent any national Office from informing third parties that it has been designated, or from publishing that fact. Such information or publication may, however, contain only the following data: identification of the receiving Office, name of the applicant, international filing date, international application number, and title of the invention.

(c) The provisions of subparagraph (a) shall not prevent any designated Office from allowing access to the international application for the purposes of the judicial authorities.

(3) The provisions of paragraph (2)(a) shall apply to any receiving Office except as far as transmittals provided for under Article 12(1) are concerned.

(4) For the purposes of this Article, the term "access" covers any means by which third parties may acquire cognizance, including individual communication and general publication, provided, however, that no national Office shall generally publish an international application or its translation before the international publication or, if international publication has not taken place by the expiration of 20 months from the priority date, before the expiration of 20 months from the said priority date.



## CHAPTER II: INTERNATIONAL PRELIMINARY EXAMINATION

### ARTICLE 31

#### *Demand for International Preliminary Examination*

(1) On the demand of the applicant, his international application shall be the subject of an international preliminary examination as provided in the following provisions and the Regulations.

(2)(a) Any applicant who is a resident or national, as defined in the Regulations, of a Contracting State bound by Chapter II, and whose international application has been filed with the receiving Office of or acting for such State, may make a demand for international preliminary examination.

(b) The Assembly may decide to allow persons entitled to file international applications to make a demand for international preliminary examination even if they are residents or nationals of a State not party to this Treaty or not bound by Chapter II.

(3) The demand for international preliminary examination shall be made separately from the international application. The demand shall contain the prescribed particulars and shall be in the prescribed language and form.

(4)(a) The demand shall indicate the Contracting State or States in which the applicant intends to use the results of the international preliminary examination ("elected States"). Additional Contracting States may be elected later. Election may relate only to Contracting States already designated under Article 4.

(b) Applicants referred to in paragraph (2)(a) may elect any Contracting State bound by Chapter II. Applicants referred to in paragraph (2)(b) may elect only such Contracting States bound by Chapter II as have declared that they are prepared to be elected by such applicants.

(5) The demand shall be subject to the payment of the prescribed fees within the prescribed time limit.

(6)(a) The demand shall be submitted to the competent International Preliminary Examining Authority referred to in Article 32.

(b) Any later election shall be submitted to the International Bureau.

(7) Each elected Office shall be notified of its election.

### ARTICLE 32

#### *The International Preliminary Examining Authority*

(1) International preliminary examination shall be carried out by the International Preliminary Examining Authority.

(2) In the case of demands referred to in Article 31(2)(a), the receiving Office, and, in the case of demands referred to in Article 31(2)(b), the Assembly, shall, in accordance with the applicable agreement between the interested International Preliminary Examining Authority or Authorities and the International Bureau, specify the International Preliminary Examining Authority or Authorities competent for the preliminary examination.

(3) The provisions of Article 16(3) shall apply, *mutatis mutandis*, in respect of International Preliminary Examining Authorities.

### ARTICLE 33

#### *The International Preliminary Examination*

(1) The objective of the international preliminary examination is to formulate a preliminary and non-binding

opinion on the questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), and to be industrially applicable.

(2) For the purposes of the international preliminary examination, a claimed invention shall be considered novel if it is not anticipated by the prior art as defined in the Regulations.

(3) For the purposes of the international preliminary examination, a claimed invention shall be considered to involve an inventive step if, having regard to the prior art as defined in the Regulations, it is not, at the prescribed relevant date, obvious to a person skilled in the art.

(4) For the purposes of the international preliminary examination, a claimed invention shall be considered industrially applicable if, according to its nature, it can be made or used (in the technological sense) in any kind of industry. "Industry" shall be understood in its broadest sense, as in the Paris Convention for the Protection of Industrial Property.

(5) The criteria described above merely serve the purposes of international preliminary examination. Any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not.

(6) The international preliminary examination shall take into consideration all the documents cited in the international search report. It may take into consideration any additional documents considered to be relevant in the particular case.

### ARTICLE 34

#### *Procedure Before the International Preliminary Examining Authority*

(1) Procedure before the International Preliminary Examining Authority shall be governed by the provisions of this Treaty, the Regulations, and the agreement which the International Bureau shall conclude, subject to this Treaty and the Regulations, with the said Authority.

(2)(a) The applicant shall have a right to communicate orally and in writing with the International Preliminary Examining Authority.

(b) The applicant shall have a right to amend the claims, the description, and the drawings, in the prescribed manner and within the prescribed time limit, before the international preliminary examination report is established. The amendment shall not go beyond the disclosure in the international application as filed.

(c) The applicant shall receive at least one written opinion from the International Preliminary Examining Authority unless such Authority considers that all of the following conditions are fulfilled:

(i) the invention satisfies the criteria set forth in Article 33(1),

(ii) the international application complies with the requirements of this Treaty and the Regulations in so far as checked by that Authority,

(iii) no observations are intended to be made under Article 35(2), last sentence.

(d) The applicant may respond to the written opinion.

(3)(a) If the International Preliminary Examining Authority considers that the international application does not comply with the requirement of unity of invention as set forth in the Regulations, it may invite the applicant, at his option, to restrict the claims so as to comply with the requirement or to pay additional fees.

(b) The national law of any elected State may provide that, where the applicant chooses to restrict the claims under subparagraph (a), those parts of the international application which, as a consequence of the

restriction, are not to be the subject of international preliminary examination shall, as far as effects in that State are concerned, be considered withdrawn unless a special fee is paid by the applicant to the national Office of that State.

(c) If the applicant does not comply with the invitation referred to in subparagraph (a) within the prescribed time limit, the International Preliminary Examining Authority shall establish an international preliminary examination report on those parts of the international application which relate to what appears to be the main invention and shall indicate the relevant facts in the said report. The national law of any elected State may provide that, where its national Office finds the invitation of the International Preliminary Examining Authority justified, those parts of the international application which do not relate to the main invention shall, as far as effects in that State are concerned, be considered withdrawn unless a special fee is paid by the applicant to that Office.

(4)(a) If the International Preliminary Examining Authority considers

(i) that the international application relates to a subject matter on which the International Preliminary Examining Authority is not required, under the Regulations, to carry out an international preliminary examination, and in the particular case decides not to carry out such examination, or

(ii) that the description, the claims, or the drawings, are so unclear, or the claims are so inadequately supported by the description, that no meaningful opinion can be formed on the novelty, inventive step (non-obviousness), or industrial applicability, of the claimed invention,

the said Authority shall not go into the questions referred to in Article 33(1) and shall inform the applicant of this opinion and the reasons therefor.

(b) If any of the situations referred to in subparagraph (a) is found to exist in, or in connection with, certain claims only, the provisions of that subparagraph shall apply only to the said claims.

### ARTICLE 35

#### *The International Preliminary Examination Report*

(1) The international preliminary examination report shall be established within the prescribed time limit and in the prescribed form.

(2) The international preliminary examination report shall not contain any statement on the question whether the claimed invention is or seems to be patentable or unpatentable according to any national law. It shall state, subject to the provisions of paragraph (3), in relation to each claim, whether the claim appears to satisfy the criteria of novelty, inventive step (non-obviousness), and industrial applicability, as defined for the purposes of the international preliminary examination in Article 33(1) to (4). The statement shall be accompanied by the citation of the documents believed to support the stated conclusion with such explanations as the circumstances of the case may require. The statement shall also be accompanied by such other observations as the Regulations provide for.

(3)(a) If, at the time of establishing the international preliminary examination report, the International Preliminary Examining Authority considers that any of the situations referred to in Article 34(4)(a) exists, that report shall state this opinion and the reasons therefor. It shall not contain any statement as provided in paragraph (2).

(b) If a situation under Article 34(4)(b) is found to exist, the international preliminary examination report shall, in relation to the claims in question, contain the

statement as provided in subparagraph (a), whereas, in relation to the other claims, it shall contain the statement as provided in paragraph (2).

### ARTICLE 36

#### *Transmittal, Translation, and Communication, of the International Preliminary Examination Report*

(1) The international preliminary examination report, together with the prescribed annexes, shall be transmitted to the applicant and to the International Bureau.

(2)(a) The international preliminary examination report and its annexes shall be translated into the prescribed languages.

(b) Any translation of the said report shall be prepared by or under the responsibility of the International Bureau, whereas any translation of the said annexes shall be prepared by the applicant.

(3)(a) The international preliminary examination report, together with its translation (as prescribed) and its annexes (in the original language), shall be communicated by the International Bureau to each elected Office.

(b) The prescribed translation of the annexes shall be transmitted within the prescribed time limit by the applicant to the elected Offices.

(4) The provisions of Article 20(3) shall apply, *mutatis mutandis*, to copies of any document which is cited in the international preliminary examination report and which was not cited in the international search report.

### ARTICLE 37

#### *Withdrawal of Demand or Election*

(1) The applicant may withdraw any or all elections.

(2) If the election of all elected States is withdrawn, the demand shall be considered withdrawn.

(3)(a) Any withdrawal shall be notified to the International Bureau.

(b) The elected Offices concerned and the International Preliminary Examining Authority concerned shall be notified accordingly by the International Bureau.

(4)(a) Subject to the provisions of subparagraph (b), withdrawal of the demand or of the election of a Contracting State shall, unless the national law of that State provides otherwise, be considered to be withdrawal of the international application as far as that State is concerned.

(b) Withdrawal of the demand or of the election shall not be considered to be withdrawal of the international application if such withdrawal is effected prior to the expiration of the applicable time limit under Article 22; however, any Contracting State may provide in its national law that the aforesaid shall apply only if its national Office has received, within the said time limit, a copy of the international application, together with a translation (as prescribed), and the national fee.

### ARTICLE 38

#### *Confidential Nature of the International Preliminary Examination*

(1) Neither the International Bureau nor the International Preliminary Examining Authority shall, unless requested or authorized by the applicant, allow access within the meaning, and with the proviso, of Article 30(4) to the file of the international preliminary examination by any person or authority at any time, except by the elected Offices once the international preliminary examination report has been established.



(2) Subject to the provisions of paragraph (1) and Articles 36(1) and (3) and 37(3)(b), neither the International Bureau nor the International Preliminary Examining Authority shall, unless requested or authorized by the applicant, give information on the issuance or non-issuance of an international preliminary examination report and on the withdrawal or non-withdrawal of the demand or of any election.

#### ARTICLE 39

##### *Copy, Translation, and Fee, to Elected Offices*

(1)(a) If the election of any Contracting State has been effected prior to the expiration of the 19th month from the priority date, the provisions of Article 22 shall not apply to such State and the applicant shall furnish a copy of the international application (unless the communication under Article 20 has already taken place) and a translation thereof (as prescribed), and pay the national fee (if any), to each elected Office not later than at the expiration of 25 months from the priority date.

(b) Any national-law may, for performing the acts referred to in subparagraph (a), fix time limits which expire later than the time limit provided for in that subparagraph.

(2) The effect provided for in Article 11(3) shall cease in the elected State with the same consequences as the withdrawal of any national application in that State if the applicant fails to perform the acts referred to in paragraph (1)(a) within the time limit applicable under paragraph (1)(a) or (b).

(3) Any elected Office may maintain the effect provided for in Article 11(3) even where the applicant does not comply with the requirements provided for in paragraph (1)(a) or (b).

#### ARTICLE 40

##### *Delaying of National Examination and Other Processing*

(1) If the election of any Contracting State has been effected prior to the expiration of the 19th month from the priority date, the provisions of Article 23 shall not apply to such State and the national Office of or acting for that State shall not proceed, subject to the provisions of paragraph (2), to the examination and other processing of the international application prior to the expiration of the applicable time limit under Article 39.

(2) Notwithstanding the provisions of paragraph (1), any elected Office may, on the express request of the applicant, proceed to the examination and other processing of the international application at any time.

#### ARTICLE 41

##### *Amendment of the Claims, the Description, and the Drawings, Before Elected Offices*

(1) The applicant shall be given the opportunity to amend the claims, the description, and the drawings, before each elected Office within the prescribed time limit. No elected Office shall grant a patent, or refuse the grant of a patent, before such time limit has expired, except with the express consent of the applicant.

(2) The amendments shall not go beyond the disclosure in the international application as filed, unless the national law of the elected State permits them to go beyond the said disclosure.

(3) The amendments shall be in accordance with the national law of the elected State in all respects not provided for in this Treaty and the Regulations.

(4) Where an elected Office requires a translation of the international application, the amendments shall be in the language of the translation.

#### ARTICLE 42

##### *Results of National Examination in Elected Offices*

No elected Office receiving the international preliminary examination report may require that the applicant furnish copies, or information on the contents, of any papers connected with the examination relating to the same international application in any other elected Office.

### CHAPTER III: COMMON PROVISIONS

#### ARTICLE 43

##### *Seeking Certain Kinds of Protection*

In respect of any designated or elected State whose law provides for the grant of inventors' certificates, utility certificates, utility models, patents or certificates of addition, inventors' certificates of addition, or utility certificates of addition, the applicant may indicate, as prescribed in the Regulations, that his international application is for the grant, as far as that State is concerned, of an inventor's certificate, a utility certificate, or a utility model, rather than a patent, or that it is for the grant of a patent or certificate of addition, an inventor's certificate of addition, or a utility certificate of addition, and the ensuing effect shall be governed by the applicant's choice. For the purposes of this Article and any Rule thereunder, Article 2(ii) shall not apply.

#### ARTICLE 44

##### *Seeking Two Kinds of Protection*

In respect of any designated or elected State whose law permits an application, while being for the grant of a patent or one of the other kinds of protection referred to in Article 43, to be also for the grant of another of the said kinds of protection, the applicant may indicate, as prescribed in the Regulations, the two kinds of protection he is seeking, and the ensuing effect shall be governed by the applicant's indications. For the purposes of this Article, Article 2(ii) shall not apply.

#### ARTICLE 45

##### *Regional Patent Treaties*

(1) Any treaty providing for the grant of regional patents ("regional patent treaty"), and giving to all persons who, according to Article 9, are entitled to file international applications the right to file applications for such patents, may provide that international applications designating or electing a State party to both the regional patent treaty and the present Treaty may be filed as applications for such patents.

(2) The national law of the said designated or elected State may provide that any designation or election of such State in the international application shall have the effect of an indication of the wish to obtain a regional patent under the regional patent treaty.

#### ARTICLE 46

##### *Incorrect Translation of the International Application*

If, because of an incorrect translation of the international application, the scope of any patent granted on

that application exceeds the scope of the international application in its original language, the competent authorities of the Contracting State concerned may accordingly and retroactively limit the scope of the patent, and declare it null and void to the extent that its scope has exceeded the scope of the international application in its original language.

#### ARTICLE 47

##### *Time Limits*

(1) The details for computing time limits referred to in this Treaty are governed by the Regulations.

(2)(a) All time limits fixed in Chapters I and II of this Treaty may, outside any revision under Article 60, be modified by a decision of the Contracting States.

(b) Such decisions shall be made in the Assembly or through voting by correspondence and must be unanimous.

(c) The details of the procedure are governed by the Regulations.

#### ARTICLE 48

##### *Delay in Meeting Certain Time Limits*

(1) Where any time limit fixed in this Treaty or the Regulations is not met because of interruption in the mail service or unavoidable loss or delay in the mail, the time limit shall be deemed to be met in the cases and subject to the proof and other conditions prescribed in the Regulations.

(2)(a) Any Contracting State shall, as far as that State is concerned, excuse, for reasons admitted under its national law, any delay in meeting any time limit.

(b) Any Contracting State may, as far as that State is concerned, excuse, for reasons other than those referred to in subparagraph (a), any delay in meeting any time limit.

#### ARTICLE 49

##### *Right To Practice Before International Authorities*

Any attorney, patent agent, or other person, having the right to practice before the national Office with which the international application was filed, shall be entitled to practice before the International Bureau and the competent International Searching Authority and competent International Preliminary Examining Authority in respect of that application.

### CHAPTER IV: TECHNICAL SERVICES

#### ARTICLE 50

##### *Patent Information Services*

(1) The International Bureau may furnish services by providing technical and any other pertinent information available to it on the basis of published documents, primarily patents and published applications (referred to in this Article as "the information services").

(2) The International Bureau may provide these information services either directly or through one or more International Searching Authorities or other national or international specialized institutions, with which the International Bureau may reach agreement.

(3) The information services shall be operated in a way particularly facilitating the acquisition by Contracting States which are developing countries of technical knowledge and technology, including available published knowledge.

(4) The information services shall be available to Governments of Contracting States and their nationals and residents. The Assembly may decide to make these services available also to others.

(5)(a) Any service to Governments of Contracting States shall be furnished at cost, provided that, when the Government is that of a Contracting State which is a developing country, the service shall be furnished below cost if the difference can be covered from profit made on services furnished to others than Governments of Contracting States or from the sources referred to in Article 51(4).

(b) The cost referred to in subparagraph (a) is to be understood as cost over and above costs normally incident to the performance of the services of a national Office or the obligations of an International Searching Authority.

(6) The details concerning the implementation of the provisions of this Article shall be governed by decisions of the Assembly and, within the limits to be fixed by the Assembly, such working groups as the Assembly may set up for that purpose.

(7) The Assembly shall, when it considers it necessary, recommend methods of providing financing supplementary to those referred to in paragraph (5).

#### ARTICLE 51

##### *Technical Assistance*

(1) The Assembly shall establish a Committee for Technical Assistance (referred to in this Article as "the Committee").

(2)(a) The members of the Committee shall be elected among the Contracting States, with due regard to the representation of developing countries.

(b) The Director General shall, on his own initiative or at the request of the Committee, invite representatives of intergovernmental organizations concerned with technical assistance to developing countries to participate in the work of the Committee.

(3)(a) The task of the Committee shall be to organize and supervise technical assistance for Contracting States which are developing countries in developing their patent systems individually or on a regional basis.

(b) The technical assistance shall comprise, among other things, the training of specialists, the loaning of experts, and the supply of equipment both for demonstration and for operational purposes.

(4) The International Bureau shall seek to enter into agreements, on the one hand, with international financing organizations and intergovernmental organizations, particularly the United Nations, the agencies of the United Nations, and the Specialized Agencies connected with the United Nations concerned with technical assistance, and, on the other hand, with the Governments of the States receiving the technical assistance, for the financing of projects pursuant to this Article.

(5) The details concerning the implementation of the provisions of this Article shall be governed by decisions of the Assembly and, within the limits to be fixed by the Assembly, such working groups as the Assembly may set up for that purpose.

#### ARTICLE 52

##### *Relations with Other Provisions of the Treaty*

Nothing in this Chapter shall affect the financial provisions contained in any other Chapter of this Treaty. Such provisions are not applicable to the present Chapter or to its implementation.



## CHAPTER V: ADMINISTRATIVE PROVISIONS

## ARTICLE 53

*Assembly*

- (1)(a) The Assembly shall, subject to Article 57(8), consist of the Contracting States.
- (b) The Government of each Contracting State shall be represented by one delegate, who may be assisted by alternate delegates, advisors, and experts.
- (2)(a) The Assembly shall:
- deal with all matters concerning the maintenance and development of the Union and the implementation of this Treaty;
  - perform such tasks as are specifically assigned to it under other provisions of this Treaty;
  - give directions to the International Bureau concerning the preparation for revision conferences;
  - review and approve the reports and activities of the Director General concerning the Union, and give him all necessary instructions concerning matters within the competence of the Union;
  - review and approve the reports and activities of the Executive Committee established under paragraph (9), and give instructions to such Committee;
  - determine the program and adopt the triennial budget of the Union, and approve its final accounts;
  - adopt the financial regulations of the Union;
  - establish such committees and working groups as it deems appropriate to achieve the objectives of the Union;
  - determine which States other than Contracting States and, subject to the provisions of paragraph (8), which intergovernmental and international non-governmental organizations shall be admitted to its meetings as observers;
  - take any other appropriate action designed to further the objectives of the Union and perform such other functions as are appropriate under this Treaty.
- (b) With respect to matters which are of interest also to other Unions administered by the Organization, the Assembly shall make its decisions after having heard the advice of the Coordination Committee of the Organization.
- (3) A delegate may represent, and vote in the name of, one State only.
- (4) Each Contracting State shall have one vote.
- (5)(a) One-half of the Contracting States shall constitute a quorum.
- (b) In the absence of the quorum, the Assembly may make decisions but, with the exception of decisions concerning its own procedure, all such decisions shall take effect only if the quorum and the required majority are attained through voting by correspondence as provided in the Regulations.
- (6)(a) Subject to the provisions of Articles 47(2)(b), 58(2)(b), 58(3) and 61(2)(b), the decisions of the Assembly shall require two-thirds of the votes cast.
- (b) Abstentions shall not be considered as votes.
- (7) In connection with matters of exclusive interest to States bound by Chapter II, any reference to Contracting States in paragraphs (4), (5), and (6), shall be considered as applying only to States bound by Chapter II.
- (8) Any intergovernmental organization appointed as International Searching or Preliminary Examining Authority shall be admitted as observer to the Assembly.
- (9) When the number of Contracting States exceeds forty, the Assembly shall establish an Executive Committee. Any reference to the Executive Committee in this Treaty and the Regulations shall be construed as references to such Committee once it has been established.
- (10) Until the Executive Committee has been established, the Assembly shall approve, within the limits of

the program and triennial budget, the annual programs and budgets prepared by the Director General.

(11)(a) Until the Executive Committee has been established, the Assembly shall meet once in every calendar year in ordinary session upon convocation by the Director General and, in the absence of exceptional circumstances, during the same period and at the same place as the Coordination Committee of the Organization.

(b) Once the Executive Committee has been established, the Assembly shall meet once only in every third calendar year in ordinary session upon convocation by the Director General and, in the absence of exceptional circumstances, during the same period and at the same place as the General Assembly of the Organization.

(c) The Assembly shall meet in extraordinary session upon convocation by the Director General, at the request of the Executive Committee, or at the request of one-fourth of the Contracting States.

(12) The Assembly shall adopt its own rules of procedure.

## ARTICLE 54

*Executive Committee*

(1) When the Assembly has established an Executive Committee, that Committee shall be subject to the provisions set forth hereinafter.

(2)(a) The Executive Committee shall, subject to Article 57(8), consist of States elected by the Assembly from among States members of the Assembly.

(b) The Government of each State member of the Executive Committee shall be represented by one delegate, who may be assisted by alternate delegates, advisors, and experts.

(3) The number of States members of the Executive Committee shall correspond to one-fourth of the number of States members of the Assembly. In establishing the number of seats to be filled, remainders after division by four shall be disregarded.

(4) In electing the members of the Executive Committee, the Assembly shall have due regard to an equitable geographical distribution.

(5)(a) Each member of the Executive Committee shall serve from the close of the session of the Assembly which elected it to the close of the next ordinary session of the Assembly.

(b) Members of the Executive Committee may be re-elected but only up to a maximum of two-thirds of such members.

(c) The Assembly shall establish the details of the rules governing the election and possible re-election of the members of the Executive Committee.

(6)(a) The Executive Committee shall:

- prepare the draft agenda of the assembly;
- submit proposals to the Assembly in respect of the draft program and triennial budget of the Union prepared by the Director General;
- approve, within the limits of the program and triennial budget, the specific yearly budgets and programs prepared by the Director General;
- submit, with appropriate comments, to the Assembly the periodical reports of the Director General and the yearly audit reports on the accounts;
- take all necessary measures to ensure the execution of the program of the Union by the Director General, in accordance with the decisions of the Assembly and having regard to circumstances arising between two ordinary sessions of the Assembly;
- perform such other functions as are allocated to it under this Treaty.

(b) With respect to matters which are of interest also to other Unions administered by the Organization, the

Executive Committee shall make its decisions after having heard the advice of the Coordination Committee of the Organization.

(7)(a) The Executive Committee shall meet once a year in ordinary session upon convocation by the Director General, preferably during the same period and at the same place as the Coordination Committee of the Organization.

(b) The Executive Committee shall meet in extraordinary session upon convocation by the Director General, either on his own initiative or at the request of its Chairman or one-fourth of its members.

(8)(a) Each State member of the Executive Committee shall have one vote.

(b) One-half of the members of the Executive Committee shall constitute a quorum.

(c) Decisions shall be made by a simple majority of the votes cast.

(d) Abstentions shall not be considered as votes.

(e) A delegate may represent, and vote in the name of, one State only.

(9) Contracting States not members of the Executive Committee shall be admitted to its meetings as observers, as well as any intergovernmental organization appointed as International Searching or Preliminary Examining Authority.

(10) The Executive Committee shall adopt its own rules of procedure.

## ARTICLE 55

*International Bureau*

(1) Administrative tasks concerning the Union shall be performed by the International Bureau.

(2) The International Bureau shall provide the secretariat of the various organs of the Union.

(3) The Director General shall be the chief executive of the Union and shall represent the Union.

(4) The International Bureau shall publish a Gazette and other publications provided for by the Regulations or required by the Assembly.

(5) The Regulations shall specify the services that national Offices shall perform in order to assist the International Bureau and the International Searching and Preliminary Examining Authorities in carrying out their tasks under this Treaty.

(6) The Director General and any staff member designated by him shall participate, without the right to vote, in all meetings of the Assembly, the Executive Committee and any other committee or working group established under this Treaty or the Regulations. The Director General, or a staff member designated by him, shall be ex officio secretary of these bodies.

(7)(a) The International Bureau shall, in accordance with the directions of the Assembly and in cooperation with the Executive Committee, make the preparations for the revision conferences.

(b) The International Bureau may consult with intergovernmental and international non-governmental organizations concerning preparations for revision conferences.

(c) The Director General and persons designated by him shall take part, without the right to vote, in the discussions at revision conferences.

(8) The International Bureau shall carry out any other tasks assigned to it.

## ARTICLE 56

*Committee for Technical Cooperation*

(1) The Assembly shall establish a Committee for Technical Cooperation (referred to in this Article as "the Committee").

(2)(a) The Assembly shall determine the composition of the Committee and appoint its members, with due regard to an equitable representation of developing countries.

(b) The International Searching and Preliminary Examining Authorities shall be ex officio members of the Committee. In the case where such an Authority is the national Office of a Contracting State, that State shall not be additionally represented on the Committee.

(c) If the number of Contracting States so allows, the total number of members of the Committee shall be more than double the number of ex officio members.

(d) The Director General shall, on his own initiative or at the request of the Committee, invite representatives of interested organizations to participate in discussions of interest to them.

(3) The aim of the Committee shall be to contribute, by advice and recommendations:

- to the constant improvement of the services provided for under this Treaty,
- to the securing, so long as there are several International Searching Authorities and several International Preliminary Examining Authorities, of the maximum degree of uniformity in their documentation and working methods and the maximum degree of uniformly high quality in their reports, and
- on the initiative of the Assembly or the Executive Committee, to the solution of the technical problems specifically involved in the establishment of a single International Searching Authority.

(4) Any Contracting State and any interested international organization may approach the Committee in writing on questions which fall within the competence of the Committee.

(5) The Committee may address its advice and recommendations to the Director General or, through him, to the Assembly, the Executive Committee, all or some of the International Searching and Preliminary Examining Authorities, and all or some of the receiving Offices.

(6)(a) In any case, the Director General shall transmit to the Executive Committee the texts of all the advice and recommendations of the Committee. He may comment on such texts.

(b) The Executive Committee may express its views on any advice, recommendation, or other activity of the Committee, and may invite the Committee to study and report on questions falling within its competence. The Executive Committee may submit to the Assembly, with appropriate comments, the advice, recommendations and report of the Committee.

(7) Until the Executive Committee has been established, references in paragraph (6) to the Executive Committee shall be construed as references to the Assembly.

(8) The details of the procedure of the Committee shall be governed by the decisions of the Assembly.

## ARTICLE 57

*Finances*

(1)(a) The Union shall have a budget.

(b) The budget of the Union shall include the income and expenses proper to the Union and its contribution to the budget of expenses common to the Unions administered by the Organization.

(c) Expenses not attributable exclusively to the Union but also to one or more other Unions administered by the Organization shall be considered as expenses common to the Unions. The share of the Union in such common expenses shall be in proportion to the interest the Union has in them.

(2) The budget of the Union shall be established with due regard to the requirements of coordination with the



budgets of the other Unions administered by the Organization.

(3) Subject to the provisions of paragraph (5), the budget of the Union shall be financed from the following sources:

- (i) fees and charges due for services rendered by the International Bureau in relation to the Union;
- (ii) sale of, or royalties on, the publications of the International Bureau concerning the Union;
- (iii) gifts, bequests, and subventions;
- (iv) rents, interests, and other miscellaneous income.

(4) The amounts of fees and charges due to the International Bureau and the prices of its publications shall be so fixed that they should, under normal circumstances, be sufficient to cover all the expenses of the International Bureau connected with the administration of this Treaty.

(5)(a) Should any financial year close with a deficit, the Contracting States shall, subject to the provisions of subparagraphs (b) and (c), pay contributions to cover such deficit.

(b) The amount of the contribution of each Contracting State shall be decided by the Assembly with due regard to the number of international applications which has emanated from each of them in the relevant year.

(c) If other means of provisionally covering any deficit or any part thereof are secured, the Assembly may decide that such deficit be carried forward and that the Contracting States should not be asked to pay contributions.

(d) If the financial situation of the Union so permits, the Assembly may decide that any contributions paid under subparagraph (a) be reimbursed to the Contracting States which have paid them.

(e) A Contracting State which has not paid, within two years of the due date as established by the Assembly, its contribution under subparagraph (b) may not exercise its right to vote in any of the organs of the Union. However, any organ of the Union may allow such a State to continue to exercise its right to vote in that organ so long as it is satisfied that the delay in payment is due to exceptional and unavoidable circumstances.

(6) If the budget is not adopted before the beginning of a new financial period, it shall be at the same level as the budget of the previous year, as provided in the financial regulations.

(7)(a) The Union shall have a working capital fund which shall be constituted by a single payment made by each Contracting State. If the fund becomes insufficient, the Assembly shall arrange to increase it. If part of the fund is no longer needed, it shall be reimbursed.

(b) The amount of the initial payment of each Contracting State to the said fund or of its participation in the increase thereof shall be decided by the Assembly on the basis of principles similar to those provided for under paragraph (5)(b).

(c) The terms of payment shall be fixed by the Assembly on the proposal of the Director General and after it has heard the advice of the Coordination Committee of the Organization.

(d) Any reimbursement shall be proportionate to the amounts paid by each Contracting State, taking into account the dates at which they were paid.

(8)(a) In the headquarters agreement concluded with the State on the territory of which the Organization has its headquarters, it shall be provided that, whenever the working capital fund is insufficient, such State shall grant advances. The amount of these advances and the conditions on which they are granted shall be the subject of separate agreements, in each case, between such State and the Organization. As long as it remains under the obligation to grant advances, such State shall have an ex officio seat in the Assembly and on the Executive Committee.

(b) The State referred to in subparagraph (a) and the Organization shall each have the right to denounce the obligation to grant advances, by written notification. Denunciation shall take effect three years after the end of the year in which it has been notified.

(9) The auditing of the accounts shall be effected by one or more of the Contracting States or by external auditors, as provided in the financial regulations. They shall be designated, with their agreement, by the Assembly.

#### ARTICLE 58

##### Regulations

(1) The Regulations annexed to this Treaty provide Rules:

- (i) concerning matters in respect of which this Treaty expressly refers to the Regulations or expressly provides that they are or shall be prescribed,
- (ii) concerning any administrative requirements, matters, or procedures,
- (iii) concerning any details useful in the implementation of the provisions of this Treaty.

(2)(a) The Assembly may amend the Regulations.  
(b) Subject to the provisions of paragraph (3), amendments shall require three-fourths of the votes cast.

(3)(a) The Regulations specify the Rules which may be amended:

- (i) only by unanimous consent, or
- (ii) only if none of the Contracting States whose national Office acts as an International Searching or Preliminary Examining Authority dissents, and, where such Authority is an intergovernmental organization, the Contracting State member of that organization authorized for that purpose by the other member States within the competent body of such organization does not dissent.

(b) Exclusion, for the future, of any such Rules from the applicable requirement shall require the fulfillment of the conditions referred to in subparagraph (a)(i) or (a)(ii), respectively.

(c) Inclusion, for the future, of any Rule in one or the other of the requirements referred to in subparagraph (a) shall require unanimous consent.

(4) The Regulations provide for the establishment, under the control of the Assembly, of Administrative Instructions by the Director General.

(5) In the case of conflict between the provisions of the Treaty and those of the Regulations, the provisions of the Treaty shall prevail.

#### CHAPTER VI: DISPUTES

#### ARTICLE 59

##### Disputes

Subject to Article 64(5), any dispute between two or more Contracting States concerning the interpretation or application of this Treaty or the Regulations, not settled by negotiation, may, by any one of the States concerned, be brought before the International Court of Justice by application in conformity with the Statute of the Court, unless the States concerned agree on some other method of settlement. The Contracting State bringing the dispute before the Court shall inform the International Bureau; the International Bureau shall bring the matter to the attention of the other Contracting States.

#### CHAPTER VII: REVISION AND AMENDMENT

#### ARTICLE 60

##### Revision of the Treaty

(1) This Treaty may be revised from time to time by a special conference of the Contracting States.

(2) The convocation of any revision conference shall be decided by the Assembly.

(3) Any intergovernmental organization appointed as International Searching or Preliminary Examining Authority shall be admitted as observer to any revision conference.

(4) Articles 53(5), (9) and (11), 54, 55(4) to (8), 56, and 57, may be amended either by a revision conference or according to the provisions of Article 61.

#### ARTICLE 61

##### Amendment of Certain Provisions of the Treaty

(1)(a) Proposals for the amendment of Articles 53(5), (9) and (11), 54, 55(4) to (8), 56, and 57, may be initiated by any State member of the Assembly, by the Executive Committee, or by the Director General.

(b) Such proposals shall be communicated by the Director General to the Contracting States at least six months in advance of their consideration by the Assembly.

(2)(a) Amendments to the Articles referred to in paragraph (1) shall be adopted by the Assembly.

(b) Adoption shall require three-fourths of the votes cast.

(3)(a) Any amendment to the Articles referred to in paragraph (1) shall enter into force one month after written notifications of acceptance, effected in accordance with their respective constitutional processes, have been received by the Director General from three-fourths of the States members of the Assembly at the time it adopted the amendment.

(b) Any amendment to the said Articles thus accepted shall bind all the States which are members of the Assembly at the time the amendment enters into force, provided that any amendment increasing the financial obligations of the Contracting States shall bind only those States which have notified their acceptance of such amendment.

(c) Any amendment accepted in accordance with the provisions of subparagraph (a) shall bind all States which become members of the Assembly after the date on which the amendment entered into force in accordance with the provisions of subparagraph (a).

#### CHAPTER VIII: FINAL PROVISIONS

#### ARTICLE 62

##### Becoming Party to the Treaty

(1) Any State member of the International Union for the Protection of Industrial Property may become party to this Treaty by:

- (i) signature followed by the deposit of an instrument of ratification, or
- (ii) deposit of an instrument of accession.

(2) Instruments of ratification or accession shall be deposited with the Director General.

(3) The provisions of Article 24 of the Stockholm Act of the Paris Convention for the Protection of Industrial Property shall apply to this Treaty.

(4) Paragraph (3) shall in no way be understood as implying the recognition or tacit acceptance by a Contracting State of the factual situation concerning a territory to which this Treaty is made applicable by another Contracting State by virtue of the said paragraph.

#### ARTICLE 63

##### Entry into Force of the Treaty

(1)(a) Subject to the provisions of paragraph (3), this Treaty shall enter into force three months after eight States have deposited their instruments of ratification or accession, provided that at least four of those States each fulfill any of the following conditions:

- (i) the number of applications filed in the State has exceeded 40,000 according to the most recent annual statistics published by the International Bureau,
- (ii) the nationals or residents of the State have filed at least 1,000 applications in one foreign country according to the most recent annual statistics published by the International Bureau,
- (iii) the national Office of the State has received at least 10,000 applications from nationals or residents of foreign countries according to the most recent annual statistics published by the International Bureau.

(b) For the purposes of this paragraph, the term "applications" does not include applications for utility models.

(2) Subject to the provisions of paragraph (3), any State which does not become party to this Treaty upon entry into force under paragraph (1) shall become bound by this Treaty three months after the date on which such State has deposited its instrument of ratification or accession.

(3) The provisions of Chapter II and the corresponding provisions of the Regulations annexed to this Treaty shall become applicable, however, only on the date on which three States each of which fulfill at least one of the three requirements specified in paragraph (1) have become party to this Treaty without declaring, as provided in Article 64(1) that they do not intend to be bound by the provisions of Chapter II. That date shall not, however, be prior to that of the initial entry into force under paragraph (1).

#### ARTICLE 64

##### Reservations

(1)(a) Any State may declare that it shall not be bound by the provisions of Chapter II.

(b) States making a declaration under subparagraph (a) shall not be bound by the provisions of Chapter II and the corresponding provisions of the Regulations.

(2)(a) Any State not having made a declaration under paragraph (1)(a) may declare that:

- (i) it shall not be bound by the provisions of Article 39(1) with respect to the furnishing of a copy of the international application and a translation thereof (as prescribed),
- (ii) the obligation to delay national processing, as provided for under Article 40, shall not prevent publication, by or through its national Office, of the international application or a translation thereof, it being understood, however, that it is not exempted from the limitations provided for in Articles 30 and 38.

(b) States making such a declaration shall be bound accordingly.



(3)(a) Any State may declare that, as far as it is concerned, international publication of international applications is not required.

(b) Where, at the expiration of 18 months from the priority date, the international application contains the designation only of such States as have made declarations under subparagraph (a), the international application shall not be published by virtue of Article 21(2).

(c) Where the provisions of subparagraph (b) apply, the international application shall nevertheless be published by the International Bureau:

(i) at the request of the applicant, as provided in the Regulations,

(ii) when a national application or a patent based on the international application is published by or on behalf of the national Office of any designated State having made a declaration under subparagraph (a), promptly after such publication but not before the expiration of 18 months from the priority date.

(4)(a) Any State whose national law provides for prior art effect of its patents as from a date before publication, but does not equate for prior art purposes the priority date claimed under the Paris Convention for the Protection of Industrial Property to the actual filing date in that State, may declare that the filing outside that State of an international application designating that State is not equated to an actual filing in that State for prior art purposes.

(b) Any State making a declaration under subparagraph (a) shall to that extent not be bound by the provisions of Article 11(3).

(c) Any State making a declaration under subparagraph (a) shall, at the same time, state in writing the date from which, and the conditions under which, the prior art effect of any international application designating that State becomes effective in that State. This statement may be modified at any time by notification addressed to the Director General.

(5) Each State may declare that it does not consider itself bound by Article 59. With regard to any dispute between any Contracting State having made such a declaration and any other Contracting State, the provisions of Article 59 shall not apply.

(6)(a) Any declaration made under this Article shall be made in writing. It may be made at the time of signing this Treaty, at the time of depositing the instrument of ratification or accession, or, except in the case referred to in paragraph (5), at any later time by notification addressed to the Director General. In the case of the said notification, the declaration shall take effect six months after the day on which the Director General has received the notification, and shall not affect international applications filed prior to the expiration of the said six-month period.

(b) Any declaration made under this Article may be withdrawn at any time by notification addressed to the Director General. Such withdrawal shall take effect three months after the day on which the Director General has received the notification and, in the case of the withdrawal of a declaration made under paragraph (3), shall not affect international applications filed prior to the expiration of the said three-month period.

(7) No reservations to this Treaty other than the reservations under paragraphs (1) to (5) are permitted.

#### ARTICLE 65

##### Gradual Application

(1) If the agreement with any International Searching or Preliminary Examining Authority provides, tran-

sitionally, for limits on the number or kind of international applications that such Authority undertakes to process, the Assembly shall adopt the measures necessary for the gradual application of this Treaty and the Regulations in respect of given categories of international applications. This provision shall also apply to requests for an international-type search under Article 15(5).

(2) The Assembly shall fix the dates from which, subject to the provision of paragraph (1), international applications may be filed and demands for international preliminary examination may be submitted. Such dates shall not be later than six months after this Treaty has entered into force according to the provisions of Article 63(1), or after Chapter II has become applicable under Article 63(3), respectively.

#### ARTICLE 66

##### Denunciation

(1) Any Contracting State may denounce this Treaty by notification addressed to the Director General.

(2) Denunciation shall take effect six months after receipt of the said notification by the Director General. It shall not affect the effects of the international application in the denouncing State if the international application was filed, and, where the denouncing State has been elected, the election was made, prior to the expiration of the said six-month period.

#### ARTICLE 67

##### Signature and Languages

(1)(a) This Treaty shall be signed in a single original in the English and French languages, both texts being equally authentic.

(b) Official texts shall be established by the Director General, after consultation with the interested Governments, in the German, Japanese, Portuguese, Russian and Spanish languages, and such other languages as the Assembly may designate.

(2) This Treaty shall remain open for signature at Washington until December 31, 1970.

#### ARTICLE 68

##### Depositary Functions

(1) The original of this Treaty, when no longer open for signature, shall be deposited with the Director General.

(2) The Director General shall transmit two copies, certified by him, of this Treaty and the Regulations annexed hereto to the Governments of all States party to the Paris Convention for the Protection of Industrial Property and, on request, to the Government of any other State.

(3) The Director General shall register this Treaty with the Secretariat of the United Nations.

(4) The Director General shall transmit two copies, certified by him, of any amendment to this Treaty and the Regulations to the Governments of all Contracting States and, on request, to the Government of any other State.

#### ARTICLE 69

##### Notifications

The Director General shall notify the Governments of all States party to the Paris Convention for the Protection of Industrial Property of:

- (i) signatures under Article 62,
- (ii) deposits of instruments of ratification or accession under Article 62,
- (iii) the date of entry into force of this Treaty and the date from which Chapter II is applicable in accordance with Article 63(3),
- (iv) any declarations made under Article 64(1) to (5),
- (v) withdrawals of any declarations made under Article 64(6)(b),

- (vi) denunciations received under Article 66, and
- (vii) any declarations made under Article 31(4).

IN WITNESS WHEREOF, the undersigned, being duly authorized thereto, have signed this Treaty.

DONE at Washington, on June 19, 1970.

Algeria	Italy
Brazil	Japan
Canada	Norway
Denmark	Philippines
Finland	Sweden
Germany (Federal Republic)	Switzerland
Holy See	United Arab Republic
Hungary	United Kingdom
Ireland	United States
Israel	Yugoslavia

### REGULATIONS UNDER THE PATENT COOPERATION TREATY

#### PART A.—INTRODUCTORY RULES

##### RULE 1

##### Abbreviated Expressions

##### 1.1 Meaning of Abbreviated Expressions

(a) In these Regulations, the word "Treaty" means the Patent Cooperation Treaty.

(b) In these Regulations, the words "Chapter" and "Article" refer to the specified Chapter or Article of the Treaty.

##### RULE 2

##### Interpretation of Certain Words

##### 2.1 "Applicant"

Whenever the word "applicant" is used, it shall be construed as meaning also the agent or other representative of the applicant, except where the contrary clearly follows from the wording or the nature of the provision or the context in which the word is used, such as, in particular, where the provision refers to the residence or nationality of the applicant.

##### 2.2 "Agent"

Whenever the word "agent" is used, it shall be construed as meaning any person who has the right to practice before international authorities as defined in Article 49 and, unless the contrary clearly follows from the wording or the nature of the provision, or the context in which the word is used, also the common representative referred to in Rule 4.8.

##### 2.3 "Signature"

Whenever the word "signature" is used, it shall be understood that, if the national law applied by the receiving Office or the competent International Searching or Preliminary Examining Authority requires the use of a seal instead of a signature, the word, for the purposes of that Office or Authority, shall mean seal.

#### PART B.—RULES CONCERNING CHAPTER I OF THE TREATY

##### RULE 3

##### The Request (Form)

##### 3.1 Printed Form

The request shall be made on a printed form.

##### 3.2 Availability of Forms

Copies of the printed form shall be furnished free of charge to the applicants by the receiving Office, or, if the receiving Office so desires, by the International Bureau.

##### 3.3 Check List

(a) The printed form shall contain a list which, when filled in, will show:

(i) the total number of sheets constituting the international application and the number of the sheets of each element of the international application (request, description, claims, drawings, abstract),

(ii) whether or not the international application as filed is accompanied by a power of attorney (i.e., a document appointing an agent or a common representative), a priority document, a receipt for the fees paid or a check for the payment of the fees; an international or an international-type search report; a document in evidence of the fact that the applicant is the successor in title of the inventor, and any other document (to be specified in the check list),

(iii) the number of that figure of the drawings which the applicant suggests should accompany the abstract when the abstract is published on the front page of the pamphlet and in the Gazette; in exceptional cases, the applicant may suggest more than one figure.

(b) The list shall be filled in by the applicant, failing which the receiving Office shall fill it in and make the necessary annotations, except that the number referred to in paragraph (a)(iii) shall not be filled in by the receiving Office.

##### 3.4 Particulars

Subject to Rule 3.3, particulars of the printed form shall be prescribed by the Administrative Instructions.

##### RULE 4

##### The Request (Contents)

##### 4.1 Mandatory and Optional Contents; Signature

(a) The request shall contain:

- (i) a petition,
- (ii) the title of the invention,
- (iii) indications concerning the applicant and the agent, if there is an agent,
- (iv) the designation of States,



(v) indications concerning the inventor where the national law of at least one of the designated States requires that the name of the inventor be furnished at the time of filing a national application.

(b) The request shall, where applicable, contain:

- (i) a priority claim,
- (ii) a reference to any earlier international search or to any earlier international-type search,
- (iii) choices of certain kinds of protection,
- (iv) an indication that the applicant wishes to obtain a regional patent and the names of the designated States for which he wishes to obtain such a patent,
- (v) a reference to a parent application or parent patent.

(c) The request may contain indications concerning the inventor where the national law of none of the designated States requires that the name of the inventor be furnished at the time of filing a national application.

(d) The request shall be signed.

#### 4.2 The Petition

The petition shall be to the following effect and shall preferably be worded as follows: "The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty."

#### 4.3 Title of the Invention

The title of the invention shall be short (preferably from two to seven words when in English or translated into English) and precise.

#### 4.4 Names and Addresses

(a) Names of natural persons shall be indicated by the person's family name and given name(s), the family name being indicated before the given name(s).

(b) Names of legal entities shall be indicated by their full, official designations.

(c) Addresses shall be indicated in such a way as to satisfy the customary requirements for prompt postal delivery at the indicated address and, in any case, shall consist of all the relevant administrative units up to, and including, the house number, if any. Where the national law of the designated State does not require the indication of the house number, failure to indicate such number shall have no effect in that State. It is recommended to indicate any telegraphic and teletype address and telephone number.

(d) For each applicant, inventor, or agent, only one address may be indicated.

#### 4.5 The Applicant

(a) The request shall indicate the name, address, nationality and residence of the applicant or, if there are several applicants, of each of them.

(b) The applicant's nationality shall be indicated by the name of the State of which he is a national.

(c) The applicant's residence shall be indicated by the name of the State of which he is a resident.

#### 4.6 The Inventor

(a) Where Rule 4.1 (a)(v) applies, the request shall indicate the name and address of the inventor or, if there are several inventors, of each of them.

(b) If the applicant is the inventor, the request, in lieu of the indication under paragraph (a), shall contain a statement to that effect or shall repeat the applicant's name in the space reserved for indicating the inventor.

(c) The request may, for different designated States, indicate different persons as inventors where, in this respect, the requirements of the national laws of the designated States are not the same. In such a case, the request shall contain a separate statement for each designated State or group of States in which a particular person, or the same person, is to be considered the inventor,

or in which particular persons, or the same persons, are to be considered the inventors.

#### 4.7 The Agent

If agents are designated, the request shall so indicate, and shall state their names and addresses.

#### 4.8 Representation of Several Applicants Not Having a Common Agent

(a) If there is more than one applicant and the request does not refer to an agent representing all the applicants ("a common agent"), the request shall designate one of the applicants who is entitled to file an international application according to Article 9 as their common representative.

(b) If there is more than one applicant and the request does not refer to an agent representing all the applicants and it does not comply with the requirement of designating one of the applicants as provided in paragraph (a), the applicant first named in the request who is entitled to file an international application according to Article 9 shall be considered the common representative.

#### 4.9 Designation of States

Contracting States shall be designated in the request by their names.

#### 4.10 Priority Claim

(a) The declaration referred to in Article 8(1) shall be made in the request; it shall consist of a statement to the effect that the priority of an earlier application is claimed and shall indicate:

- (i) when the earlier application is not a regional or an international application, the country in which it was filed; when the earlier application is a regional or an international application, the country or countries for which it was filed,
- (ii) the date on which it was filed,
- (iii) the number under which it was filed, and
- (iv) when the earlier application is a regional or an international application, the national Office or inter-governmental organization with which it was filed.

(b) If the request does not indicate both

- (i) when the earlier application is not a regional or an international application, the country in which it was filed; when the earlier application is a regional or an international application, at least one country for which it was filed, and
- (ii) the date on which it was filed,

the priority claim shall, for the purposes of the procedure under the Treaty, be considered not to have been made.

(c) If the application number of the earlier application is not indicated in the request but is furnished by the applicant to the International Bureau prior to the expiration of the 16th month from the priority date, it shall be considered by all designated States to have been furnished in time. If it is furnished after the expiration of that time limit, the International Bureau shall inform the applicant and the designated Offices of the date on which the said number was furnished to it. The International Bureau shall indicate that date in the international publication of the international application; or, if, at the time of the international publication, the said number has not been furnished to it, shall indicate that fact in the international publication.

(d) If the filing date of the earlier application as indicated in the request precedes the international filing date by more than one year, the receiving Office, or, if the receiving Office has failed to do so, the International Bureau, shall invite the applicant to ask either for the cancellation of the declaration made under Article 8(1) or, if the date of the earlier application was indicated erroneously, for the correction of the date so indicated.

If the applicant fails to act accordingly within 1 month from the date of the invitation, the declaration made under Article 8(1) shall be cancelled ex officio. The receiving Office effecting the correction or cancellation shall notify the applicant accordingly and, if copies of the international application have already been sent to the International Bureau and the International Searching Authority, that Bureau and that Authority. If the correction or cancellation is effected by the International Bureau, the latter shall notify the applicant and the International Searching Authority accordingly.

(c) Where the priorities of several earlier applications are claimed, the provisions of paragraphs (a) to (d) shall apply to each of them.

#### 4.11 Reference to Earlier International or International-Type Search

If an international or international-type search has been requested on an application under Article 15(5), the request may state that fact and identify the application (or its translation, as the case may be) by country, date and number, and the request for the said search by date and, if available, number.

#### 4.12 Choice of Certain Kinds of Protection

(a) If the applicant wishes his international application to be treated, in any designated State, as an application not for a patent but for the grant of any of the other kinds of protection specified in Article 43, he shall so indicate in the request. For the purposes of this paragraph, Article 2(ii) shall not apply.

(b) In the case provided for in Article 44, the applicant shall indicate the two kinds of protection sought, or, if one of two kinds of protection is primarily sought, he shall indicate which kind is sought primarily and which kind is sought subsidiarily.

#### 4.13 Identification of Parent Application or Parent Grant

If the applicant wishes his international application to be treated, in any designated State, as an application for a patent or certificate of addition, inventor's certificate of addition, or utility certificate of addition, he shall identify the parent application or the parent patent, parent inventor's certificate, or parent utility certificate to which the patent or certificate of addition, inventor's certificate of addition, or utility certificate of addition, if granted, relates. For the purposes of this paragraph, Article 2(ii) shall not apply.

#### 4.14 Continuation or Continuation-in-Part

If the applicant wishes his international application to be treated, in any designated State, as an application for a continuation or a continuation-in-part of an earlier application, he shall so indicate in the request and shall identify the parent application involved.

#### 4.15 Signature

The request shall be signed by the applicant.

#### 4.16 Transliteration or Translation of Certain Words

(a) Where any name or address is written in characters other than those of the Latin alphabet, the same shall also be indicated in characters of the Latin alphabet either as a mere transliteration or through translation into English. The applicant shall decide which words will be merely transliterated and which words will be so translated.

(b) The name of any country written in characters other than those of the Latin alphabet shall also be indicated in English.

#### 4.17 No Additional Matter

(a) The request shall contain no matter other than that specified in Rules 4.1 to 4.16.

(b) If the request contains matter other than that specified in Rule 4.1 to 4.16, the receiving Office shall ex officio delete the additional matter.

### RULE 5

#### The Description

##### 5.1 Manner of the Description

(a) The description shall first state the title of the invention as appearing in the request and shall:

- (i) specify the technical field to which the invention relates;
- (ii) indicate the background art which, as far as known to the applicant, can be regarded as useful for the understanding, searching and examination of the invention, and, preferably, cite the documents reflecting such art;
- (iii) disclose the invention, as claimed, in such terms that the technical problem (even if not expressly stated as such) and its solution can be understood, and state the advantageous effects, if any, of the invention with reference to the background art;
- (iv) briefly describe the figures in the drawings, if any;
- (v) set forth at least the best mode contemplated by the applicant for carrying out the invention claimed; this shall be done in terms of examples, where appropriate, and with reference to the drawings, if any; where the national law of the designated State does not require the description of the best mode but is satisfied with the description of any mode (whether it is the best contemplated or not), failure to describe the best mode contemplated shall have no effect in that State;
- (vi) indicate explicitly, when it is not obvious from the description or nature of the invention, the way in which the invention is capable of exploitation in industry and the way in which it can be made and used, or, if it can only be used, the way in which it can be used; the term "industry" is to be understood in its broadest sense as in the Paris Convention for the Protection of Industrial Property.

(b) The manner and order specified in paragraph (a) shall be followed except when, because of the nature of the invention, a different manner or a different order would result in a better understanding and a more economic presentation.

(c) Subject to the provisions of paragraph (b), each of the parts referred to in paragraph (a) shall preferably be preceded by an appropriate heading as suggested in the Administrative Instructions.

### RULE 6

#### The Claims

##### 6.1 Number and Numbering of Claims

- (a) The number of the claims shall be reasonable in consideration of the nature of the invention claimed.
- (b) If there are several claims, they shall be numbered consecutively in arabic numerals.
- (c) The method of numbering in the case of the amendment of claims shall be governed by the Administrative Instructions.

##### 6.2 References to Other Parts of the International Application

(a) Claims shall not, except where absolutely necessary, rely, in respect of the technical features of the invention, on references to the description or drawings. In particular, they shall not rely on such references as: "as described in part . . . of the description," or "as illustrated in figure . . . of the drawings."



(b) Where the international application contains drawings, the technical features mentioned in the claims shall preferably be followed by the reference signs relating to such features. When used, the reference signs shall preferably be placed between parentheses. If inclusion of reference signs does not particularly facilitate quicker understanding of a claim, it should not be made. Reference signs may be removed by a designated Office for the purposes of publication by such Office.

#### 6.3 Manner of Claiming

(a) The definition of the matter for which protection is sought shall be in terms of the technical features of the invention.

(b) Whenever appropriate, claims shall contain:

- (i) a statement indicating those technical features of the invention which are necessary for the definition of the claimed subject matter but which, in combination, are part of the prior art,
- (ii) a characterizing portion—preceded by the words "characterized in that," "characterized by," "wherein the improvement comprises," or any other words to the same effect—stating concisely the technical features which, in combination with the features stated under (i), it is desired to protect.

(c) Where the national law of the designated State does not require the manner of claiming provided for in paragraph (b), failure to use that manner of claiming shall have no effect in that State provided the manner of claiming actually used satisfies the national law of that State.

#### 6.4 Dependent Claims

(a) Any claim which includes all the features of one or more other claims (claim in dependent form, hereinafter referred to as "dependent claim") shall do so by a reference, if possible at the beginning, to the other claim or claims and shall then state the additional features claimed. Any dependent claim which refers to more than one other claim ("multiple dependent claim") shall refer to such claims in the alternative only. Multiple dependent claims shall not serve as a basis for any other multiple dependent claim.

(b) Any dependent claim shall be construed as including all the limitations contained in the claim to which it refers or, if the dependent claim is a multiple dependent claim, all the limitations contained in the particular claim in relation to which it is considered.

(c) All dependent claims referring back to a single previous claim, and all dependent claims referring back to several previous claims, shall be grouped together to the extent and in the most practical way possible.

#### 6.5 Utility Models

Any designated State in which the grant of a utility model is sought on the basis of an international application may, instead of Rules 6.1 to 6.4, apply in respect of the matters regulated in those Rules the provisions of its national law concerning utility models once the processing of the international application has started in that State, provided that the applicant shall be allowed at least 2 months from the expiration of the time limit applicable under Article 22 to adapt his application to the requirements of the said provisions of the national law.

### RULE 7

#### The Drawings

##### 7.1 Flow Sheets and Diagrams

Flow sheets and diagrams are considered drawings.

##### 7.2 Time Limit

The time limit referred to in Article 7(2)(ii) shall be reasonable under the circumstances of the case and shall,

in no case, be shorter than 2 months from the date of the written invitation requiring the filing of drawings or additional drawings under the said provision.

### RULE 8

#### The Abstract

##### 8.1 Contents and Form of the Abstract

(a) The abstract shall consist of the following:

- (i) a summary of the disclosure as contained in the description, the claims, and any drawings; the summary shall indicate the technical field to which the invention pertains and shall be drafted in a way which allows the clear understanding of the technical problem, the gist of the solution of that problem through the invention, and the principal use or uses of the invention;
- (ii) where applicable, the chemical formula which, among all the formulae contained in the international application, best characterizes the invention.

(b) The abstract shall be as concise as the disclosure permits (preferably 50 to 150 words if it is in English or when translated into English).

(c) The abstract shall not contain statements on the alleged merits or value of the claimed invention or on its speculative application.

(d) Each main technical feature mentioned in the abstract and illustrated by a drawing in the international application shall be followed by a reference sign, placed between parentheses.

##### 8.2 Failure to Suggest a Figure to be Published with the Abstract

If the applicant fails to make the indication referred to in Rule 3.3(a)(iii), or if the International Searching Authority finds that a figure or figures other than that figure or those figures suggested by the applicant would, among all the figures of all the drawings, better characterize the invention, it shall indicate the figure or figures which it so considers. Publications by the International Bureau shall then use the figure or figures so indicated by the International Searching Authority. Otherwise, the figure or figures suggested by the applicant shall be used in the said publications.

##### 8.3 Guiding Principles in Drafting

The abstract shall be so drafted that it can efficiently serve as a scanning tool for purposes of searching in the particular art, especially by assisting the scientist, engineer or researcher in formulating an opinion on whether there is a need for consulting the international application itself.

### RULE 9

#### Expressions, etc., Not To Be Used

##### 9.1 Definition

The international application shall not contain:

- (i) expressions or drawings contrary to morality;
- (ii) expressions or drawings contrary to public order;
- (iii) statements disparaging the products or processes of any particular person other than the applicant, or the merits or validity of applications or patents of any such person (mere comparisons with the prior art shall not be considered disparaging *per se*);
- (iv) any statement or other matter obviously irrelevant or unnecessary under the circumstances.

##### 9.2 Noting of Lack of Compliance

The receiving Office and the International Searching Authority may note lack of compliance with the prescriptions of Rule 9.1 and may suggest to the applicant that he voluntarily correct his international application accord-

ingly. If the lack of compliance was noted by the receiving Office, that Office shall inform the competent International Searching Authority and the International Bureau; if the lack of compliance was noted by the International Searching Authority, that Authority shall inform the receiving Office and the International Bureau.

##### 9.3 Reference to Article 21(6)

"Disparaging statements," referred to in Article 21(6), shall have the meaning as defined in Rule 9.1 (iii).

### RULE 10

#### Terminology and Signs

##### 10.1 Terminology and Signs

(a) Units of weights and measures shall be expressed in terms of the metric system, or also expressed in such terms if first expressed in terms of a different system.

(b) Temperatures shall be expressed in degrees centigrade, or also expressed in degrees centigrade if first expressed in a different manner.

(c) Density shall be expressed in metric units.

(d) For indications of heat, energy, light, sound, and magnetism, as well as for mathematical formulae and electrical units, the rules of international practice shall be observed; for chemical formulae, the symbols, atomic weights, and molecular formulae, in general use, shall be employed.

(e) In general, only such technical terms, signs and symbols should be used as are generally accepted in the art.

(f) When the international application or its translation is in English or Japanese, the beginning of any decimal fraction shall be marked by a period, whereas, when the international application or its translation is in a language other than English or Japanese, it shall be marked by a comma.

##### 10.2 Consistency

The terminology and the signs shall be consistent throughout the international application.

### RULE 11

#### Physical Requirements of the International Application

##### 11.1 Number of Copies

(a) Subject to the provisions of paragraph (b), the international application and each of the documents referred to in the check list (Rule 3.3(a)(ii)) shall be filed in one copy.

(b) Any receiving Office may require that the international application and any of the documents referred to in the check list (Rule 3.3(a)(ii)), except the receipt for the fees paid or the check for the payment of the fees, be filed in two or three copies. In that case, the receiving Office shall be responsible for verifying the identity of the second and the third copies with the record copy.

##### 11.2 Fitness for Reproduction

(a) All elements of the international application (i.e., the request, the description, the claims, the drawings, and the abstract) shall be so presented as to admit of direct reproduction by photography, electrostatic processes, photo offset, and microfilming, in any number of copies.

(b) All sheets shall be free from creases and cracks; they shall not be folded.

(c) Only one side of each sheet shall be used.

(d) Subject to Rule 11.13(j), each sheet shall be used in an upright position (i.e., the short sides at the top and bottom).

##### 11.3 Material to be Used

All elements of the international application shall be on paper which shall be flexible, strong, white, smooth, non-shiny, and durable.

##### 11.4 Separate Sheets, Etc.

(a) Each element (request, description, claims, drawings, abstract) of the international application shall commence on a new sheet.

(b) All sheets of the international application shall be so connected that they can be easily turned, when consulted, and easily separated and joined again if they have been separated for reproduction purposes.

##### 11.5 Size of Sheets

The size of the sheets shall be A4 (29.7 cm. x 21 cm.). However, any receiving Office may accept international applications on sheets of other sizes provided that the record copy, as transmitted to the International Bureau, and, if the competent International Searching Authority so desires, the search copy, shall be of A4 size.

##### 11.6 Margins

(a) The minimum margins of the sheets containing the request, the description, the claims, and the abstract, shall be as follows:

- top of first sheet, except that of the request: 8 cm.
- top of other sheets: 2 cm.
- left side: 2.5 cm.
- right side: 2 cm.
- bottom: 2 cm.

(b) The recommended maximum, for the margins provided for in paragraph (a), is as follows:

- top of first sheet, except that of the request: 9 cm.
- top of other sheets: 4 cm.
- left side: 4 cm.
- right side: 3 cm.
- bottom: 3 cm.

(c) On sheets containing drawings, the surface usable shall not exceed 26.2 cm. x 17.0 cm. The sheets shall not contain frames around the usable or used surface. The minimum margins shall be as follows:

- top: 2.5 cm.
- left side: 2.5 cm.
- right side: 1.5 cm.
- bottom: 1.0 cm.

(d) The margins referred to in paragraphs (a) to (c) apply to A4-size sheets, so that, even if the receiving Office accepts other sizes, the A4-size record copy and, when so required, the A4-size search copy shall leave the aforesaid margins.

(e) The margins of the international application, when submitted, must be completely blank.

##### 11.7 Numbering of Sheets

(a) All the sheets contained in the international application shall be numbered in consecutive arabic numerals.

(b) The numbers shall be placed at the top of the sheet, in the middle, but not in the margin.

##### 11.8 Numbering of Lines

(a) It is strongly recommended to number every fifth line of each sheet of the description, and of each sheet of claims.

(b) The numbers should appear on the left side, to the right of the margin.

##### 11.9 Writing of Text Matter

(a) The request, the description, the claims and the abstract shall be typed or printed.

(b) Only graphic symbols and characters, chemical or mathematical formulae, and certain characters in the



Japanese language may, when necessary, be written by hand or drawn.

(c) The typing shall be 1½-spaced.

(d) All text matter shall be in characters the capital letters of which are not less than 0.21 cm. high, and shall be in a dark, indelible color, satisfying the requirements specified in Rule 11.2.

(e) As far as the spacing of the typing and the size of the characters are concerned, paragraphs (c) and (d) shall not apply to texts in the Japanese language.

#### 11.10 Drawings, Formulae, and Tables, in Text Matter

(a) The request, the description, the claims and the abstract shall not contain drawings.

(b) The description, the claims and the abstract may contain chemical or mathematical formulae.

(c) The description and the abstract may contain tables; any claim may contain tables only if the subject matter of the claim makes the use of tables desirable.

#### 11.11 Words in Drawings

(a) The drawings shall not contain text matter, except a single word or words, when absolutely indispensable, such as "water," "steam," "open," "closed," "section on AB," and, in the case of electric circuits and block schematic or flow sheet diagrams, a few short catch words indispensable for understanding.

(b) Any words used shall be so placed that, if translated, they may be pasted over without interfering with any lines of the drawings.

#### 11.12 Alterations, etc.

Each sheet shall be reasonably free from erasures and shall be free from alterations, overwritings, and interlineations. Non-compliance with this Rule may be authorized, in exceptional cases, if the authenticity of the content is not in question and the requirements for good reproduction are not in jeopardy.

#### 11.13 Special Requirements for Drawings

(a) Drawings shall be executed in durable, black or blue, sufficiently dense and dark, uniformly thick and well-defined, lines and strokes without colorings.

(b) Cross-sections shall be indicated by oblique hatching which should not impede the clear reading of the reference signs and leading lines.

(c) The scale of the drawings and the distinctness of their graphical execution shall be such that a photographic reproduction with a linear reduction in size to two-thirds would enable all details to be distinguished without difficulty.

(d) When, in exceptional cases, the scale is given on a drawing, it shall be represented graphically.

(e) All numbers, letters, and reference lines, appearing on the drawings, shall be simple and clear. Brackets, circles or inverted commas shall not be used in association with numbers and letters.

(f) All lines in the drawings shall, ordinarily, be drawn with the aid of drafting instruments.

(g) Each element of each figure shall be in proper proportion to each of the other elements in the figure, except where the use of a different proportion is indispensable for the clarity of the figure.

(h) The height of the numbers and letters shall not be less than 0.32 cm. For the lettering of drawings, the Latin and, where customary, the Greek alphabets shall be used.

(i) The same sheet of drawings may contain several figures. Where figures on two or more sheets form in effect a single complete figure, the figures on the several sheets shall be so arranged that the complete figure can be assembled without concealing any part of any of the figures appearing on the various sheets.

(j) The different figures shall be arranged on a sheet or sheets without wasting space, preferably in an upright position, clearly separated from one another.

(k) The different figures shall be numbered in arabic numerals consecutively and independently of the numbering of the sheets.

(l) Reference signs not mentioned in the description shall not appear in the drawings, and vice versa.

(m) The same features, when denoted by reference signs, shall, throughout the international application, be denoted by the same signs.

(n) If the drawings contain a large number of reference signs, it is strongly recommended to attach a separate sheet listing all reference signs and the features denoted by them.

#### 11.14 Later Documents

Rules 10, and 11.1 to 11.13, also apply to any document—for example, corrected pages, amended claims—submitted after the filing of the international application.

#### 11.15 Translations

No designated Office shall require that the translation of an international application filed with it comply with requirements other than those prescribed for the international application as filed.

### RULE 12

#### Language of the International Application

##### 12.1 The International Application

Any international application shall be filed in the language, or one of the languages, specified in the agreement concluded between the International Bureau and the International Searching Authority competent for the international searching of that application, provided that, if the agreement specifies several languages, the receiving Office may prescribe among the specified languages that language in which or those languages in one of which the international application must be filed.

##### 12.2 Changes in the International Application

Any changes in the international application, such as amendments and corrections, shall be in the same language as the said application (cf. Rule 66.5).

### RULE 13

#### Unity of Invention

##### 13.1 Requirement

The international application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept ("requirement of unity of invention").

##### 13.2 Claims of Different Categories

Rule 13.1 shall be construed as permitting, in particular, either of the following two possibilities:

(i) in addition to an independent claim for a given product, the inclusion in the same international application of one independent claim for one process specially adapted for the manufacture of the said product, and the inclusion in the same international application of one independent claim for one use of the said product, or

(ii) in addition to an independent claim for a given process, the inclusion in the same international application of one independent claim for one apparatus or means specifically designed for carrying out the said process.

##### 13.3 Claims of One and the Same Category

Subject to Rule 13.1, it shall be permitted to include in the same international application two or more independent claims of the same category (i.e., product,

process, apparatus, or use) which cannot readily be covered by a single generic claim.

#### 13.4 Dependent Claims

Subject to Rule 13.1, it shall be permitted to include in the same international application a reasonable number of dependent claims, claiming specific forms of the invention claimed in an independent claim, even where the features of any dependent claim could be considered as constituting in themselves an invention.

#### 13.5 Utility Models

Any designated State in which the grant of a utility model is sought on the basis of an international application may, instead of Rules 13.1 to 13.4, apply in respect of the matters regulated in those Rules the provisions of its national law concerning utility models once the processing of the international application has started in that State, provided that the applicant shall be allowed, at least 2 months from the expiration of the time limit applicable under Article 22 to adapt his application to the requirements of the said provisions of the national law.

### RULE 14

#### The Transmittal Fee

##### 14.1 The Transmittal Fee

(a) Any receiving Office may require that the applicant pay a fee to it, for its own benefit, for receiving the international application, transmitting copies to the International Bureau and the competent International Searching Authority, and performing all the other tasks which it must perform in connection with the international application in its capacity of receiving Office ("transmittal fee").

(b) The amount and the due date of the transmittal fee, if any, shall be fixed by the receiving Office.

### RULE 15

#### The International Fee

##### 15.1 Basic Fee and Designation Fee

Each international application shall be subject to the payment of a fee for the benefit of the International Bureau ("international fee") consisting of

(i) a "basic fee," and  
(ii) as many "designation fees" as there are States designated in the international application, provided that, where a regional patent is sought for certain designated States, only one designation fee shall be due for those States.

##### 15.2 Amounts

(a) The amount of the basic fee shall be:

(i) if the international application contains not more than 30 sheets: US \$45.00 or 194 Swiss francs  
(ii) if the international application contains more than 30 sheets: US \$45.00 or 194 Swiss francs plus US \$1.00 or 4.30 Swiss francs per sheet in excess of 30 sheets.

(b) The amount of the designation fee shall be:

(i) for each designated State or each group of designated States for which the same regional patent is sought which does not require the furnishing of a copy under Article 13: US \$12.00 or 52 Swiss francs  
(ii) for each designated State or each group of designated States for which the same regional patent is sought which requires the furnishing of a copy under Article 13: US \$14.00 or 60 Swiss francs.

#### 15.3 Mode of Payment

(a) The international fee shall be collected by the receiving Office.

(b) The international fee shall be payable in the currency prescribed by the receiving Office, it being understood that, when transferred by the receiving Office to the International Bureau, it shall be freely convertible into Swiss currency.

#### 15.4 Time of Payment

(a) The basic fee shall be due on the date of receipt of the international application. However, any receiving Office may, at its discretion, notify the applicant of any lack of receipt or insufficiency of any amount received, and permit applicants to pay the basic fee later, without loss of the international filing date, provided that:

(i) permission shall not be given to pay later than 1 month after the date of receipt of the international application;  
(ii) permission may not be subject to any extra charge.

(b) The designation fee may be paid on the date of receipt of the international application or on any later date but, at the latest, it must be paid before the expiration of one year from the priority date.

#### 15.5 Partial Payment

(a) If the applicant specifies the States to which he wishes any amount paid to be applied as designation fee, the amount shall be applied accordingly to the number of States which are covered by the amount in the order specified by the applicant.

(b) If the applicant does not specify any such wish and if the amount or amounts received by the receiving Office are higher than the basic fee and one designation fee but lower than what is due according to the number of the designated States, any amount in excess of the basic fee and one designation fee shall be treated as designation fees for the States following the State first named in the request and in the order in which the States are designated in the request up to and including that designated State for which the total amount of the designation fee is covered by the amount or amounts received.

(c) The designation fee for the first mentioned State belonging to a group of States for which the same regional patent is sought and which is specified under paragraph (a) or which is reached under paragraph (b) shall, for the purposes of the said paragraphs, be considered as covering also the other States of the said group.

#### 15.6 Refund

(a) The international fee shall be refunded to the applicant if the determination under Article 11(1) is negative.

(b) In no other case shall the international fee be refunded.

### RULE 16

#### The Search Fee

##### 16.1 Right to Ask for a Fee

(a) Each International Searching Authority may require that the applicant pay a fee ("search fee") for its own benefit for carrying out the international search and for performing all other tasks entrusted to International Searching Authorities by the Treaty and these Regulations.

(b) The search fee shall be collected by the receiving Office. It shall be payable in the currency prescribed by that Office, it being understood that, if that currency is not the same as the currency of the State in which the International Searching Authority is located, the search



fee, when transferred by the receiving Office to that Authority, shall be freely convertible into the currency of the said State. As to the time of payment of the search fee, Rule 15.4(a) shall apply.

#### 16.2 Refund

The search fee shall be refunded to the applicant if the determination under Article 11(1) is negative.

#### 16.3 Partial Refund

Where the international application claims the priority of an earlier international application which has been the subject of an international search by the same International Searching Authority, that Authority shall refund the search fee paid in connection with the later international application to the extent and under the conditions provided for in the agreement under Article 16(3)(b), if the international search report on the later international application could wholly or partly be based on the results of the international search effected on the earlier international application.

### RULE 17

#### The Priority Document

#### 17.1 Obligation to Submit Copy of Earlier National Application

(a) Where the priority of an earlier national application is claimed under Article 8 in the international application, a copy of the said national application, certified by the authority with which it was filed ("the priority document"), shall, unless already filed with the receiving Office, together with the international application, be submitted by the applicant to the International Bureau not later than 16 months after the priority date or, in the case referred to in Article 23(2), not later than at the time the processing or examination is requested.

(b) If the applicant fails to comply with the requirement under paragraph (a), any designated State may disregard the priority claim.

(c) The International Bureau shall record the date on which it received the priority document and shall notify the applicant and the designated Offices accordingly.

#### 17.2 Availability of Copies

(a) The International Bureau shall, at the specific request of the designated Office, promptly but not before the expiration of the time limit fixed in Rule 17.1(a), furnish a copy of the priority document to that Office. No such Office shall ask the applicant himself to furnish it with a copy, except where it requires the furnishing of a copy of the priority document together with a certified translation thereof. The applicant shall not be required to furnish a certified translation to the designated Office before the expiration of the applicable time limit under Article 22.

(b) The International Bureau shall not make copies of the priority document available to the public prior to the international publication of the international application.

(c) Paragraphs (a) and (b) shall apply also to any earlier international application whose priority is claimed in the subsequent international application.

### RULE 18

#### The Applicant

#### 18.1 Residence

(a) Subject to the provisions of paragraph (b), the question whether an applicant is a resident of the Contracting State of which he claims to be a resident shall

depend on the national law of that State and shall be decided by the receiving Office.

(b) In any case, possession of a real and effective industrial or commercial establishment in a Contracting State shall be considered residence in that State.

#### 18.2 Nationality

(a) Subject to the provisions of paragraph (b), the question whether an applicant is a national of the Contracting State of which he claims to be a national shall depend on the national law of that State and shall be decided by the receiving Office.

(b) In any case, a legal entity constituted according to the national law of a Contracting State shall be considered a national of that State.

#### 18.3 Several Applicants: Same for All Designated States

If all the applicants are applicants for the purposes of all designated States, the right to file an international application shall exist if at least one of them is entitled to file an international application according to Article 9.

#### 18.4 Several Applicants: Different for Different Designated States

(a) The international application may indicate different applicants for the purposes of different designated States, provided that, in respect of each designated State, at least one of the applicants indicated for the purposes of that State is entitled to file an international application according to Article 9.

(b) If the condition referred to in paragraph (a) is not fulfilled in respect of any designated State, the designation of that State shall be considered not to have been made.

(c) The International Bureau shall, from time to time, publish information on the various national laws in respect of the question who is qualified (inventor, successor in title of the inventor, owner of the invention, or other) to file a national application and shall accompany such information by a warning that the effect of the international application in any designated State may depend on whether the person designated in the international application as applicant for the purposes of that State is a person who, under the national law of that State, is qualified to file a national application.

#### 18.5 Change in the Person or Name of the Applicant

Any change in the person or name of the applicant shall, on the request of the applicant or the receiving Office, be recorded by the International Bureau, which shall notify the interested International Searching Authority and the designated Offices accordingly.

### RULE 19

#### The Competent Receiving Office

#### 19.1 Where to File

(a) Subject to the provisions of paragraph (b), the international application shall be filed, at the option of the applicant, with the national Office of or acting for the Contracting State of which the applicant is a resident or with the national Office of or acting for the Contracting State of which the applicant is a national.

(b) Any Contracting State may agree with another Contracting State or any intergovernmental organization that the national Office of the latter State or the intergovernmental organization shall, for all or some purposes, act instead of the national Office of the former State as receiving Office for applicants who are residents or nationals of that former State. Notwithstanding such agreement, the national Office of the former State shall be considered the competent receiving Office for the purposes of Article 15(5).

(c) In connection with any decision made under Article 9(2), the Assembly shall appoint the national Office or the intergovernmental organization which will act as receiving Office for applications of residents or nationals of States specified by the Assembly. Such appointment shall require the previous consent of the said national Office or intergovernmental organization.

#### 19.2 Several Applicants

(a) If there are several applicants and they have no common agent, their common representative within the meaning of Rule 4.8 shall, for the purposes of the application of Rule 19.1, be considered the applicant.

(b) If there are several applicants and they have a common agent, the applicant first named in the request who is entitled to file an international application according to Article 9 shall, for the purposes of the application of Rule 19.1, be considered the applicant.

#### 19.3 Publication of Fact of Delegation of Duties of Receiving Office

(a) Any agreement referred to in Rule 19.1(b) shall be promptly notified to the International Bureau by the Contracting State which delegates the duties of the receiving Office to the national Office of or acting for another Contracting State or an intergovernmental organization.

(b) The International Bureau shall, promptly upon receipt, publish the notification in the Gazette.

### RULE 20

#### Receipt of the International Application

#### 20.1 Date and Number

(a) Upon receipt of papers purporting to be an international application, the receiving Office shall indelibly mark the date of actual receipt in the space provided for that purpose in the request form of each copy received and one of the numbers assigned by the International Bureau to that Office on each sheet of each copy received.

(b) The place on each sheet where the date or number shall be marked, and other details, shall be specified in the Administrative Instructions.

#### 20.2 Receipt on Different Days

(a) In cases where all the sheets pertaining to the same purported international application are not received on the same day by the receiving Office, that Office shall correct the date marked on the request (still leaving legible, however, the earlier date or dates already marked) so that it indicates the day on which the papers completing the international application were received, provided that

- (i) where no invitation under Article 11(2)(a) to correct was sent to the applicant, the said papers are received within 30 days from the date on which sheets were first received;
- (ii) where an invitation under Article 11(2)(a) to correct was sent to the applicant, the said papers are received within the applicable time limit under Rule 20.6;
- (iii) in the case of Article 14(2), the missing drawings are received within 30 days from the date on which the incomplete papers were filed;
- (iv) the absence or later receipt of any sheet containing the abstract or part thereof shall not, in itself, require any correction of the date marked on the request.

(b) Any sheet received on a date later than the date on which sheets were first received shall be marked by the receiving Office with the date on which it was received.

#### 20.3 Corrected International Application

In the case referred to in Article 11(2)(b), the receiving Office shall correct the date marked on the re-

quest (still leaving legible, however, the earlier date or dates already marked) so that it indicates the day on which the last required correction was received.

#### 20.4 Determination under Article 11(1)

(a) Promptly after receipt of the papers purporting to be an international application, the receiving Office shall determine whether the papers comply with the requirements of Article 11(1).

(b) For the purposes of Article 11(1)(iii)(c), it shall be sufficient to indicate the name of the applicant in a way which allows his identity to be established even if the name is misspelled, the given names are not fully indicated, or, in the case of legal entities, the indication of the name is abbreviated or incomplete.

#### 20.5 Positive Determination

(a) If the determination under Article 11(1) is positive, the receiving Office shall stamp in the space provided for that purpose in the request form the name of the receiving Office and the words "PCT International Application," or "Demande internationale PCT." If the official language of the receiving Office is neither English nor French, the words "International Application" or "Demande internationale" may be accompanied by a translation of these words in the official language of the receiving Office.

(b) The copy whose request sheet has been so stamped shall be the record copy of the international application.

(c) The receiving Office shall promptly notify the applicant of the international application number and the international filing date.

#### 20.6 Invitation to Correct

(a) The invitation to correct under Article 11(2) shall specify the requirement provided for under Article 11(1) which, in the opinion of the receiving Office, has not been fulfilled.

(b) The receiving Office shall promptly mail the invitation to the applicant and shall fix a time limit, reasonable under the circumstances of the case, for filing the correction. The time limit shall not be less than 10 days, and shall not exceed 1 month, from the date of the invitation. If such time limit expires after the expiration of 1 year from the filing date of any application whose priority is claimed, the receiving Office may call this circumstance to the attention of the applicant.

#### 20.7 Negative Determination

If the receiving Office does not, within the prescribed time limit, receive a reply to its invitation to correct, or if the correction offered by the applicant still does not fulfill the requirements provided for under Article 11(1), it shall:

- (i) promptly notify the applicant that his application is not and will not be treated as an international application and shall indicate the reasons therefor,
- (ii) notify the International Bureau that the number it has marked on the papers will not be used as an international application number,
- (iii) keep the papers constituting the purported international application and any correspondence relating thereto as provided in Rule 93.1, and
- (iv) send a copy of the said papers to the International Bureau where, pursuant to a request by the applicant under Article 25(1), the International Bureau needs such a copy and specially asks for it.

#### 20.8 Error by the Receiving Office

If the receiving Office later discovers, or on the basis of the applicant's reply realizes, that it has erred in issuing an invitation to correct since the requirements provided for under Article 11(1) were fulfilled when the papers were received, it shall proceed as provided in Rule 20.5.



**20.9 Certified Copy for the Applicant**

Against payment of a fee, the receiving Office shall furnish to the applicant, on request, certified copies of the international application as filed and of any corrections thereto.

**RULE 21****Preparation of Copies****21.1 Responsibility of the Receiving Office**

(a) Where the international application is required to be filed in one copy, the receiving Office shall be responsible for preparing the home copy and the search copy required under Article 12(1).

(b) Where the international application is required to be filed in two copies, the receiving Office shall be responsible for preparing the home copy.

(c) If the international application is filed in less than the number of copies required under Rule 11.1(b), the receiving Office shall be responsible for the prompt preparation of the number of copies required, and shall have the right to fix a fee for performing that task and to collect such fee from the applicant.

**RULE 22****Transmittal of the Record Copy****22.1 Procedure**

(a) If the determination under Article 11(1) is positive, and unless prescriptions concerning national security prevent the international application from being treated as such, the receiving Office shall transmit the record copy to the International Bureau. Such transmittal shall be effected promptly after receipt of the international application or, if a check to preserve national security must be performed, as soon as the necessary clearance has been obtained. In any case, the receiving Office shall transmit the record copy in time for it to reach the International Bureau by the expiration of the 13th month from the priority date. If the transmittal is effected by mail, the receiving Office shall mail the record copy not later than 5 days prior to the expiration of the 13th month from the priority date.

(b) If the applicant is not in possession of the notification of receipt sent by the International Bureau under Rule 24.2(a) by the expiration of 13 months and 10 days from the priority date, he shall have the right to ask the receiving Office to give him the record copy or, should the receiving Office allege that it has transmitted the record copy to the International Bureau, a certified copy based on the home copy.

(c) The applicant may transmit the copy he has received under paragraph (b) to the International Bureau. Unless the record copy transmitted by the receiving Office has been received by the International Bureau before the receipt by that Bureau of the copy transmitted by the applicant, the latter copy shall be considered the record copy.

**22.2 Alternative Procedure**

(a) Notwithstanding the provisions of Rule 22.1, any receiving Office may provide that the record copy of any international application filed with it shall be transmitted, at the option of the applicant, by the receiving Office or through the applicant. The receiving Office shall inform the International Bureau of the existence of any such provision.

(b) The applicant shall exercise the option through a written notice, which he shall file together with the international application. If he fails to exercise the said

option, the applicant shall be considered to have opted for transmittal by the receiving Office.

(c) Where the applicant opts for transmittal by the receiving Office, the procedure shall be the same as that provided for in Rule 22.1.

(d) Where the applicant opts for transmittal through him, he shall indicate in the notice referred to in paragraph (b) whether he wishes to collect the record copy at the receiving Office or wishes the receiving Office to mail the record copy to him. If the applicant expresses the wish to collect the record copy, the receiving Office shall hold that copy at the disposal of the applicant as soon as the clearance referred to in Rule 22.1(a) has been obtained and, in any case, including the case where a check for such clearance must be performed, not later than 10 days before the expiration of 13 months from the priority date. If, by the expiration of the time limit for receipt of the record copy by the International Bureau, the applicant has not collected that copy, the receiving Office shall notify the International Bureau accordingly. If the applicant expresses the wish that the receiving Office mail the record copy to him or fails to express the wish to collect the record copy, the receiving Office shall mail that copy to the applicant as soon as the clearance referred to in Rule 22.1(a) has been obtained and, in any case, including the case where a check for such clearance must be performed, not later than 15 days before the expiration of 13 months from the priority date.

(e) Where the receiving Office does not hold the record copy at the disposal of the applicant by the date fixed in paragraph (d), or where, after having asked for the record copy to be mailed to him, the applicant has not received that copy at least 10 days before the expiration of 13 months from the priority date, the applicant may transmit a copy of his international application to the International Bureau. This copy ("provisional record copy") shall be replaced by the record copy or, if the record copy has been lost, by a substitute record copy certified by the receiving Office on the basis of the home copy, as soon as practicable and, in any case, before the expiration of 14 months from the priority date.

**22.3 Time Limit under Article 12(3)**

(a) The time limit referred to in Article 12(3) shall be:

- (i) where the procedure under Rule 22.1 or Rule 22.2(c) applies, 14 months from the priority date;
- (ii) where the procedure under Rule 22.2(d) applies, 13 months from the priority date, except that, where a provisional record copy is filed under Rule 22.2(e), it shall be 13 months from the priority date for the filing of the provisional record copy, and 14 months from the priority date for the filing of the record copy.

(b) Article 48(1) and Rule 82 shall not apply to the transmittal of the record copy. Article 48(2) remains applicable.

**22.4 Statistics Concerning Non-Compliance with Rules 22.1 and 22.2**

The number of instances in which, according to the knowledge of the International Bureau, any receiving Office has not complied with the requirements of Rules 22.1 and/or 22.2 shall be indicated, once a year, in the Gazette.

**22.5 Documents Filed with the International Application**

For the purposes of the present Rule, the term "record copy" shall include also any document filed with the international application referred to in Rule 3.3(a)(ii). If any document referred to in Rule 3.3(a)(ii) which is indicated in the check list as accompanying the international application is not, in fact, filed at the latest by the time the record copy leaves the receiving Office, that

Office shall so note on the check list and the said indication shall be considered as if it had not been made.

**RULE 23****Transmittal of the Search Copy****23.1 Procedure**

(a) The search copy shall be transmitted by the receiving Office to the International Searching Authority at the latest on the same day as the record copy is transmitted to the International Bureau or, under Rule 22.2(d), to the applicant.

(b) If the International Bureau has not received, within 10 days from the receipt of the record copy, information from the International Searching Authority that that Authority is in possession of the search copy, the International Bureau shall promptly transmit a copy of the international application to the International Searching Authority. Unless the International Searching Authority has erred in alleging that it was not in possession of the search copy by the expiration of the 13th month from the priority date, the cost of making a copy for that Authority shall be reimbursed by the receiving Office to the International Bureau.

(c) The number of instances in which, according to the knowledge of the International Bureau, any receiving Office has not complied with the requirement of Rule 23.1(a) shall be indicated, once a year, in the Gazette.

**RULE 24****Receipt of the Record Copy by the International Bureau****24.1 Recording of Date of Receipt of the Record Copy**

The International Bureau shall, upon receipt of the record copy, mark on the request sheet the date of receipt and on all sheets of the international application the stamp of the International Bureau.

**24.2 Notification of Receipt of the Record Copy**

(a) Subject to the provisions of paragraph (b), the International Bureau shall promptly notify the applicant, the receiving Office, the International Searching Authority, and all designated Offices, of the fact and the date of receipt of the record copy. The notification shall identify the international application by its number, the international filing date, the name of the applicant, and the name of the receiving Office, and shall indicate the filing date of any earlier application whose priority is claimed. The notification sent to the applicant shall also contain the list of the designated Offices which have been notified under this paragraph, and shall, in respect of each designated Office, indicate any applicable time limit under Article 22(3).

(b) If the record copy is received after the expiration of the time limit fixed in Rule 22.3, the International Bureau shall promptly notify the applicant, the receiving Office, and the International Searching Authority, accordingly.

**RULE 25****Receipt of the Search Copy by the International Searching Authority****25.1 Notification of Receipt of the Search Copy**

The International Searching Authority shall promptly notify the International Bureau, the applicant, and—unless the International Searching Authority is the same as the receiving Office—the receiving Office, of the fact and the date of receipt of the search copy.

**RULE 26****Checking and Correcting Certain Elements of the International Application****26.1 Time Limit for Check**

(a) The receiving Office shall issue the invitation to correct provided for in Article 14(1)(b) as soon as possible, preferably within 1 month from the receipt of the international application.

(b) If the receiving Office issues an invitation to correct the defect referred to in Article 14(1)(a)(iii) or (iv) (missing title or missing abstract), it shall notify the International Searching Authority accordingly.

**26.2 Time Limit for Correction**

The time limit referred to in Article 14(1)(b) shall be reasonable under the circumstances of the particular case and shall be fixed in each case by the receiving Office. It shall not be less than 1 month and normally not more than 2 months from the date of the invitation to correct.

**26.3 Checking of Physical Requirements under Article 14(1)(a)(v)**

The physical requirements referred to in Rule 11 shall be checked to the extent that compliance therewith is necessary for the purpose of reasonably uniform international publication.

**26.4 Procedure**

(a) Any correction offered to the receiving Office may be stated in a letter addressed to that Office if the correction is of such a nature that it can be transferred from the letter to the record copy without adversely affecting the clarity and the direct reproducibility of the sheet on to which the correction is to be transferred; otherwise, the applicant shall be required to submit a replacement sheet embodying the correction and the letter accompanying the replacement sheet shall draw attention to the differences between the replaced sheet and the replacement sheet.

(b) The receiving Office shall mark on each replacement sheet the international application number, the date on which it was received, and the stamp identifying the Office. It shall keep in its files a copy of the letter containing the correction or, when the correction is contained in a replacement sheet, the replaced sheet, the letter accompanying the replacement sheet, and a copy of the replacement sheet.

(c) The receiving Office shall promptly transmit the letter and any replacement sheet to the International Bureau. The International Bureau shall transfer to the record copy the corrections requested in a letter, together with the indication of the date of its receipt by the receiving Office, and shall insert any replacement sheet in the record copy. The letter and any replaced sheet shall be kept in the files of the International Bureau.

(d) The receiving Office shall promptly transmit a copy of the letter and any replacement sheet to the International Searching Authority.

**26.5 Correction of Certain Elements**

(a) The receiving Office shall decide whether the applicant has submitted the correction within the prescribed time limit. If the correction has been submitted within the prescribed time limit, the receiving Office shall decide whether the international application so corrected is or is not to be considered withdrawn.

(b) The receiving Office shall mark on the papers containing the correction the date on which it received such papers.

**26.6 Missing Drawings**

(a) If, as provided in Article 14(2), the international application refers to drawings which in fact are not in-



cluded in that application, the receiving Office shall so indicate in the said application.

(b) The date on which the applicant receives the notification provided for in Article 14(2) shall have no effect on the time limit fixed under Rule 20.2(a)(iii).

#### RULE 27

##### *Lack of Payment of Fees*

##### 27.1 Fees

(a) For the purposes of Article 14(3)(a), "fees prescribed under Article 3(4)(iv)" means: the transmittal fee (Rule 14), the basic fee part of the international fee (Rule 15.1(i)), and the search fee (Rule 16).

(b) For the purposes of Article 14(3)(a) and (b), "the fee prescribed under Article 4(2)" means the designation fee part of the international fee (Rule 15.1(ii)).

#### RULE 28

##### *Defects Noted by the International Bureau or the International Searching Authority*

##### 28.1 Note on Certain Defects

(a) If, in the opinion of the International Bureau or of the International Searching Authority, the international application contains any of the defects referred to in Article 14(1)(a)(i), (ii), or (v), the International Bureau or the International Searching Authority, respectively, shall bring such defects to the attention of the receiving Office.

(b) The receiving Office shall, unless it disagrees with the said opinion, proceed as provided in Article 14(1)(b) and Rule 26.

#### RULE 29

##### *International Applications or Designations Considered Withdrawn under Article 14(1), (3) or (4)*

##### 29.1 Finding by Receiving Office

(a) If the receiving Office declares, under Article 14(1)(b) and Rule 26.5 (failure to correct certain defects), or under Article 14(3)(a) (failure to pay the prescribed fees under Rule 27.1(a)), or under Article 14(4) (later finding of non-compliance with the requirements listed in items (i) to (iii) of Article 11(1)), that the international application is considered withdrawn:

- (i) the receiving Office shall transmit the record copy (unless already transmitted), and any correction offered by the applicant, to the International Bureau;
- (ii) the receiving Office shall promptly notify both the applicant and the International Bureau of the said declaration, and the International Bureau shall in turn notify the interested designated Offices;
- (iii) the receiving Office shall not transmit the search copy as provided in Rule 23, or, if such copy has already been transmitted, it shall notify the International Searching Authority of the said declaration;
- (iv) the International Bureau shall not be required to notify the applicant of the receipt of the record copy.

(b) If the receiving Office declares under Article 14(3)(b) (failure to pay the prescribed designation fee under Rule 27.1(b)) that the designation of any given State is considered withdrawn, the receiving Office shall promptly notify both the applicant and the International Bureau of the said declaration. The International Bureau shall in turn notify the interested national Office.

##### 29.2 Finding by Designated Office

Where the effect of the international application ceases in any designated State by virtue of Article 24(1)(iii),

or where such effect is maintained in any designated State by virtue of Article 24(2), the competent designated Office shall promptly notify the International Bureau accordingly.

##### 29.3 Calling Certain Facts to the Attention of the Receiving Office

If the International Bureau or the International Searching Authority considers that the receiving Office should make a finding under Article 14(4), it shall call the relevant facts to the attention of the receiving Office.

##### 29.4 Notification of Intent to Make Declaration under Article 14(4)

Before the receiving Office issues any declaration under Article 14(4), it shall notify the applicant of its intent to issue such declaration and the reasons therefor. The applicant may, if he disagrees with the tentative finding of the receiving Office, submit arguments to that effect within 1 month from the notification.

#### RULE 30

##### *Time Limit Under Article 14(4)*

##### 30.1 Time Limit

The time limit referred to in Article 14(4) shall be 6 months from the international filing date.

#### RULE 31

##### *Copies Required Under Article 13*

##### 31.1 Request for Copies

(a) Requests under Article 13(1) may relate to all, some kinds of, or individual international applications in which the national Office making the request is designated. Requests for all or some kinds of such international applications must be renewed for each year by means of a notification addressed by that Office before November 30 of the preceding year to the International Bureau.

(b) Requests under Article 13(2)(b) shall be subject to the payment of a fee covering the cost of preparing and mailing the copy.

##### 31.2 Preparation of Copies

The preparation of copies required under Article 13 shall be the responsibility of the International Bureau.

#### RULE 32

##### *Withdrawal of the International Application or of Designations*

##### 32.1 Withdrawals

(a) The applicant may withdraw the international application prior to the expiration of 20 months from the priority date except as to any designated State in which national processing or examination has already started. He may withdraw the designation of any designated State prior to the date on which processing or examination may start in that State.

(b) Withdrawal of the designation of all designated States shall be treated as withdrawal of the international application.

(c) Withdrawal shall be effected by a signed notice from the applicant to the International Bureau or, if the record copy has not yet been sent to the International Bureau, to the receiving Office. In the case of Rule 4.8(b), the notice shall require the signature of all the applicants.

#### RULE 34

##### *Minimum Documentation*

##### 34.1 Definition

(a) The definitions contained in Article 2(i) and (ii) shall not apply for the purposes of this Rule.

(b) The documentation referred to in Article 15(4) ("minimum documentation") shall consist of:

- (i) the "national patent documents" as specified in paragraph (c),
- (ii) the published international (PCT) applications, the published regional applications for patents and inventors' certificates, and the published regional patents and inventors' certificates,
- (iii) such other published items of non-patent literature as the International Searching Authorities shall agree upon and which shall be published in a list by the International Bureau when agreed upon for the first time and whenever changed.

(c) Subject to paragraphs (d) and (e), the "national patent documents" shall be the following:

- (i) the patents issued in and after 1920 by France, the former Reichspatentamt of Germany, Japan, the Soviet Union, Switzerland (in French and German languages only), the United Kingdom, and the United States of America,
- (ii) the patents issued by the Federal Republic of Germany,
- (iii) the patent applications, if any, published in and after 1920 in the countries referred to in items (i) and (ii),
- (iv) the inventors' certificates issued by the Soviet Union,
- (v) the utility certificates issued by, and the published applications for utility certificates of, France,
- (vi) such patents issued by, and such patent applications published in, any other country after 1920 as are in the English, French, or German language and in which no priority is claimed, provided that the national Office of the interested country sorts out these documents and places them at the disposal of each International Searching Authority.

(d) Where an application is republished once (for example, an *Offenlegungsschrift* as an *Auslegungsschrift*) or more than once, no International Searching Authority shall be obliged to keep all versions in its documentation; consequently, each such Authority shall be entitled not to keep more than one version. Furthermore, where an application is granted and is issued in the form of a patent or a utility certificate (France), no International Searching Authority shall be obliged to keep both the application and the patent or utility certificate (France) in its documentation; consequently, each such Authority shall be entitled to keep either the application only or the patent or utility certificate (France) only.

(e) Any International Searching Authority whose official language, or one of whose official languages, is not Japanese or Russian is entitled not to include in its documentation those patent documents of Japan and the Soviet Union, respectively, for which no abstracts in the English language are generally available. English abstracts becoming generally available after the date of entry into force of these Regulations shall require the inclusion of the patent documents to which the abstracts refer no later than 6 months after such abstracts become generally available. In case of the interruption of abstracting services in English in technical fields in which English abstracts were formerly generally available, the Assembly shall take appropriate measures to provide for the prompt restoration of such services in the said fields.

(f) For the purposes of this Rule, applications which have only been laid open for public inspection are not considered published applications.

#### RULE 33

##### *Relevant Prior Art for the International Search*

##### 33.1 Relevant Prior Art for the International Search

(a) For the purposes of Article 15(2), relevant prior art shall consist of everything which has been made available to the public anywhere in the world by means of written disclosure (including drawings and other illustrations) and which is capable of being of assistance in determining that the claimed invention is or is not new and that it does or does not involve an inventive step (i.e., that it is or is not obvious), provided that the making available to the public occurred prior to the international filing date.

(b) When any written disclosure refers to an oral disclosure, use, exhibition, or other means whereby the contents of the written disclosure were made available to the public, and such making available to the public occurred on a date prior to the international filing date, the international search report shall separately mention that fact and the date on which it occurred if the making available to the public of the written disclosure occurred on a date posterior to the international filing date.

(c) Any published application or any patent whose publication date is later but whose filing date, or, where applicable, claimed priority date, is earlier than the international filing date of the international application searched, and which would constitute relevant prior art for the purposes of Article 15(2) had it been published prior to the international filing date, shall be specially mentioned in the international search report.

##### 33.2 Fields to be Covered by the International Search

(a) The international search shall cover all those technical fields, and shall be carried out on the basis of all those search files, which may contain material pertinent to the invention.

(b) Consequently, not only shall the art in which the invention is classifiable be searched but also analogous arts regardless of where classified.

(c) The question what arts are, in any given case, to be regarded as analogous shall be considered in the light of what appears to be the necessary essential function or use of the invention and not only the specific functions expressly indicated in the international application.

(d) The international search shall embrace all subject matter that is generally recognized as equivalent to the subject matter of the claimed invention for all or certain of its features, even though, in its specifics, the invention as described in the international application is different.

##### 33.3 Orientation of the International Search

(a) International search shall be made on the basis of the claims, with due regard to the description and the drawings (if any) and with particular emphasis on the inventive concept towards which the claims are directed.

(b) In so far as possible and reasonable, the international search shall cover the entire subject matter to which the claims are directed or to which they might reasonably be expected to be directed after they have been amended.



## RULE 35

*The Competent International Searching Authority***35.1 When Only One International Searching Authority is Competent**

Each receiving Office shall, in accordance with the terms of the applicable agreement referred to in Article 16(3)(b), inform the International Bureau which International Searching Authority is competent for the searching of the international applications filed with it, and the International Bureau shall promptly publish such information.

**35.2 When Several International Searching Authorities are Competent**

(a) Any receiving Office may, in accordance with the terms of the applicable agreement referred to in Article 16(3)(b), specify several International Searching Authorities:

- (i) by declaring all of them competent for any international application filed with it, and leaving the choice to the applicant, or
- (ii) by declaring one or more competent for certain kinds of international applications filed with it, and declaring one or more others competent for other kinds of international applications filed with it, provided that, for those kinds of international applications for which several International Searching Authorities are declared to be competent, the choice shall be left to the applicant.

(b) Any receiving Office availing itself of the faculty provided in paragraph (a) shall promptly inform the International Bureau, and the International Bureau shall promptly publish such information.

## RULE 36

*Minimum Requirements for International Searching Authorities***36.1 Definition of Minimum Requirements**

The minimum requirements referred to in Article 16(3)(c) shall be the following:

- (i) the national Office or intergovernmental organization must have at least 100 full-time employees with sufficient technical qualifications to carry out searches;
- (ii) that Office or organization must have in its possession at least the minimum documentation referred to in Rule 34, properly arranged for search purposes;
- (iii) that Office or organization must have a staff which is capable of searching the required technical fields and which has the language facilities to understand at least those languages in which the minimum documentation referred to in Rule 34 is written or is translated.

## RULE 37

*Missing or Defective Title***37.1 Lack of Title**

If the international application does not contain a title and the receiving Office has notified the International Searching Authority that it has invited the applicant to correct such defect, the International Searching Authority shall proceed with the international search unless and until it receives notification that the said application is considered withdrawn.

**37.2 Establishment of Title**

If the international application does not contain a title and the International Searching Authority has not re-

ceived a notification from the receiving Office to the effect that the applicant has been invited to furnish a title, or if the said Authority finds that the title does not comply with Rule 4.3, it shall itself establish a title.

## RULE 38

*Missing Abstract***38.1 Lack of Abstract**

If the international application does not contain an abstract and the receiving Office has notified the International Searching Authority that it has invited the applicant to correct such defect, the International Searching Authority shall proceed with the international search unless and until it receives notification that the said application is considered withdrawn.

**38.2 Establishment of Abstract**

(a) If the international application does not contain an abstract and the International Searching Authority has not received a notification from the receiving Office to the effect that the applicant has been invited to furnish an abstract, or if the said Authority finds that the abstract does not comply with Rule 8, it shall itself establish an abstract (in the language in which the international application is published). In the latter case, it shall invite the applicant to comment on the abstract established by it within 1 month from the date of the invitation.

(b) The definitive contents of the abstract shall be determined by the International Searching Authority.

## RULE 39

*Subject Matter Under Article 17(2)(a)(i)***39.1 Definition**

No International Searching Authority shall be required to search an international application if, and to the extent to which, its subject matter is any of the following:

- (i) scientific and mathematical theories,
- (ii) plant or animal varieties or essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes,
- (iii) schemes, rules or methods of doing business, performing purely mental acts or playing games,
- (iv) methods for treatment of the human or animal body by surgery or therapy, as well as diagnostic methods,
- (v) mere presentations of information,
- (vi) computer programs to the extent that the International Searching Authority is not equipped to search prior art concerning such programs.

## RULE 40

*Lack of Unity of Invention (International Search)***40.1 Invitation to Pay**

The invitation to pay additional fees provided for in Article 17(3)(a) shall specify the reasons for which the international application is not considered as complying with the requirement of unity of invention and shall indicate the amount to be paid.

**40.2 Additional Fees**

(a) The amount of the additional fee due for searching under Article 17(3)(a) shall be determined by the competent International Searching Authority.

(b) The additional fee due for searching under Article 17(3)(a) shall be payable direct to the International Searching Authority.

## RULE 43

*The International Search Report***43.1 Identifications**

The international search report shall identify the International Searching Authority which established it by indicating the name of such Authority, and the international application by indicating the international application number, the name of the applicant, the name of the receiving Office, and the international filing date.

**43.2 Dates**

The international search report shall be dated and shall indicate the date on which the international search was actually completed. It shall also indicate the filing date of any earlier application whose priority is claimed.

**43.3 Classification**

(a) The international search report shall contain the classification of the subject matter at least according to the International Patent Classification.

(b) Such classification shall be effected by the International Searching Authority.

**43.4 Language**

Every international search report and any declaration made under Article 17(2)(a) shall be in the language in which the international application to which it relates is published.

**43.5 Citations**

(a) The international search report shall contain the citations of the documents considered to be relevant.

(b) The method of identifying any cited document shall be regulated by the Administrative Instructions.

(c) Citations of particular relevance shall be specially indicated.

(d) Citations which are not relevant to all the claims shall be cited in relation to the claim or claims to which they are relevant.

(e) If only certain passages of the cited document are relevant or particularly relevant, they shall be identified, for example, by indicating the page, the column, or the lines, where the passage appears.

**43.6 Fields Searched**

(a) The international search report shall list the classification identification of the fields searched. If that identification is effected on the basis of a classification other than the International Patent Classification, the International Searching Authority shall publish the classification used.

(b) If the international search extended to patents, inventors' certificates, utility certificates, utility models, patents or certificates of addition, inventors' certificates of addition, utility certificates of addition, or published applications for any of those kinds of protection, of States, periods, or languages, not included in the minimum documentation as defined in Rule 34, the international search report shall, when practicable, identify the kinds of documents, the States, the periods, and the languages to which it extended. For the purposes of this paragraph, Article 2(ii) shall not apply.

**43.7 Remarks Concerning Unity of Invention**

If the applicant paid additional fees for the international search, the international search report shall so indicate. Furthermore, where the international search was made on the main invention only (Article 17(3)(a)), the international search report shall indicate what parts of the

(c) Any applicant may pay the additional fee under protest, that is, accompanied by a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive. Such protest shall be examined by a three-member board or other special instance of the International Searching Authority or any competent higher authority, which, to the extent that it finds the protest justified, shall order the total or partial reimbursement to the applicant of the additional fee. On the request of the applicant, the text of both the protest and the decision thereon shall be notified to the designated Offices together with the international search report. The applicant shall submit any translation thereof with the furnishing of the translation of the international application required under Article 22.

(d) The three-member board, special instance or competent higher authority, referred to in paragraph (c), shall not comprise any person who made the decision which is the subject of the protest.

**40.3 Time Limit**

The time limit provided for in Article 17(3)(a) shall be fixed, in each case, according to the circumstances of the case, by the International Searching Authority; it shall not be shorter than 15 or 30 days, respectively, depending on whether the applicant's address is in the same country as or in a different country from that in which the International Searching Authority is located, and it shall not be longer than 45 days, from the date of the invitation.

## RULE 41

*The International-Type Search***41.1 Obligation to Use Results; Refund of Fee**

If reference has been made in the request, in the form provided for in Rule 4.11, to an international-type search carried out under the conditions set out in Article 15(5), the International Searching Authority shall, to the extent possible, use the results of the said search in establishing the international search report on the international application. The International Searching Authority shall refund the search fee, to the extent and under the conditions provided for in the agreement under Article 16(3)(b), if the international search report could wholly or partly be based on the results of the international-type search.

## RULE 42

*Time Limit for International Search***42.1 Time Limit for International Search**

All agreements concluded with International Searching Authorities shall provide for the same time limit for establishing the international search report or the declaration referred to in Article 17(2)(a). This time limit shall not exceed 3 months from the receipt of the search copy by the International Searching Authority, or 9 months from the priority date, whichever time limit expires later. For a transitional period of 3 years from the entry into force of the Treaty, time limits for the agreement with any International Searching Authority may be individually negotiated, provided that such time limits shall not extend by more than 2 months the time limits referred to in the preceding sentence and in any case shall not go beyond the expiration of the 18th month after the priority date.



international application were and what parts were not searched.

#### 43.8 Signature

The international search report shall be signed by an authorized officer of the International Searching Authority.

#### 43.9 No Other Matter

The international search report shall contain no matter other than that enumerated in Rules 33.1(b) and (c), 43.1, 2, 3, 5, 6, 7 and 8, and 44.2(a) and (b), and the indication referred to in Article 17(2)(b). In particular, it shall contain no expressions of opinion, reasoning, arguments, or explanations.

#### 43.10 Form

The physical requirements as to the form of the international search report shall be prescribed by the Administrative Instructions.

### RULE 44

#### Transmittal of the International Search Report, etc.

##### 44.1 Copies of Report or Declaration

The International Searching Authority shall, on the same day, transmit one copy of the international search report or the declaration referred to in Article 17(2)(a) to the International Bureau and one copy to the applicant.

##### 44.2 Title or Abstract

(a) Subject to paragraphs (b) and (c), the international search report shall either state that the International Searching Authority approves the title and the abstract as submitted by the applicant or be accompanied by the text of the title and/or abstract as established by the International Searching Authority under Rules 37 and 38.

(b) If, at the time the international search is completed, the time limit allowed for the applicant to comment on any suggestion of the International Searching Authority in respect of the abstract has not expired, the international search report shall indicate that it is incomplete as far as the abstract is concerned.

(c) As soon as the time limit referred to in paragraph (b) has expired, the International Searching Authority shall notify the abstract approved or established by it to the International Bureau and to the applicant.

##### 44.3 Copies of Cited Documents

(a) The request referred to in Article 20(3) may be presented any time during 7 years from the international filing date of the international application to which the international search report relates.

(b) The International Searching Authority may require that the party (applicant or designated Office) presenting the request pay to it the cost of preparing and mailing the copies. The level of the cost of preparing copies shall be provided for in the agreements referred to in Article 16(3)(b) between the International Searching Authorities and the International Bureau.

(c) Any International Searching Authority not wishing to send copies direct to any designated Office shall send a copy to the International Bureau and the International Bureau shall then proceed as provided in paragraphs (a) and (b).

(d) Any International Searching Authority may perform the obligations referred to in (a) to (c) through another agency responsible to it.

### RULE 45

#### Translation of the International Search Report

##### 45.1 Languages

International search reports and declarations referred to in Article 17(2)(a) shall, when not in English, be translated into English.

### RULE 46

#### Amendment of Claims Before the International Bureau

##### 46.1 Time Limit

The time limit referred to in Article 19 shall be 2 months from the date of transmittal of the international search report to the International Bureau and to the applicant by the International Searching Authority or, when such transmittal takes place before the expiration of 14 months from the priority date, 3 months from the date of such transmittal.

##### 46.2 Dating of Amendments

The date of receipt of any amendment shall be recorded by the International Bureau and shall be indicated by it in any publication or copy issued by it.

##### 46.3 Language of Amendments

If the international application has been filed in a language other than the language in which it is published by the International Bureau, any amendment made under Article 19 shall be both in the language in which the international application has been filed and in that in which it is published.

##### 46.4 Statement

(a) The statement referred to in Article 19(1) shall be in the language in which the international application is published and shall not exceed 500 words if in the English language or if translated into that language.

(b) The statement shall contain no comments on the international search report or the relevance of the citations contained in that report. The statement may refer to a citation contained in the international search report only in order to indicate that a specific amendment of the claims is intended to avoid the document cited.

##### 46.5 Form of Amendments

(a) The applicant shall be required to submit a replacement sheet for every sheet of the claims which, on account of an amendment or amendments under Article 19, differs from the sheet originally filed. The letter accompanying the replacement sheets shall draw attention to the differences between the replaced sheets and the replacement sheets. To the extent that any amendment results in the cancellation of an entire sheet, that amendment shall be communicated in a letter.

(b) The International Bureau shall mark on each replacement sheet the international application number, the date on which it was received, and the stamp identifying the International Bureau. It shall keep in its files any replaced sheet, the letter accompanying the replacement sheet or sheets, and any letter referred to in the last sentence of paragraph (a).

(c) The International Bureau shall insert any replacement sheet in the record copy and, in the case referred to in the last sentence of paragraph (a), shall indicate the cancellations in the record copy.

### RULE 47

#### Communication to Designated Offices

##### 47.1 Procedure

(a) The communication provided for in Article 20 shall be effected by the International Bureau.

(b) Such communication shall be effected promptly after the International Bureau has received amendments from the applicant, or a declaration that the applicant does not wish to make amendments before the International Bureau, or, in any case, when the time limit provided for in Rule 46.1 has expired. Where, under Article 17(2)(a), the International Searching Authority has made a declaration that no international search report will be established, the communication provided for in Article 20 shall be effected, unless the international application is withdrawn, within 1 month from the date on which the International Bureau has been notified of the said declaration by the International Searching Authority; such communication shall be accompanied by an indication of the date of the notification sent to the applicant under Article 17(2)(a).

(c) The International Bureau shall send a notice to the applicant indicating the designated Offices to which the communication has been effected and the date of such communication. Such notice shall be sent on the same day as the communication.

(d) Each designated Office shall, when it so requires, receive the international search reports and the declarations referred to in Article 17(2)(a) also in the translation referred to in Rule 45.1.

(e) Where any designated Office has waived the requirement provided under Article 20, the copies of the documents which otherwise would have been sent to that Office shall, at the request of that Office or the applicant, be sent to the applicant at the time of the notice referred to in paragraph (c).

##### 47.2 Copies

(a) The copies required for communication shall be prepared by the International Bureau.

(b) They shall be on sheets of A4 size.

##### 47.3 Languages

The international application communicated under Article 20 shall be in the language in which it is published provided that if that language is different from the language in which it was filed it shall, on the request of the designated Office, be communicated in either or both of these languages.

### RULE 48

#### International Publication

##### 48.1 Form

(a) The international application shall be published in the form of a pamphlet.

(b) The particulars regarding the form of the pamphlet and the method of reproduction shall be governed by the Administrative Instructions.

##### 48.2 Contents

(a) The pamphlet shall contain:

- (i) a standardized front page,
- (ii) the description,
- (iii) the claims,
- (iv) the drawings, if any,
- (v) subject to paragraph (g), the international search report or the declaration under Article 17(2)(a),
- (vi) any statement filed under Article 19(1), unless the International Bureau finds that the statement does not comply with the provisions of Rule 46.4.

(b) Subject to paragraph (c), the front page shall include:

- (i) data taken from the request sheet and such other data as are prescribed by the Administrative Instructions,
- (ii) a figure or figures where the international application contains drawings,
- (iii) the abstract; if the abstract is both in English and in another language, the English text shall appear first.

(c) Where a declaration under Article 17(2)(a) has issued, the front page shall conspicuously refer to that fact and need include neither a drawing nor an abstract.

(d) The figure or figures referred to in paragraph (b)(ii) shall be selected as provided in Rule 8.2. Reproduction of such figure or figures on the front page may be in a reduced form.

(e) If there is not enough room on the front page for the totality of the abstract referred to in paragraph (b)(iii), the said abstract shall appear on the back of the front page. The same shall apply to the translation of the abstract when such translation is required to be published under Rule 48.3(c).

(f) If the claims have been amended under Article 19, the publication shall contain either the full text of the claims both as filed and as amended or the full text of the claims as filed and specify the amendments. Any statement referred to in Article 19(1) shall be included as well, unless the International Bureau finds that the statement does not comply with the provisions of Rule 46.4. The date of receipt of the amended claims by the International Bureau shall be indicated.

(g) If, at the time when publication is due, the international search report is not yet available (for example, because of publication on the request of the applicant as provided in Articles 21(2)(b) and 64(3)(c)(i)), the pamphlet shall contain, in place of the international search report, an indication to the effect that that report was not available and that either the pamphlet (then also including the international search report) will be republished or the international search report (when it becomes available) will be separately published.

(h) If, at the time when publication is due, the time limit for amending the claims under Article 19 has not expired, the pamphlet shall refer to that fact and indicate that, should the claims be amended under Article 19, then, promptly after such amendments, either the pamphlet (containing the claims as amended) will be republished or a statement reflecting all the amendments will be published. In the latter case, at least the front page and the claims shall be republished and, if a statement under Article 19(1) has been filed, that statement shall be published as well, unless the International Bureau finds that the statement does not comply with the provisions of Rule 46.4.

(i) The Administrative Instructions shall determine the cases in which the various alternatives referred to in paragraphs (g) and (h) shall apply. Such determination shall depend on the volume and complexity of the amendments and/or the volume of the international application and the cost factors.

##### 48.3 Language

(a) If the international application is filed in English, French, German, Japanese, or Russian, that application shall be published in the language in which it was filed.

(b) If the international application is filed in a language other than English, French, German, Japanese, or Russian, that application shall be published in English translation. The translation shall be prepared under the responsibility of the International Searching Authority, which shall be obliged to have it ready in time to permit the communication under Article 20 by the prescribed date, or, if the international publication is due at an



earlier date than the said communication, to permit international publication by the prescribed date. Notwithstanding Rule 16.1(a), the International Searching Authority may charge a fee for the translation to the applicant. The International Searching Authority shall give the applicant an opportunity to comment on the draft translation. The International Searching Authority shall fix a time limit reasonable under the circumstances of the case for such comments. If there is no time to take the comments of the applicant into account before the translation is communicated or if there is a difference of opinion between the applicant and the said Authority as to the correct translation, the applicant may send a copy of his comments, or what remains of them, to the International Bureau and each designated Office to which the translation was communicated. The International Bureau shall publish the essence of the comments together with the translation of the International Searching Authority or subsequently to the publication of such translation.

(c) If the international application is published in a language other than English, the international search report, or the declaration referred to in Article 17(2)(a), and the abstract shall be published both in that language and in English. The translations shall be prepared under the responsibility of the International Bureau.

#### 48.4 Earlier Publication on the Applicant's Request

(a) Where the applicant asks for publication under Articles 21(2)(b) and 64(3)(c)(i) and the international search report, or the declaration referred to in Article 17(2)(a), is not yet available for publication together with the international application, the International Bureau shall collect a special publication fee whose amount shall be fixed in the Administrative Instructions.

(b) Publication under Articles 21(2)(b) and 64(3)(c)(i) shall be effected by the International Bureau promptly after the applicant has asked for it and, where a special fee is due under paragraph (a), after receipt of such fee.

#### 48.5 Notification of National Publication

Where the publication of the international application by the International Bureau is governed by Article 64(3)(c)(ii), the national Office concerned shall, promptly after effecting the national publication referred to in the said provision, notify the International Bureau of the fact of such national publication.

#### 48.6 Announcing of Certain Facts

(a) If any notification under Rule 29.1(ii) reaches the International Bureau at a time later than that at which it was able to prevent the international publication of the international application, the International Bureau shall promptly publish a notice in the Gazette reproducing the essence of such notification.

(b) The essence of any notification under Rule 29.2 or 51.4 shall be published in the Gazette and, if the notification reaches the International Bureau before preparations for the publication of the pamphlet have been completed, also in the pamphlet.

(c) If the international application is withdrawn after its international publication, this fact shall be published in the Gazette.

### RULE 49

#### Languages of Translations and Amounts of Fees Under Article 22(1) and (2)

##### 49.1 Notification

(a) Any Contracting State requiring the furnishing of a translation or the payment of a national fee, or both, under Article 22, shall notify the International Bureau of:

(i) the languages from which and the language into which it requires translation,

(ii) the amount of the national fee.

(b) Any notification received by the International Bureau under paragraph (a) shall be promptly published by the International Bureau in the Gazette.

(c) If the requirements under paragraph (a) change later, such changes shall be notified by the Contracting State to the International Bureau and that Bureau shall promptly publish the notification in the Gazette. If the change means that translation is required into a language which, before the change, was not required, such change shall be effective only with respect to international applications filed later than 2 months after the publication of the notification in the Gazette. Otherwise, the effective date of any change shall be determined by the Contracting State.

#### 49.2 Languages

The language into which translation may be required must be an official language of the designated Office. If there are several of such languages, no translation may be required if the international application is in one of them. If there are several official languages and a translation must be furnished, the applicant may choose any of those languages. Notwithstanding the foregoing provisions of this paragraph, if there are several official languages but the national law prescribes the use of one such language for foreigners, a translation into that language may be required.

#### 49.3 Statements under Article 19

For the purposes of Article 22 and the present Rule, any statement made under Article 19(1) shall be considered part of the international application.

### RULE 50

#### Faculty Under Article 22(3)

##### 50.1 Exercise of Faculty

(a) Any Contracting State allowing a time limit expiring later than the time limits provided for in Article 22(1), or (2) shall notify the International Bureau of the time limits so fixed.

(b) Any notification received by the International Bureau under paragraph (a) shall be promptly published by the International Bureau in the Gazette.

(c) Notifications concerning the shortening of the previously fixed time limit shall be effective in relation to international applications filed after the expiration of 3 months computed from the date on which the notification was published by the International Bureau.

(d) Notifications concerning the lengthening of the previously fixed time limit shall become effective upon publication by the International Bureau in the Gazette in respect of international applications pending at the time or filed after the date of such publication, or, if the Contracting State effecting the notification fixes some later date, as from the latter date.

### RULE 51

#### Review by Designated Offices

##### 51.1 Time Limit for Presenting the Request to Send Copies

The time limit referred to in Article 25(1)(c) shall be 2 months computed from the date of the notification sent to the applicant under Rules 20.7(i), 24.2(b), 29.1(a)(ii), or 29.1(b).

##### 51.2 Copy of the Notice

Where the applicant, after having received a negative determination under Article 11(1), requests the Interna-

tional Bureau, under Article 25(1), to send copies of the file of the purported international application to any of the named Offices he has attempted to designate, he shall attach to his request a copy of the notice referred to in Rule 20.7(i).

#### 51.3 Time Limit for Paying National Fee and Furnishing Translation

The time limit referred to in Article 25(2)(a) shall expire at the same time as the time limit prescribed in Rule 51.1.

#### 51.4 Notification to the International Bureau

Where, under Article 25(2), the competent designated Office decides that the refusal, declaration or finding referred to in Article 25(1) was not justified, it shall promptly notify the International Bureau that it will treat the international application as if the error or omission referred to in Article 25(2) had not occurred.

### RULE 52

#### Amendment of the Claims, the Description, and the Drawings, before designated Offices

##### 52.1 Time Limit

(a) In any designated State in which processing or examination starts without special request, the applicant shall, if he so wishes, exercise the right under Article 28 within one month from the fulfillment of the requirements under Article 22, provided that, if the communication under Rule 47.1 has not been effected by the expiration of the time limit applicable under Article 22, he shall exercise the said right not later than 4 months after such expiration date. In either case, the applicant may exercise the said right at any other time if so permitted by the national law of the said State.

(b) In any designated State in which the national law provides that examination starts only on special request, the time limit within or the time at which the applicant may exercise the right under Article 28 shall be the same as that provided by the national law for the filing of amendments in the case of the examination, on special request, of national applications, provided that such time limit shall not expire prior to, or such time shall not come before, the expiration of the time limit applicable under paragraph (a).

### PART C.—RULES CONCERNING CHAPTER II OF THE TREATY

### RULE 53

#### The Demand

##### 53.1 Form

(a) The demand shall be made on a printed form.

(b) Copies of printed forms shall be furnished free of charge by the receiving Offices to the applicants.

(c) The particulars of the forms shall be prescribed by the Administrative Instructions.

(d) The demand shall be submitted in two identical copies.

##### 53.2 Contents

(a) The demand shall contain:

- (i) a petition,
- (ii) indications concerning the applicant and the agent if there is an agent,
- (iii) indications concerning the international application to which it relates,
- (iv) election of States.

(b) The demand shall be signed.

#### 53.3 The Petition

The petition shall be to the following effect and shall preferably be worded as follows: "Demand under Article 31 of the Patent Cooperation Treaty: The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty."

#### 53.4 The Applicant

As to the indications concerning the applicant, Rules 4.4 and 4.16 shall apply, and Rule 4.5 shall apply *mutatis mutandis*.

#### 53.5 The Agent

If an agent is designated, Rules 4.4, 4.7, and 4.16 shall apply, and Rule 4.8 shall apply *mutatis mutandis*.

#### 53.6 Identification of the International Application

The international application shall be identified by the name of the receiving Office with which the international application was filed, the name and address of the applicant, the title of the invention, and, where the international filing date and the international application number are known to the applicant, that date and that number.

#### 53.7 Election of States

The demand shall name, among the designated States, at least one Contracting State bound by Chapter II of the Treaty as elected State.

#### 53.8 Signature

The demand shall be signed by the applicant.

### RULE 54

#### The Applicant Entitled To Make a Demand

##### 54.1 Residence and Nationality

The residence or nationality of the applicant shall, for the purposes of Article 31(2), be determined according to Rules 18.1 and 18.2.

##### 54.2 Several Applicants: Same for All Elected States

If all the applicants are applicants for the purposes of all elected States, the right to make a demand under Article 31(2) shall exist if at least one of them is

(i) a resident or national of a Contracting State bound by Chapter II and the international application has been filed as provided in Article 31(2)(a), or

(ii) a person entitled to make a demand under Article 31(2)(b) and the international application has been filed as provided in the decision of the Assembly.

##### 54.3 Several Applicants: Different for Different Elected States

(a) For the purposes of different elected States, different applicants may be indicated, provided that, in respect of each elected State, at least one of the applicants indicated for the purposes of that State is

(i) a resident or national of a Contracting State bound by Chapter II and the international application has been filed as provided in Article 31(2)(a), or,

(ii) a person entitled to make a demand under Article 31(2)(b) and the international application has been filed as provided in the decision of the Assembly.

(b) If the requirement under paragraph (a) is not fulfilled in respect of any elected State, the election of that State shall be considered not to have been made.

##### 54.4 Change in the Person or Name of the Applicant

Any change in the person or name of the applicant shall, on the request of the applicant of the receiving Office, be recorded by the International Bureau; which



shall notify the interested International Preliminary Examining Authority and the elected Offices accordingly.

#### RULE 55

##### Languages (International Preliminary Examination)

##### 55.1 The Demand

The demand shall be in the language of the international application or, when a translation is required under Rule 55.2, in the language of that translation.

##### 55.2 The International Application

(a) If the competent International Preliminary Examining Authority is not part of the same national Office or intergovernmental organization as the competent International Searching Authority, and if the international application is in a language other than the language, or one of the languages, specified in the agreement concluded between the International Bureau and the International Preliminary Examining Authority competent for the international preliminary examination, the latter may require that the applicant submit a translation of that application.

(b) The translation shall be submitted not later than the later of the following two dates:

- (i) the date on which the time limit under Rule 46.1 expires,
- (ii) the date on which the demand is submitted.

(c) The translation shall contain a statement that, to the best of the applicant's knowledge, it is complete and faithful. This statement shall be signed by the applicant.

(d) If the provisions of paragraphs (b) and (c) are not complied with, the International Preliminary Examining Authority shall invite the applicant to comply with them within 1 month from the date of the invitation. If the applicant fails to do so, the demand shall be considered as if it had not been submitted and the International Preliminary Examining Authority shall notify the applicant and the International Bureau accordingly.

#### RULE 56

##### Later Elections

##### 56.1 Elections Submitted Later Than the Demand

The election of States not named in the demand shall be effected by a notice signed and submitted by the applicant, and shall identify the international application and the demand.

##### 56.2 Identification of the International Application

The international application shall be identified as provided in Rule 53.6.

##### 56.3 Identification of the Demand

The demand shall be identified by the date on which it was submitted and by the name of the International Preliminary Examining Authority to which it was submitted.

##### 56.4 Form of Later Elections

The later election shall preferably be made on a printed form furnished free of charge to applicants. If it is not made on such a form, it shall preferably be worded as follows: "In relation to the international application filed with . . . on . . . under No. . . . by . . . (applicant) (and the demand for international preliminary examination submitted on . . . to . . .), the undersigned elects the following additional State(s) under Article 31 of the Patent Cooperation Treaty: . . ."

##### 56.5 Language of Later Elections

The later election shall be in the language of the demand.

#### RULE 57

##### The Handling Fee

##### 57.1 Requirement to Pay

Each demand for international preliminary examination shall be subject to the payment of a fee for the benefit of the International Bureau ("handling fee").

##### 57.2 Amount

(a) The amount of the handling fee shall be US \$14.00 or 60 Swiss francs augmented by as many times the same amount as the number of languages into which the international preliminary examination report must, in application of Article 36(2), be translated by the International Bureau.

(b) Where, because of a later election or elections, the international preliminary examination report must, in application of Article 36(2), be translated by the International Bureau into one or more additional languages, a supplement to the handling fee shall be payable and shall amount to US \$14.00 or 60 Swiss francs for each additional language.

##### 57.3 Mode and Time of Payment

(a) Subject to paragraph (b), the handling fee shall be collected by the International Preliminary Examining Authority to which the demand is submitted and shall be due at the time the demand is submitted.

(b) Any supplement to the handling fee under Rule 57.2(b) shall be collected by the International Bureau and shall be due at the time the later election is submitted.

(c) The handling fee shall be payable in the currency prescribed by the International Preliminary Examining Authority to which the demand is submitted, it being understood that, when transferred by that Authority to the International Bureau, it shall be freely convertible into Swiss currency.

(d) Any supplement to the handling fee shall be payable in Swiss currency.

##### 57.4 Failure to Pay (Handling Fee)

(a) Where the handling fee is not paid as required by Rules 57.2(a) and 57.3(a) and (c), the International Preliminary Examining Authority shall invite the applicant to pay the fee within 1 month from the date of the invitation.

(b) If the applicant complies with the invitation within the prescribed time limit, the demand shall be considered as if it had been received on the date on which the International Preliminary Examining Authority receives the fee, unless, under Rule 60.1(b), a later date is applicable.

(c) If the applicant does not comply with the invitation within the prescribed time limit, the demand shall be considered as if it had not been submitted.

##### 57.5 Failure to Pay (Supplement to the Handling Fee)

(a) Where the supplement to the handling fee is not paid as required by Rules 57.2(b) and 57.3(b) and (d), the International Bureau shall invite the applicant to pay the supplement within 1 month from the invitation.

(b) If the applicant complies with the invitation within the prescribed time limit, the later election shall be considered as if it had been received on the date on which the International Bureau receives the supplement, unless, under Rules 60.2(b), a later date is applicable.

(c) If the applicant does not comply with the invitation within the prescribed time limit, the later election shall be considered as if it had not been submitted.

##### 57.6 Refund

In no case shall the handling fee, including any supplement thereto, be refunded.

#### RULE 58

##### The Preliminary Examination Fee

##### 58.1 Right to Ask for a Fee

(a) Each International Preliminary Examining Authority may require that the applicant pay a fee ("preliminary examination fee") for its own benefit for carrying out the international preliminary examination and for performing all other tasks entrusted to International Preliminary Examining Authorities under the Treaty and these Regulations.

(b) The amount and the due date of the preliminary examination fee, if any, shall be fixed by the International Preliminary Examining Authority, provided that the said due date shall not be earlier than the due date of the handling fee.

(c) The preliminary examination fee shall be payable directly to the International Preliminary Examining Authority. Where that Authority is a national Office, it shall be payable in the currency prescribed by that Office, and where the Authority is an intergovernmental organization, it shall be payable in the currency of the State in which the intergovernmental organization is located or in any other currency which is freely convertible into the currency of the said State.

#### RULE 59

##### The Competent International Preliminary Examining Authority

##### 59.1 Demands under Article 31(2)(a)

For demands made under Article 31(2)(a), each Contracting State bound by the provisions of Chapter II shall, in accordance with the terms of the applicable agreement referred to in Article 32(2) and (3), inform the International Bureau which International Preliminary Examining Authority is or which International Preliminary Examining Authorities are competent for the international preliminary examination of international applications filed with its national Office, or, in the case provided for in Rule 19.1(b), with the national Office of another State or an intergovernmental organization acting for the former Office, and the International Bureau shall promptly publish such information. Where several International Preliminary Examining Authorities are competent, the provisions of Rule 35.2 shall apply *mutatis mutandis*.

##### 59.2 Demands under Article 31(2)(b)

As to the demands made under Article 31(2)(b), the Assembly, in specifying the International Preliminary Examining Authority competent for international applications filed with a national Office which is an International Preliminary Examining Authority, shall give preference to that Authority; if the national Office is not an International Preliminary Examining Authority, the Assembly shall give preference to the International Preliminary Examining Authority recommended by that Office.

#### RULE 60

##### Certain Defects in the Demand or Elections

##### 60.1 Defects in the Demand

(a) If the demand does not comply with the requirements specified in Rules 53 and 55, the International

Preliminary Examining Authority shall invite the applicant to correct the defects within 1 month from the date of the invitation.

(b) If the applicant complies with the invitation within the prescribed time limit, the demand shall be considered as if it had been received on the date on which the International Preliminary Examining Authority receives the correction, or, when the handling fee is received under Rule 57.4(b) at a later date, on that date.

(c) If the applicant does not comply with the invitation within the prescribed time limit, the demand shall be considered as if it had not been submitted.

(d) If the defect is noticed by the International Bureau, it shall bring the defect to the attention of the International Preliminary Examining Authority, which shall then proceed as provided in paragraphs (a) to (c).

##### 60.2 Defects in Later Elections

(a) If the later election does not comply with the requirements of Rule 56, the International Bureau shall invite the applicant to correct the defects within 1 month from the date of the invitation.

(b) If the applicant complies with the invitation within the prescribed time limit, the later election shall be considered as if it had been received on the date on which the International Bureau receives the correction, or, where the supplement to the handling fee is received under Rule 57.5(b) at a later date, on that date.

(c) If the applicant does not comply with the invitation within the prescribed time limit, the later election shall be considered as if it had not been submitted.

##### 60.3 Attempted Elections

If the applicant has attempted to elect a State which is not a designated State or which is not bound by Chapter II, the attempted election shall be considered not to have been made, and the International Bureau shall notify the applicant accordingly.

#### RULE 61

##### Notification of the Demand and Elections

##### 61.1 Notifications to the International Bureau, the Applicant, and the International Preliminary Examining Authority

(a) The International Preliminary Examining Authority shall indicate on both copies of the demand the date of receipt or, where applicable, the date referred to in Rule 60.1(b). The International Preliminary Examining Authority shall promptly send the original copy to the International Bureau. It shall keep the other copy in its files.

(b) The International Preliminary Examining Authority shall promptly inform the applicant in writing of the date of receipt of the demand. Where the demand has been considered under Rules 57.4(c) or 60.1(c) as if it had not been submitted, the International Preliminary Examining Authority shall notify the applicant accordingly.

(c) The International Bureau shall promptly notify the International Preliminary Examining Authority and the applicant of the receipt, and the date of receipt, of any later election. That date shall be the actual date of receipt by the International Bureau or, where applicable, the date referred to in Rule 60.2(b). Where the later election has been considered under Rules 57.5(c) or 60.2(c) as if it had not been submitted, the International Bureau shall notify the applicant accordingly.



61.2 *Notifications to the Elected Offices*

(a) The notification provided for in Article 31(7) shall be effected by the International Bureau.

(b) The notification shall indicate the number and filing date of the international application, the name of the applicant, the name of the receiving Office, the filing date of the application whose priority is claimed (where priority is claimed), the date of receipt by the International Preliminary Examining Authority of the demand, and—in the case of later elections—the date of receipt by the International Bureau of the later election.

(c) The notification shall be sent to the elected Office promptly after the expiration of the 18th month from the priority date, or, if the international preliminary examination report is communicated earlier, then, at the same time as the communication of that report. Elections effected after such notification shall be notified promptly after they have been effected.

61.3 *Information for the Applicant*

The International Bureau shall inform the applicant in writing that it has effected the notification referred to in Rule 61.2. At the same time, it shall indicate to him, in respect of each elected State, any applicable time limit under Article 39(1)(b).

## RULE 62

*Copy for the International Preliminary Examining Authority*62.1 *The International Application*

(a) Where the competent International Preliminary Examining Authority is part of the same national Office or intergovernmental organization as the competent International Searching Authority, the same file shall serve the purposes of international search and international preliminary examination.

(b) Where the competent International Searching Authority is not part of the same national Office or intergovernmental organization as the competent International Preliminary Examining Authority, the International Bureau shall, promptly upon receipt of the international search report or, if the demand was received after the international search report, promptly upon receipt of the demand, send a copy of the international application and the international search report to the said Preliminary Examining Authority. In cases where, instead of the international search report, a declaration under Article 17(2)(a) has issued, references in the preceding sentence to the international search report shall be considered references to the said declaration.

62.2 *Amendments*

(a) Any amendment filed under Article 19 shall be promptly transmitted by the International Bureau to the International Preliminary Examining Authority. If, at the time of filing such amendments, a demand for international preliminary examination has already been submitted, the applicant shall, at the same time as he files the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority.

(b) If the time limit for filing amendments under Article 19 (see Rule 46.1) has expired without the applicant's having filed amendments under that Article, or if the applicant has declared that he does not wish to make amendments under that Article, the International Bureau shall notify the International Preliminary Examining Authority accordingly.

## RULE 63

*Minimum Requirements for International Preliminary Examining Authorities*63.1 *Definition of Minimum Requirements*

The minimum requirements referred to in Article 32(3) shall be the following:

- (i) the national Office or intergovernmental organization must have at least 100 full-time employees with sufficient technical qualifications to carry out examinations;
- (ii) that Office or organization must have at its ready disposal at least the minimum documentation referred to in Rule 34, properly arranged for examination purposes;
- (iii) that Office or organization must have a staff which is capable of examining in the required technical fields and which has the language facilities to understand at least those languages in which the minimum documentation referred to in Rule 34 is written or is translated.

## RULE 64

*Prior Art for International Preliminary Examination*64.1 *Prior Art*

(a) For the purposes of Article 33(2) and (3), everything made available to the public anywhere in the world by means of written disclosure (including drawings and other illustrations) shall be considered prior art provided that such making available occurred prior to the relevant date.

(b) For the purposes of paragraph (a), the relevant date will be:

- (i) subject to item (ii), the international filing date of the international application under international preliminary examination;
- (ii) where the international application under international preliminary examination validly claims the priority of an earlier application, the filing date of such earlier application.

64.2 *Non-Written Disclosures*

In cases where the making available to the public occurred by means of an oral disclosure, use, exhibition or other non-written means ("non-written disclosure") before the relevant date as defined in Rule 64.1(b) and the date of such non-written disclosure is indicated in a written disclosure which has been made available to the public after the relevant date, the non-written disclosure shall not be considered part of the prior art for the purposes of Article 33(2) and (3). Nevertheless, the international preliminary examination report shall call attention to such non-written disclosure in the manner provided for in Rule 70.9.

64.3 *Certain Published Documents*

In cases where any application or any patent which would constitute prior art for the purposes of Article 33(2) and (3) had been published prior to the relevant date referred to in Rule 64.1 was published, as such, after the relevant date but was filed earlier than the relevant date or claimed the priority of an earlier application which had been filed prior to the relevant date, such published application or patent shall not be considered part of the prior art for the purposes of Article 33(2) and (3). Nevertheless, the international preliminary examination report shall call attention to such application or patent in the manner provided for in Rule 70.10.

## RULE 65

*Inventive Step or Non-Obviousness*65.1 *Approach to Prior Art*

For the purposes of Article 33(3), the international preliminary examination shall take into consideration the relation of any particular claim to the prior art as a whole. It shall take into consideration the claim's relation not only to individual documents or parts thereof taken separately but also its relation to combinations of such documents or parts of documents, where such combinations are obvious to a person skilled in the art.

65.2 *Relevant Date*

For the purposes of Article 33(3), the relevant date for the consideration of inventive step (non-obviousness) is the date prescribed in Rule 64.1.

## RULE 66

*Procedure Before the International Preliminary Examining Authority*66.1 *Basis of the International Preliminary Examination*

Before the international preliminary examination starts, the applicant may make amendments according to Article 34(2)(b) and the international preliminary examination shall initially be directed to the claims, the description, and the drawings, as contained in the international application at the time the international preliminary examination starts.

66.2 *First Written Opinion of the International Preliminary Examining Authority*

(a) If the International Preliminary Examining Authority

- (i) considers that the international application has any of the defects described in Article 34(4),
- (ii) considers that the international preliminary examination report should be negative in respect of any of the claims because the invention claimed therein does not appear to be novel, does not appear to involve an inventive step (does not appear to be non-obvious), or does not appear to be industrially applicable,
- (iii) notices that there is some defect in the form or contents of the international application under the Treaty or these Regulations,
- (iv) considers that any amendment goes beyond the disclosure in the international application as filed, or
- (v) wishes to accompany the international preliminary examination report by observations on the clarity of the claims, the description, and the drawings, or the question whether the claims are fully supported by the description,

the said Authority shall notify the applicant accordingly in writing.

(b) The notification shall fully state the reasons for the opinion of the International Preliminary Examining Authority.

(c) The notification shall invite the applicant to submit a written reply together, where appropriate, with amendments or corrections.

(d) The notification shall fix a time limit for the reply. The time limit shall be reasonable under the circumstances. It shall normally be 2 months after the date of notification. In no case shall it be shorter than 1 month after the said date. It shall be at least 2 months after the said date where the international search report is transmitted at the same time as the notification. In no case shall it be more than 3 months after the said date.

66.3 *Formal Response to the International Preliminary Examining Authority*

(a) The applicant may respond to the invitation referred to in Rule 66.2(c) of the International Preliminary Examining Authority by making amendments or corrections or—if he disagrees with the opinion of that Authority—by submitting arguments, as the case may be, or do both.

(b) Any response shall be submitted directly to the International Preliminary Examining Authority.

66.4 *Additional Opportunity for Amendment or Correction*

(a) If the International Preliminary Examining Authority wishes to issue one or more additional written opinions, it may do so, and Rules 66.2 and 66.3 shall apply.

(b) On the request of the applicant, the International Preliminary Examining Authority may give him one or more additional opportunities to submit amendments or corrections.

66.5 *Amendment*

Any change, other than the rectification of obvious errors of transcription, in the claims, the description, or the drawings, including cancellation of claims, omission of passages in the description, or omission of certain drawings, shall be considered an amendment.

66.6 *Informal Communications with the Applicant*

The International Preliminary Examining Authority may, at any time, communicate informally, over the telephone, in writing, or through personal interviews, with the applicant. The said Authority shall, at its discretion, decide whether it wishes to grant more than one personal interview if so requested by the applicant, or whether it wishes to reply to any informal written communication from the applicant.

66.7 *Priority Document*

(a) If the International Preliminary Examining Authority needs a copy of the application whose priority is claimed in the international application, the International Bureau shall, on request, promptly furnish such copy, provided that, where the request is made before the International Bureau has received the priority document under Rule 17.1(a), the applicant shall furnish such copy to the International Bureau and directly to the International Preliminary Examining Authority.

(b) If the application whose priority is claimed is in a language other than the language or one of the languages of the International Preliminary Examining Authority, the applicant shall furnish, on invitation, a translation in the said language or one of the said languages.

(c) The copy to be furnished by the applicant under paragraph (a) and the translation referred to in paragraph (b) shall be furnished not later than by the expiration of 2 months from the date of the request or invitation. If they are not furnished within that time limit, the international preliminary examination report shall be established as if the priority had not been claimed.

66.8 *Form of Corrections and Amendments*

(a) The applicant shall be required to submit a replacement sheet for every sheet of the international application which, on account of a correction or amendment, differs from the sheet originally filed. The letter accompanying the replacement sheets shall draw attention to the differences between the replaced sheets and the replacement sheets. To the extent that any amendment results in the cancellation of an entire sheet, that amendment shall be communicated in a letter.

(b) The International Preliminary Examining Authority shall mark on each replacement sheet the international application number, the date on which it was



received, and the stamp identifying the said Authority. It shall keep in its files any replaced sheet, the letter accompanying the replacement sheet or sheets, and any letter referred to in the last sentence of paragraph (a).

#### RULE 67

##### *Subject Matter Under Article 34(4)(a)(i)*

##### 67.1 Definition

No International Preliminary Examining Authority shall be required to carry out an international preliminary examination on an international application if, and to the extent to which, its subject matter is any of the following:

- (i) scientific and mathematical theories,
- (ii) plant or animal varieties or essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes,
- (iii) schemes, rules or methods of doing business, performing purely mental acts or playing games,
- (iv) methods for treatment of the human or animal body by surgery or therapy, as well as diagnostic methods,
- (v) mere presentations of information,
- (vi) computer programs to the extent that the International Preliminary Examining Authority is not equipped to carry out an international preliminary examination concerning such programs.

#### RULE 68

##### *Lack of Unity of Invention (International Preliminary Examination)*

##### 68.1 No Invitation to Restrict or Pay

Where the International Preliminary Examining Authority finds that the requirement of unity of invention is not complied with and chooses not to invite the applicant to restrict the claims or to pay additional fees, it shall establish the international preliminary examination report, subject to Article 34(4)(b), in respect of the entire international application, but shall indicate, in the said report, that, in its opinion, the requirement of unity of invention is not fulfilled and shall specify the reasons for which the international application is not considered as complying with the requirement of unity of invention.

##### 68.2 Invitation to Restrict or Pay

Where the International Preliminary Examining Authority finds that the requirement of unity of invention is not complied with and chooses to invite the applicant, at his option, to restrict the claims or to pay additional fees, it shall specify at least one possibility of restriction which, in the opinion of the International Preliminary Examining Authority, would be in compliance with the applicable requirement, and shall specify the amount of the additional fees and the reasons for which the international application is not considered as complying with the requirement of unity of invention. It shall, at the same time, fix a time limit, with regard to the circumstances of the case, for complying with the invitation; such time limit shall not be shorter than 1 month, and it shall not be longer than 2 months, from the date of the invitation.

##### 68.3 Additional Fees

(a) The amount of the additional fee due for international preliminary examination under Article 34(3)(a) shall be determined by the competent International Preliminary Examining Authority.

(b) The additional fee due for international preliminary examination under Article 34(3)(a) shall be pay-

able direct to the International Preliminary Examining Authority.

(c) Any applicant may pay the additional fee under protest, that is, accompanied by a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive. Such protest shall be examined by a three-member board or other special instance of the International Preliminary Examining Authority, or any competent higher authority, which, to the extent that it finds the protest justified, shall order the total or partial reimbursement to the applicant of the additional fee. On the request of the applicant, the text of both the protest and the decision thereon shall be notified to the elected Offices as an annex to the international preliminary examination report.

(d) The three-member board, special instance or competent higher authority, referred to in paragraph (c), shall not comprise any person who made the decision which is the subject of the protest.

##### 68.4 Procedure in the Case of Insufficient Restriction of the Claims

If the applicant restricts the claims but not sufficiently to comply with the requirement of unity of invention, the International Preliminary Examining Authority shall proceed as provided in Article 34(3)(c).

##### 68.5 Main Invention

In case of doubt which invention is the main invention for the purposes of Article 34(3)(c), the invention first mentioned in the claims shall be considered the main invention.

#### RULE 69

##### *Time Limit for International Preliminary Examination*

##### 69.1 Time Limit for International Preliminary Examination

(a) All agreements concluded with International Preliminary Examining Authorities shall provide for the same time limit for the establishment of the international preliminary examination report. This time limit shall not exceed:

- (i) 6 months after the start of the international preliminary examination,
- (ii) in cases where the International Preliminary Examining Authority issues an invitation to restrict the claims or pay additional fees (Article 34(3)), 8 months after the start of the international preliminary examination.

(b) International preliminary examination shall start upon receipt, by the International Preliminary Examining Authority:

- (i) under Rule 62.2(a), of the claims as amended under Article 19, or
- (ii) under Rule 62.2(b), of a notice from the International Bureau that no amendments under Article 19 have been filed within the prescribed time limit or that the applicant has declared that he does not wish to make such amendments, or
- (iii) of a notice, after the international search report is in the possession of the International Preliminary Examining Authority, from the applicant expressing the wish that the international preliminary examination should start and be directed to the claims as specified in such notice, or
- (iv) of a notice of the declaration by the International Searching Authority that no international search report will be established (Article 17(2)(a)).

(c) If the competent International Preliminary Examining Authority is part of the same national Office or

intergovernmental organization as the competent International Searching Authority, the international preliminary examination may, if the International Preliminary Examining Authority so wishes, start at the same time as the international search. In such a case, the international preliminary examination report shall be established, notwithstanding the provisions of paragraph (a), no later than 6 months after the expiration of the time limit allowed under Article 19 for amending the claims.

#### RULE 70

##### *The International Preliminary Examination Report*

##### 70.1 Definition

For the purposes of this Rule, "report" shall mean international preliminary examination report.

##### 70.2 Basis of the Report

(a) If the claims have been amended, the report shall issue on the claims as amended.

(b) If, pursuant to Rule 66.7(c), the report is established as if the priority had not been claimed, the report shall so indicate.

(c) If the International Preliminary Examining Authority considers that any amendment goes beyond the disclosure in the international application as filed, the report shall be established as if such amendment had not been made, and the report shall so indicate. It shall also indicate the reasons why it considers that the amendment goes beyond the said disclosure.

##### 70.3 Identifications

The report shall identify the International Preliminary Examining Authority which established it by indicating the name of such Authority, and the international application, by indicating the international application number, the name of the applicant, the name of the receiving Office, and the international filing date.

##### 70.4 Dates

The report shall indicate:

- (i) the date on which the demand was submitted, and
- (ii) the date of the report; that date shall be the date on which the report is completed.

##### 70.5 Classification

(a) The report shall repeat the classification given under Rule 43.3 if the International Preliminary Examining Authority agrees with such classification.

(b) Otherwise, the International Preliminary Examining Authority shall indicate in the report the classification, at least according to the International Patent Classification, which it considers correct.

##### 70.6 Statement under Article 35(2)

(a) The statement referred to in Article 35(2) shall consist of the words "YES" or "NO," or their equivalent in the language of the report, or some appropriate sign provided for in the Administrative Instructions, and shall be accompanied by the citations, explanations and observations, if any, referred to in the last sentence of Article 35(2).

(b) If any of the three criteria referred to in Article 35(2) (that is, novelty, inventive step (non-obviousness), industrial applicability) is not satisfied, the statement shall be negative. If, in such a case, any of the criteria, taken separately, is satisfied, the report shall specify the criterion or criteria so satisfied.

##### 70.7 Citations under Article 35(2)

(a) The report shall cite the documents considered to be relevant for supporting the statements made under Article 35(2).

(b) The provisions of Rule 43.5(b) and (c) shall apply also to the report.

##### 70.8 Explanations under Article 35(2)

The Administrative Instructions shall contain guidelines for cases in which the explanations referred to in Article 35(2) should or should not be given and the form of such explanations. Such guidelines shall be based on the following principles:

- (i) explanations shall be given whenever the statement in relation to any claim is negative;
- (ii) explanations shall be given whenever the statement is positive unless the reason for citing any document is easy to imagine on the basis of consultation of the cited document;
- (iii) generally, explanations shall be given if the case provided for in the last sentence of Rule 70.6(b) obtains.

##### 70.9 Non-Written Disclosures

Any non-written disclosure referred to in the report by virtue of Rule 64.2 shall be mentioned by indicating its kind, the date on which the written disclosure referring to the non-written disclosure was made available to the public, and the date on which the non-written disclosure occurred in public.

##### 70.10 Certain Published Documents

Any published application or any patent referred to in the report by virtue of Rule 64.3 shall be mentioned as such and shall be accompanied by an indication of its date of publication, of its filing date, and its claimed priority date (if any). In respect of the priority date of any such document, the report may indicate that, in the opinion of the International Preliminary Examining Authority, such date has not been validly claimed.

##### 70.11 Mention of Amendments or Correction of Certain Defects

If, before the International Preliminary Examining Authority, amendments or corrections have been made, this fact shall be indicated in the report.

##### 70.12 Mention of Certain Defects

If the International Preliminary Examining Authority considers that, at the time it prepares the report:

- (i) the international application contains any of the defects referred to in Rule 66.2(a)(iii), it shall include this opinion and the reasons therefor in the report;
- (ii) the international application calls for any of the observations referred to in Rule 66.2(a)(v), it may include this opinion in the report and, if it does, it shall also indicate in the report the reasons for such opinion.

##### 70.13 Remarks Concerning Unity of Invention

If the applicant paid additional fees for the international preliminary examination, or if the international application or the international preliminary examination was restricted under Article 34(3), the report shall so indicate. Furthermore, where the international preliminary examination was carried out on restricted claims (Article 34(3)(a)), or on the main invention only (Article 34(3)(c)), the report shall indicate what parts of the international application were and what parts were not the subject of international preliminary examination.

##### 70.14 Signature

The report shall be signed by an authorized officer of the International Preliminary Examining Authority.

##### 70.15 Form

The physical requirements as to the form of the report shall be prescribed by the Administrative Instructions.



**70.16 Attachment of Corrections and Amendments**

If the claims, the description, or the drawings, were amended or any part of the international application was corrected before the International Preliminary Examining Authority, each replacement sheet marked as provided in Rule 66.8(b) shall be attached to the report as an annex thereto. Replacement sheets superseded by later replacement sheets shall not be attached. If the amendment is communicated in a letter, a copy of such letter shall also be annexed to the report.

**70.17 Languages of the Report and the Annexes**

(a) The report shall be in the language in which the international application to which it relates is published.

(b) Any annex shall be both in the language in which the international application to which it relates was filed and also, if it is different, in the language in which the international application to which it relates is published.

**RULE 71****Transmittal of the International Preliminary Examination Report****71.1 Recipients**

The International Preliminary Examining Authority shall, on the same day, transmit one copy of the international preliminary examination report and its annexes, if any, to the International Bureau, and one copy to the applicant.

**71.2 Copies of Cited Documents**

(a) The request under Article 36(4) may be presented any time during 7 years from the international filing date of the international application to which the report relates.

(b) The International Preliminary Examining Authority may require that the party (applicant or elected Office) presenting the request pay to it the cost of preparing and mailing the copies. The level of the cost of preparing copies shall be provided for in the agreements referred to in Article 32(2) between the International Preliminary Examining Authorities and the International Bureau.

(c) Any International Preliminary Examining Authority not wishing to send copies direct to any elected Office shall send a copy to the International Bureau and the International Bureau shall then proceed as provided in paragraphs (a) and (b).

(d) Any International Preliminary Examining Authority may perform the obligations referred to in (a) to (c) through another agency responsible to it.

**RULE 72****Translation of the International Preliminary Examination Report****72.1 Languages**

(a) Any elected State may require that the international preliminary examination report, established in any language other than the official language, or one of the official languages, of its national Office, be translated into English, French, German, Japanese, Russian, or Spanish.

(b) Any such requirement shall be notified to the International Bureau, which shall promptly publish it in the Gazette.

**72.2 Copies of Translations for the Applicant**

The International Bureau shall transmit a copy of each translation of the international preliminary examination

report to the applicant at the same time as it communicates such translation to the interested elected Office or Offices.

**72.3 Observations on the Translation**

The applicant may make written observations on what, in his opinion, are errors of translation in the translation of the international preliminary examination report and shall send a copy of any such observations to each of the interested elected Offices and a copy to the International Bureau.

**RULE 73****Communication of the International Preliminary Examination Report****73.1 Preparation of Copies**

The International Bureau shall prepare the copies of the documents to be communicated under Article 36(3)(a).

**73.2 Time Limit for Communication**

The communication provided for in Article 36(3)(a) shall be effected as promptly as possible.

**RULE 74****Translations of Annexes of the International Preliminary Examination Report and Transmittal Thereof****74.1 Time Limit**

Any replacement sheet referred to in Rule 70.16, or any amendment referred to in the last sentence of that Rule which was filed prior to the furnishing of the translation of the international application required under Article 39, or, where the furnishing of such translation is governed by Article 64(2)(a)(i), which was filed prior to the furnishing of the translation of the international application required under Article 22, shall be translated and transmitted together with the furnishing under Article 39 or, where applicable, under Article 22, or, if filed less than 1 month before such furnishing or if filed after such furnishing, 1 month after it has been filed.

**RULE 75****Withdrawal of the Demand, or of Elections****75.1 Withdrawals**

(a) Withdrawal of the demand or all the elections may be effected prior to the expiration of 25 months from the priority date except as to any elected State in which national processing or examination has already started. Withdrawal of the election of any elected State may be effected prior to the date on which examination and processing may start in that State.

(b) Withdrawal shall be effected by a signed notice from the applicant to the International Bureau. In the case of Rule 4.8(b), the notice shall require the signature of all the applicants.

**75.2 Notification of Elected Offices**

(a) The fact that the demand or all elections have been withdrawn shall be promptly notified by the International Bureau to the national Offices of all States which, up to the time of the withdrawal, were elected States and had been informed of their election.

(b) The fact that any election has been withdrawn and the date of receipt of the withdrawal shall be promptly notified by the International Bureau to the elected Office

concerned, except where it has not yet been informed that it had been elected.

**75.3 Notification of the International Preliminary Examining Authority**

The fact that the demand or all elections have been withdrawn shall be promptly notified by the International Bureau to the International Preliminary Examining Authority if, at the time of the withdrawal, the latter had been informed of the existence of the demand.

**75.4 Faculty Under Article 37(4)(b)**

(a) Any Contracting State wishing to take advantage of the faculty provided for in Article 37(4)(b) shall notify the International Bureau in writing.

(b) The notification under paragraph (a) shall be promptly published by the International Bureau in the Gazette, and shall have effect in respect of international applications filed more than 1 month after the publication date of the relevant issue of the Gazette.

**RULE 76****Languages of Translations and Amounts of Fees Under Article 39(1); Translation of Priority Document****76.1 Notification**

(a) Any Contracting State requiring the furnishing of a translation or the payment of a national fee, or both, under Article 39(1), shall notify the International Bureau of:

- (i) the languages from which and the language into which it requires translation,
- (ii) the amount of the national fee.

(b) Any notification received by the International Bureau under paragraph (a) shall be published by the International Bureau in the Gazette.

(c) If the requirements under paragraph (a) change later, such changes shall be notified by the Contracting State to the International Bureau and that Bureau shall promptly publish the notification in the Gazette. If the change means that translation is required into a language which, before the change, was not required, such change shall be effective only with respect to a demand submitted later than 2 months after the publication of the notification in the Gazette. Otherwise, the effective date of any change shall be determined by the Contracting State.

**76.2 Languages**

The language into which translation may be required must be an official language of the elected Office. If there are several of such languages, no translation may be required if the international application is in one of them. If there are several official languages and a translation must be furnished, the applicant may choose any of those languages. Notwithstanding the foregoing provisions of this paragraph, if there are several official languages but the national law prescribes the use of one such language for foreigners, a translation into that language may be required.

**76.3 Statements under Article 19**

For the purposes of Article 39 and the present Rule, any statement made under Article 19(1) shall be considered as part of the international application.

**76.4 Time Limit for Translation of Priority Document**

The applicant shall not be required to furnish to any elected Office a certified translation of the priority document before the expiration of the applicable time limit under Article 39.

**RULE 77****Faculty under Article 39(1)(b)****77.1 Exercise of Faculty**

(a) Any Contracting State allowing a time limit expiring later than the time limit provided for in Article (39)(1)(a) shall notify the International Bureau of the time limit so fixed.

(b) Any notification received by the International Bureau under paragraph (a) shall be promptly published by the International Bureau in the Gazette.

(c) Notifications concerning the shortening of the previously fixed time limit shall be effective in relation to demands submitted after the expiration of 3 months computed from the date on which the notification was published by the International Bureau.

(d) Notifications concerning the lengthening of the previously fixed time limit shall become effective upon publication by the International Bureau in the Gazette in respect of demands pending at the time or submitted after the date of such publication, or, if the Contracting State effecting the notification fixes some later date, as from the latter date.

**RULE 78****Amendment of the Claims, the Description, and the Drawings, Before Elected Offices****78.1 Time Limit Where Election Is Effected Prior to Expiration of 19 Months from Priority Date**

(a) Where the election of any Contracting State is effected prior to the expiration of the 19th month from the priority date, the applicant shall, if he so wishes, exercise the right under Article 41 after the transmittal of the international preliminary examination report under Article 36(1) has been effected and before the time limit applicable under Article 39 expires, provided that, if the said transmittal has not taken place by the expiration of the time limit applicable under Article 39, he shall exercise the said right not later than on such expiration date. In either case, the applicant may exercise the said right at any other time if so permitted by the national law of the said State.

(b) In any elected State in which the national law provides that examination starts only on special request, the national law may provide that the time limit within or the time at which the applicant may exercise the right under Article 41 shall, where the election of any Contracting State is effected prior to the expiration of the 19th month from the priority date, be the same as that provided by the national law for the filing of amendments in the case of the examination, on special request, of national applications, provided that such time limit shall not expire prior to, or such time shall not come before, the expiration of the time limit applicable under Article 39.

**78.2 Time Limit Where Election Is Effected After Expiration of 19 Months from Priority Date**

Where the election of any Contracting State has been effected after the expiration of the 19th month from the priority date and the applicant wishes to make amendments under Article 41, the time limit for making amendments under Article 28 shall apply.

**78.3 Utility Models**

The provisions of Rules 6.5 and 13.5 shall apply, *mutatis mutandis*, before elected Offices. If the election was made before the expiration of the 19th month from the priority date, the reference to the time limit applicable under Article 22 is replaced by a reference to the time limit applicable under Article 39.



PART D.—RULES CONCERNING CHAPTER III  
OF THE TREATY

## RULE 79

## Calendar

## 79.1 Expressing Dates

Applicants, national Offices, receiving Offices, International Searching and Preliminary Examining Authorities, and the International Bureau, shall, for the purposes of the Treaty and the Regulations, express any date in terms of the Christian era and the Gregorian calendar, or, if they use other eras and calendars, they shall also express any date in terms of the Christian era and the Gregorian calendar.

## RULE 80

## Computation of Time Limits

## 80.1 Periods Expressed in Years

When a period is expressed as one year or a certain number of years, computation shall start on the day following the day on which the relevant event occurred, and the period shall expire in the relevant subsequent year in the month having the same name and on the day having the same number as the month and the day on which the said event occurred provided that if the relevant subsequent month has no day with the same number the period shall expire on the last day of that month.

## 80.2 Periods Expressed in Months

When a period is expressed as one month or a certain number of months, computation shall start on the day following the day on which the relevant event occurred, and the period shall expire in the relevant subsequent month on the day which has the same number as the day on which the said event occurred, provided that if the relevant subsequent month has no day with the same number the period shall expire on the last day of that month.

## 80.3 Periods Expressed in Days

When a period is expressed as a certain number of days, computation shall start on the day following the day on which the relevant event occurred, and the period shall expire on the day on which the last day of the count has been reached.

## 80.4 Local Dates

(a) The date which is taken into consideration as the starting date of the computation of any period shall be the date which prevails in the locality at the time when the relevant event occurred.

(b) The date on which any period expires shall be the date which prevails in the locality in which the required document must be filed or the required fee must be paid.

## 80.5 Expiration on a Non-Working Day

If the expiration of any period during which any document or fee must reach a national Office or intergovernmental organization falls on a day on which such Office or organization is not open to the public for the purposes of the transaction of official business, or on which ordinary mail is not delivered in the locality in which such Office or organization is situated, the period shall expire on the next subsequent day on which neither of the said two circumstances exists.

## 80.6 Date of Documents

Where a period starts on the day of the date of a document or letter emanating from a national Office or intergovernmental organization, any interested party may prove that the said document or letter was mailed on a day later than the date it bears, in which case the

date of actual mailing shall, for the purposes of computing the period, be considered to be the date on which the period starts.

## 80.7 End of Working Day

(a) A period expiring on a given day shall expire at the moment the national Office or intergovernmental organization with which the document must be filed or to which the fee must be paid closes for business on that day.

(b) Any Office or organization may depart from the provisions of paragraph (a) up to midnight on the relevant day.

(c) The International Bureau shall be open for business until 6 p.m.

## RULE 81

## Modification of Time Limits Fixed in the Treaty

## 81.1 Proposal

(a) Any Contracting State or the Director General may propose a modification under Article 47(2).

(b) Proposals made by a Contracting State shall be presented to the Director General.

## 81.2 Decision by the Assembly

(a) When the proposal is made to the Assembly, its text shall be sent by the Director General to all Contracting States at least 2 months in advance of that session of the Assembly whose agenda includes the proposal.

(b) During the discussion of the proposal in the Assembly, the proposal may be amended or consequential amendments proposed.

(c) The proposal shall be considered adopted if none of the Contracting States present at the time of voting votes against the proposal.

## 81.3 Voting by Correspondence

(a) When voting by correspondence is chosen, the proposal shall be included in a written communication from the Director General to the Contracting States, inviting them to express their vote in writing.

(b) The invitation shall fix the time limit within which the reply containing the vote expressed in writing must reach the International Bureau. That time limit shall not be less than 3 months from the date of the invitation.

(c) Replies must be either positive or negative. Proposals for amendments or mere observations shall not be regarded as votes.

(d) The proposal shall be considered adopted if none of the Contracting States opposes the amendment and if at least one-half of the Contracting States express either approval or indifference or abstention.

## RULE 82

## Irregularities in the Mail Service

## 82.1 Delay or Loss in Mail

(a) Subject to the provisions of Rule 22.3, any interested party may offer evidence that he has mailed the document or letter 5 days prior to the expiration of the time limit. Except in cases where surface mail normally arrives at its destination within 2 days of mailing, or where no airmail service is available, such evidence may be offered only if the mailing was by airmail. In any case, evidence may be offered only if the mailing was by mail registered by the postal authorities.

(b) If such mailing is proven to the satisfaction of the national Office or intergovernmental organization which is the addressee, delay in arrival shall be excused, or, if the document or letter is lost in the mail, substitution for it of a new copy shall be permitted, provided

that the interested party proves to the satisfaction of the said Office or organization that the document or letter offered in substitution is identical with the document or letter lost.

(c) In the cases provided for in paragraph (b), evidence of mailing within the prescribed time limit, and, where the document or letter was lost, the substitute document or letter as well, shall be submitted within 1 month after the date on which the interested party noticed—or with due diligence should have noticed—the delay or the loss, and in no case later than 6 months after the expiration of the time limit applicable in the given case.

## 82.2 Interruption in the Mail Service

(a) Subject to the provisions of Rule 22.3, any interested party may offer evidence that on any of the 10 days preceding the day of expiration of the time limit the postal service was interrupted on account of war, revolution, civil disorder, strike, natural calamity, or other like reason, in the locality where the interested party resides or has his place of business or is staying.

(b) If such circumstances are proven to the satisfaction of the national Office or intergovernmental organization which is the addressee, delay in arrival shall be excused, provided that the interested party proves to the satisfaction of the said Office or organization that he effected the mailing within 5 days after the mail service was resumed. The provisions of Rule 82.1(c) shall apply *mutatis mutandis*.

## RULE 83

## Right To Practice Before International Authorities

## 83.1 Proof of Right

The International Bureau, the competent International Searching Authority, and the competent International Preliminary Examining Authority, may require the production of proof of the right to practice referred to in Article 49.

## 83.2 Information

(a) The national Office or the intergovernmental organization which the interested person is alleged to have a right to practice before shall, upon request, inform the International Bureau, the competent International Searching Authority, or the competent International Preliminary Examining Authority, whether such person has the right to practice before it.

(b) Such information shall be binding upon the International Bureau, the International Searching Authority, or the International Preliminary Examining Authority, as the case may be.

PART E.—RULES CONCERNING CHAPTER V  
OF THE TREATY

## RULE 84

## Expenses of Delegations

## 84.1 Expenses Borne by Governments

The expenses of each Delegation participating in any organ established by or under the Treaty shall be borne by the Government which has appointed it.

## RULE 85

## Absence of Quorum in the Assembly

## 85.1 Voting by Correspondence

In the case provided for in Article 53(5)(b), the International Bureau shall communicate the decisions of

the Assembly (other than those concerning the Assembly's own procedure) to the Contracting States which were not represented and shall invite them to express in writing their vote or abstention within a period of 3 months from the date of the communication. If, at the expiration of that period, the number of Contracting States having thus expressed their vote or abstention attains the number of Contracting States which was lacking for attaining the quorum in the session itself, such decisions shall take effect provided that at the same time the required majority still obtains.

## RULE 86

## The Gazette

## 86.1 Contents

The Gazette referred to in Article 55(4) shall contain:

- (i) for each published international application, data specified by the Administrative Instructions taken from the front page of the pamphlet published under Rule 48, the drawing (if any) appearing on the said front page, and the abstract,
- (ii) the schedule of all fees payable to the receiving Offices, the International Bureau, and the International Searching and Preliminary Examining Authorities,
- (iii) notices the publication of which is required under the Treaty or these Regulations,
- (iv) information, if and to the extent furnished to the International Bureau by the designated or elected Offices, on the question whether the requirements provided for in Articles 22 or 39 have been complied with in respect of the international applications designating or electing the Office concerned,
- (v) any other useful information prescribed by the Administrative Instructions, provided access to such information is not prohibited under the Treaty or these Regulations.

## 86.2 Languages

(a) The Gazette shall be published in an English-language edition and a French-language edition. It shall also be published in editions in any other language, provided the cost of publication is assured through sales or subventions.

(b) The Assembly may order the publication of the Gazette in languages other than those referred to in paragraph (a).

## 86.3 Frequency

The Gazette shall be published once a week.

## 86.4 Sale

The subscription and other sale prices of the Gazette shall be fixed in the Administrative Instructions.

## 86.5 Title

The title of the Gazette shall be "Gazette of International Patent Applications," and "Gazette des Demandes internationales de brevets," respectively.

## 86.6 Further Details

Further details concerning the Gazette may be provided for in the Administrative Instructions.

## RULE 87

## Copies of Publications

## 87.1 International Searching and Preliminary Examining Authorities

Any International Searching or Preliminary Examining Authority shall have the right to receive, free of charge, two copies of every published international application, of the Gazette, and of any other publication of general



interest published by the International Bureau in connection with the Treaty or these Regulations.

#### 87.2 National Offices

(a) Any national Office shall have the right to receive, free of charge, one copy of every published international application, of the Gazette, and of any other publication of general interest published by the International Bureau in connection with the Treaty or these Regulations.

(b) The publications referred to in paragraph (a) shall be sent on special request, which shall be made, in respect of each year, by November 30 of the preceding year. If any publication is available in more than one language, the request shall specify the language in which it is desired.

#### RULE 88

##### Amendment of the Regulations

#### 88.1 Requirement of Unanimity

Amendment of the following provisions of these Regulations shall require that no State having the right to vote in the Assembly vote against the proposed amendment:

- (i) Rule 14.1 (Transmittal Fee),
- (ii) Rule 22.2 (Transmittal of the Record Copy; Alternative Procedure),
- (iii) Rule 22.3 (Time Limit Under Article 12(3)),
- (iv) Rule 33 (Relevant Prior Art for International Search),
- (v) Rule 64 (Prior Art for International Preliminary Examination),
- (vi) Rule 81 (Modification of Time Limits Fixed in the Treaty),
- (vii) the present paragraph (i.e., Rule 88.1).

#### 88.2 Requirement of Unanimity During a Transitional Period

During the first 5 years after the entry into force of the Treaty, amendment of the following provisions of these Regulations shall require that no State having the right to vote in the Assembly vote against the proposed amendment:

- (i) Rule 5 (The Description),
- (ii) Rule 6 (The Claims),
- (iii) the present paragraph (i.e., Rule 88.2).

#### 88.3 Requirement of Absence of Opposition by Certain States

Amendment of the following provisions of these Regulations shall require that no State referred to in Article 58(3)(a)(ii) and having the right to vote in the Assembly vote against the proposed amendment:

- (i) Rule 34 (Minimum Documentation),
- (ii) Rule 39 (Subject Matter Under Article 17(2)(a)(i)),
- (iii) Rule 67 (Subject Matter Under Article 34(4)(a)(i)),
- (iv) the present paragraph (i.e., Rule 88.3).

#### 88.4 Procedure

Any proposal for amending a provision referred to in Rules 88.1, 88.2 or 88.3, shall, if the proposal is to be decided upon in the Assembly, be communicated to all Contracting States at least 2 months prior to the opening of that session of the Assembly which is called upon to make a decision on the proposal.

#### RULE 89

##### Administrative Instructions

#### 89.1 Scope

(a) The Administrative Instructions shall contain provisions:

- (i) concerning matters in respect of which these Regulations expressly refer to such Instructions,
- (ii) concerning any details in respect of the application of these Regulations.

(b) The Administrative Instructions shall not be in conflict with the provisions of the Treaty, these Regulations, or any agreement concluded by the International Bureau with an International Searching Authority, or an International Preliminary Examining Authority.

#### 89.2 Source

(a) The Administrative Instructions shall be drawn up and promulgated by the Director General after consultation with the receiving Offices and the International Searching and Preliminary Examining Authorities.

(b) They may be modified by the Director General after consultation with the Offices or Authorities which have a direct interest in the proposed modification.

(c) The Assembly may invite the Director General to modify the Administrative Instructions, and the Director General shall proceed accordingly.

#### 89.3 Publication and Entry Into Force

(a) The Administrative Instructions and any modification thereof shall be published in the Gazette.

(b) Each publication shall specify the date on which the published provisions come into effect. The dates may be different for different provisions, provided that no provision may be declared effective prior to its publication in the Gazette.

### PART F.—RULES CONCERNING SEVERAL CHAPTERS OF THE TREATY

#### RULE 90

##### Representation

#### 90.1 Definitions

For the purposes of Rule 90.2 and Rule 90.3:

- (i) "agent" means any of the persons referred to in Article 49;
- (ii) "common representative" means the applicant referred to in Rule 4.8.

#### 90.2 Effects

(a) Any act by or in relation to an agent shall have the effect of an act by or in relation to the applicant or applicants having appointed the agent.

(b) Any act by or in relation to a common representative or his agent shall have the effect of an act by or in relation to all the applicants.

(c) If there are several agents appointed by the same applicant or applicants, any act by or in relation to any of the several agents shall have the effect of an act by or in relation to the said applicant or applicants.

(d) The effects described in paragraphs (a), (b), and (c), shall apply to the processing of the international application before the receiving Office, the International Bureau, the International Searching Authority, and the International Preliminary Examining Authority.

#### 90.3 Appointment

(a) Appointment of any agent or of any common representative within the meaning of Rule 4.8(a), if the said agent or common representative is not designated in the request signed by all applicants, shall be effected in a separate signed power of attorney (i.e., a document appointing an agent or a common representative).

(b) The power of attorney may be submitted to the receiving Office or the International Bureau. Whichever of the two is the recipient of the power of attorney submitted shall immediately notify the other and the in-

terested International Searching Authority and the interested International Preliminary Examining Authority.

(c) If the separate power of attorney is not signed as provided in paragraph (a), or if the required separate power of attorney is missing, or if the indication of the name or address of the appointed person does not comply with Rule 4.4, the power of attorney shall be considered non-existent unless the defect is corrected.

#### 90.4 Revocation

(a) Any appointment may be revoked by the persons who have made the appointment or their successors in title.

(b) Rule 90.3 shall apply, *mutatis mutandis*, to the document containing the revocation.

#### RULE 91

##### Obvious Errors of Transcription

#### 91.1 Rectification

(a) Subject to paragraphs (b) to (g), obvious errors of transcription in the international application or other papers submitted by the applicant may be rectified.

(b) Errors which are due to the fact that something other than what was obviously intended was written in the international application or other paper shall be regarded as obvious errors of transcription. The rectification itself shall be obvious in the sense that anyone would immediately realize that nothing else could have been intended than what is offered as rectification.

(c) Omissions of entire elements or sheets of the international application, even if clearly resulting from inattention, at the stage, for example, of copying or assembling sheets, shall not be rectifiable.

(d) Rectification may be made on the request of the applicant. The authority having discovered what appears to be an obvious error of transcription may invite the applicant to present a request for rectification as provided in paragraphs (e) to (g).

(e) No rectification shall be made except with the express authorization:

- (i) of the receiving Office if the error is in the request,
- (ii) of the International Searching Authority if the error is in any part of the international application other than the request or in any paper submitted to that Authority,
- (iii) of the International Preliminary Examining Authority if the error is in any part of the international application other than the request or in any paper submitted to that Authority, and
- (iv) of the International Bureau if the error is in any paper, other than the international application or amendments or corrections to that application, submitted to the International Bureau.

(f) The date of the authorization shall be recorded in the files of the international application.

(g) The authorization for rectification referred to in paragraph (e) may be given until the following events occur:

- (i) in the case of authorization given by the receiving Office and the International Bureau, the communication of the international application under Article 20;
- (ii) in the case of authorization given by the International Searching Authority, the establishment of the international search report or the making of a declaration under Article 17(2)(a);
- (iii) in the case of authorization given by the International Preliminary Examining Authority, the establishment of the international preliminary examination report.

(h) Any authority, other than the International Bureau, which authorizes any rectification shall promptly inform the International Bureau of such rectification.

#### RULE 92

##### Correspondence

#### 92.1 Need for Letter and for Signature

(a) Any paper submitted by the applicant in the course of the international procedure provided for in the Treaty and these Regulations, other than the international application itself, shall, if not itself in the form of a letter, be accompanied by a letter identifying the international application to which it relates. The letter shall be signed by the applicant.

(b) If the requirements provided for in paragraph (a) are not complied with, the paper shall be considered not to have been submitted.

#### 92.2 Languages

(a) Subject to the provisions of paragraph (b) and (c), any letter or document submitted by the applicant to the International Searching Authority or the International Preliminary Examining Authority shall be in the same language as the international application to which it relates.

(b) Any letter from the applicant to the International Searching Authority or the International Preliminary Examining Authority may be in a language other than that of the international application, provided the said Authority authorizes the use of such language.

(c) When a translation is required under Rule 55.2, the International Preliminary Examining Authority may require that any letter from the applicant to the said Authority be in the language of that translation.

(d) Any letter from the applicant to the International Bureau shall be in English or French.

(e) Any letter or notification from the International Bureau to the applicant or to any national Office shall be in English or French.

#### 92.3 Mailings by National Offices and Intergovernmental Organizations

Any document or letter emanating from or transmitted by a national Office or an intergovernmental organization and constituting an event from the date of which any time limit under the Treaty or these Regulations commences to run shall be sent by registered air mail, provided that surface mail may be used instead of air mail in cases where surface mail normally arrives at its destination within 2 days from mailing or where air mail service is not available.

#### RULE 93

##### Keeping of Records and Files

#### 93.1 The Receiving Office

Each receiving Office shall keep the records relating to each international application or purported international application, including the home copy, for at least 10 years from the international filing date or, where no international filing date is accorded, from the date of receipt.

#### 93.2 The International Bureau

(a) The International Bureau shall keep the file, including the record copy, of any international application for at least 30 years from the date of receipt of the record copy.

(b) The basic records of the International Bureau shall be kept indefinitely.



### 93.3 The International Searching and Preliminary Examining Authorities

Each International Searching Authority and each International Preliminary Examining Authority shall keep the file of each international application it receives for at least 10 years from the international filing date.

### 93.4 Reproductions

For the purposes of this Rule, records, copies and files shall also mean photographic reproductions of records, copies, and files, whatever may be the form of such reproductions (microfilms or other).

### RULE 94

#### Furnishing of Copies by the International Bureau and the International Preliminary Examining Authority

##### 94.1 Obligation to Furnish

At the request of the applicant or any person author-

ized by the applicant, the International Bureau and the International Preliminary Examining Authority shall furnish, subject to reimbursement of the cost of the service, copies of any document contained in the file of the applicant's international application or purported international application.

### RULE 95

#### Availability of Translations

##### 95.1 Furnishing of Copies of Translations

(a) At the request of the International Bureau, any designated or elected Office shall provide it with a copy of the translation of the international application furnished by the applicant to that Office.

(b) The International Bureau may, upon request and subject to reimbursement of the cost, furnish to any person copies of the translations received under paragraph (a).

## DECISIONS IN PATENT AND TRADEMARK CASES

### U.S. Court of Customs and Patent Appeals

JOHN R. DERE v. INSTITUTE FOR SCIENTIFIC INFORMATION, INC.

No. 8233. Decided January 29, 1970.

[57 CCPA —; 420 F.2d 1068; 164 USPQ 347]

#### 1. TRADEMARK—CONFUSING SIMILARITY—"ISI" AND "I.A.I." FOR PUBLICATIONS.

"John R. Dere, applicant below, appeals from the decision of the Trademark Trial and Appeal Board \* \* \* holding that contemporaneous use of appellant's mark, I.A.I., and opposer-appellee's mark ISI, for the specified goods [both marks being for publications] would be likely to cause confusion. We find no reversible error in the Board's opinion and we affirm its decision."

#### 2. SAME—SAME—SERIES OF ARBITRARILY ARRANGED LETTERS.

"We conclude that it is more difficult to remember a series of arbitrarily arranged letters than it is to remember figures, syllables, or phrases, and that the difficulty of remembering such multiple-letter marks makes the likelihood of confusion between such marks, when similar, more probable. \* \* \* Where letters of a mark are arranged so as to suggest a well-known company name or word, such as 'EZ' and 'CZ' in *Gulf States Paper Corp. v. Crown Zellerbach Corp.* \* \* \* the situation is different. Any doubt as to actual confusion or as to likelihood of confusion must be resolved in favor of the prior user."

APPEAL from Patent Office. Opposition No. 45,685.

AFFIRMED.

John R. Dere, pro se.

Seidel & Gonda, Edward C. Gonda for appellee.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and RAO, Chief Judge, sitting by designation

LANE, J., delivered the opinion of the court.

[1] John R. Dere, applicant below, appeals from the decision of the Trademark Trial and Appeal Board, the result of which is published at 153 USPQ 886, holding that contemporaneous use of appellant's mark, I.A.I., and opposer-appellee's mark, ISI, for the specified goods would be likely to cause confusion. We find no reversible error in the Board's opinion and we affirm its decision.

This opposition involves appellant's application Serial No. 221,478, filed June 18, 1965, to register on the Principal Register, I.A.I. as a trademark for "indexes to books and literature." The applicant claims first use of this mark on May 25, 1965.

The opposer, Institute for Scientific Information, Inc., bases its opposition to registration on its own trademark Registration No. 734,569, dated July 17, 1962, of ISI for a "magazine devoted to abstracts of chemical literature," claiming use since March 1, 1960.

The general business manager of the opposer testified that the opposer used the letters ISI, to indicate the origin of its publications and services, on book editions of Current Contents (Physical Sciences edition and Life Sciences edition), on Index Chemicus, the Science Citation Index, and on advertising and information literature with respect to publications and services which are available to the public. Opposer's Current Contents is a weekly publication listing the articles in some fifteen hundred scientific publications. Opposer's evidence indicates that ISI publications and services are distributed to some thirteen thousand subscribers and used by about eighty thousand dif-



ferent scientists and engineers in the United States and abroad. The evidence indicates that during 1965, ISI received approximately eighteen thousand requests for articles. In the period 1962-1965, inclusive, the opposer spent a total of over one-half million dollars on advertising ISI.

The applicant took no testimony and presented no evidence in the opposition proceeding, but contended that his mark I.A.I. is different from opposer's mark ISI and that his integrated alphabetical index and opposer's publications are not goods of the same descriptive properties.

The Trademark Trial and Appeal Board held that opposer's priority of use is not disputed, that the identification of goods in applicant's application for registration is broad enough to comprehend indexes identical in kind to those compiled by opposer and that the marks of both parties are comprised of an arbitrary arrangement of three letters, the first and third of which are identical. The Board concluded that the feature of identity between the respective marks is such that their contemporaneous use for the specified goods would be likely to cause confusion.

Appellant's brief states that his mark I.A.I. was selected because of a Pacific Aerospace Library (1941) which became known as the Institute of Aeronautical Sciences, IAS, and a Pacific Aeronautical Library (1955) which became the American Institute of Aeronautics and Astronautics, AIAA. These allegations, even if supported by evidence, would not warrant the registration of appellant's mark I.A.I. which he asserts he first used on May 25, 1965.

[2] We conclude that it is more difficult to remember a series of arbitrarily arranged letters than it is to remember figures, syllables, or phrases, and that the difficulty of remembering such multiple-letter marks makes the likelihood of confusion between such marks, when similar, more probable. *Crystal Corp. v. The Manhattan Chemical Mfg. Co.*, 22 CCPA 1027, 75 F.2d 506, 25 USPQ 5 (1935). Where letters of a mark are arranged so as to suggest a well-known company name or word, such as "EZ" and "CZ" in *Gulf States Paper Corp. v. Crown Zellerbach Corp.*, 57 CCPA —, — F.2d —, 163 USPQ 589, decided November 13, 1969, the situation is different. Any doubt as to actual confusion or as to likelihood of confusion must be resolved in favor of the prior user.

We, accordingly, affirm the decision of the Board.  
**AFFIRMED.**

## PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,544,246, G. H. Butterfield, CORNEAL CONTACT LENS, Pa. (Philadelphia), Doc. 70-668, George H. Butterfield, Sr. filed Feb. 13, 1970, D.C., N.D. Ill. (Chicago), Doc. 18100-4, v. Berks Optical Company. Same, filed Mar. 9, 1970, D.C., E.D. Mo. (St. Louis), Doc. 70C105(3), George H. Butterfield, Sr. v. B & B Enterprises, Inc. Central Laboratories. Same, filed Feb. 13, 1970, D.C., E.D. Va. (Norfolk), Doc. C/A-89-70-N, George H. Butterfield, Sr. v. Contact Lenses, Incorporated. Same, filed Feb. 13, 1970, D.C., E.D. Va. (Norfolk), Doc. C/A-90-70-N, George H. Butterfield, Sr. v. Lombert Lenses Limited. Same, filed Feb. 17, 1970, D.C., W.D. Mich. (Grand Rapids), Doc. 6274, George H. Butterfield, Sr. v. Art Optical Contact Lens Division, Inc. Same, filed Mar. 5, 1970, D.C., N.D. Ohio (Cleveland), Doc. C70-219, George H. Butterfield, Sr. v. Safeway Contact Lens Company, Inc. Same, filed Mar. 5, 1970, D.C., N.D. Tex. (Arlene), Doc. CA-1-454, George H. Butterfield, Sr. v. Neeffe Optical Lab., Inc. Same, filed Mar. 6, 1970, D.C., E.D. Pa. (Philadelphia), Doc. 70-668, George H. Butterfield, Sr. v. Berks Optical Company. Same, filed Mar. 9, 1970, D.C., E.D. Mo. (St. Louis), Doc. 70C105(3), George H. Butterfield, Sr. v. Alvin Contact Lens Corporation. Same, filed Mar. 11, 1970, D.C., S.D. Tex. (Houston), Doc. 70-H-224, George H. Butterfield, Sr. v. Contact Lens Laboratory, Inc. Same, filed Mar. 19, 1970, D.C., M.D. Tenn. (Nashville), Doc. 5680, George H. Butterfield, Sr. v. John S. Mham Optical Co., Inc. Same, filed Mar. 20, 1970, D.C., Dist. of Col. (Washington), Doc. 833-60, George H. Butterfield, Sr. v. Capitol Contact Lenses, Inc. Same, filed Mar. 23, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70-C-156, George H. Butterfield, Sr. v. Rockford Optical Service Corp. Same, filed Apr. 1, 1970, D.C., N.D. Ohio (Cleveland), Doc. C-70-323, George H. Butterfield, Sr. v. Rooney Optical Co., Inc. Same, filed Apr. 2, 1970, D.C., N.D. Tex.

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2,579,304, J. B. Crawford, SELF-ADJUSTING RECIRCULATING OVERFLOW, filed Apr. 15, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70-736-EC, Wilbur Kinkhead, et al. v. HPE-Muskin, a subsidiary of American Cement Corporation.

2,602,751, D. M. Robinson, METHOD FOR STERILIZING SUBSTANCES OR MATERIALS SUCH AS FOOD AND DRUGS; 2,729,748, same, APPARATUS FOR STERILIZING FOODS, DRUGS AND OTHER SUBSTANCES BY SCANNING ACTION OF HIGH-ENERGY ELECTRONS; 2,690,815, E. A. Burrill, METHOD OF AND APPARATUS FOR TREATING SUBSTANCES WITH HIGH ENERGY ELECTRONS, filed Dec. 16, 1965, D.C. Del. (Wilmington), Doc. 3138-C, Radiation Dynamics Inc. v. Electronized Chemicals Corporation. Stipulation, all claims and counterclaims in the above action dismissed with prejudice, Apr. 13, 1970.

2,643,699, T. H. Krueger, DRY MOUNTING PRESS; 2,644,151, same, DRY MOUNTING PRESS WITH TIMING SIGNALS, filed Mar. 26, 1970, D.C.N.J. (Newark), Doc. 360-70, Seal, Incorporated v. Technal Corporation and Bogen Photo Corporation.

2,644,151. (See 2,643,699.)

2,690,815. (See 2,602,751.)

2,685,954, T. H. Curtis, PROCESSING MACHINE; 2,709,512, same, filed Apr. 6, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c793, M & T Chemicals, Inc. v. Keenace Oil Co. Same, filed Apr. 3, 1970, D.C. Del. (Wilmington) (transferred from N.D. Ohio, Eastern Div.), Doc. 3875, M & T Chemicals, Inc. v. Keenace Oil Co. Notice of dismissal, Apr. 6, 1970.

2,709,512. (See 2,685,954.)

2,729,748. (See 2,602,751.)

2,923,553, Schultz and Boesen, SELECTORS FOR AUTOMATIC PHONOGRAPHS; 3,021,507, R. B. McFarland, SELECTORS FOR AUTOMATIC PHONOGRAPHS; 3,034,792, Kenney and Klefer, AUTOMATIC SPEED CONTROL MECHANISM FOR PHONOGRAPHS; 3,553,882, Bodoh and Slwy, PHONOGRAPH RECORD STORAGE ARRANGEMENT, filed Oct. 24, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2200, Seeburg Corporation of Delaware v. Specialty Sales Corp. of America. Complaint dismissed with prejudice; defendant's counterclaim dismissed with prejudice, Apr. 1, 1970.

2,993,535, E. F. Taylor, WINDOW BLIND CONSTRUCTION; 3,028,910, Bopp and Taylor, SHAFT HOOK AND MOUNTING FOR VERTICAL BLINDS; 3,061,005, same, LOUVER TYPE WINDOW BLIND, filed Feb. 23, 1969, D.C., S.D.N.Y., Doc. 66-508, Edgar K. Orr v. Verticals, Inc. Stipulation and order, complaints and counterclaims in Actions Nos. 62-3274, 65-2733 and 66-508 are dismissed with prejudice, Feb. 11, 1970.

3,021,507. (See 2,923,553.)

3,028,910. (See 2,993,535.)

3,034,792. (See 2,923,553.)

3,061,005. (See 2,993,535.)

3,216,513, Robbins and Winberg, CUTTER ASSEMBLIES FOR ROCK DRILLING; 3,220,494, Cannon, Winberg, McCurdy and Robbins, RAISE DRILLING METHOD AND MECHANISM; 3,454,114, L. B. Poage, DRILLING MACHINE; 3,463,247, H. T. Klein, DRILL STEM BREAKOUT APPARATUS, filed Jan. 20, 1970, D.C. Ariz. (Phoenix), Doc. C-70-35 Phx., James S. Robbins and Associates, Inc. v. Magma Copper Co.

3,220,494. (See 3,216,513.)

3,277,770. (See Reg. No. 738,130.)

3,329,221, R. W. Walker, PRESSURE BALANCED BUMPER SUB, filed Mar. 23, 1970, D.C., S.D. Tex. (Houston), Doc. 70-H-259, Shaffer Tool Works v. Joy Manufacturing Co.

3,353,882. (See 2,923,553.)

3,454,114. (See 3,216,513.)

3,463,247. (See 3,216,513.)

Reg. No. 738,130 (WEJ-IT), Kirel, Inc., Expansion bolts; 3,277,770, A. G. McCulloch, MASONRY ANCHOR BOLT, filed Jan. 9, 1967, D.C. Minn. (Minneapolis), Doc. 4-67C-8, Wej-It Expansion Products, Inc. v. Langford Tool & Drill Co. et al. Stipulation of dismissal, Dec. 15, 1969.



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GRANTED JULY 14, 1970

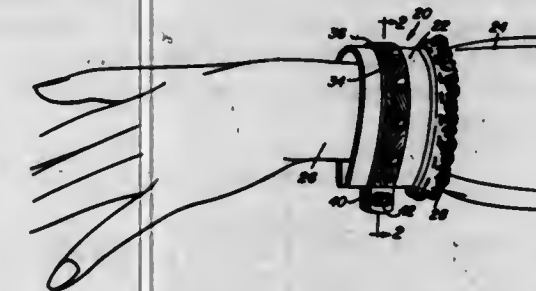
## GENERAL AND MECHANICAL

3,520,001

**CUFF LINK AND BRACELET ASSEMBLY**  
Charles W. Chancellor, Jr., Midland, Tex., assignor to  
Chancellor Chair Company, a corporation of Texas  
Filed June 6, 1967, Ser. No. 643,919  
Int. Cl. A41b 7/00

U.S. Cl. 2—123

10 Claims U.S. Cl. 4—77



A combined cuff link and bracelet assembly for association with the cuff of a sleeve on a shirt, blouse or the like which serves the utilitarian purpose of retaining the cuff of the shirt, blouse or the like in embracing relation to the wrist area of the wearer and at the same time provides a bracelet in the form of an article of jewelry which may be constructed of various materials to provide various ornamental and decorative arrangements.

3,520,002

**ARTIFICIAL LIMB WITH AN EXPANSIBLE FOAM STUMP SOCKET**  
Charles L. Wellington, 1228 Orion St.,  
Metairie, La. 70005  
Filed Nov. 29, 1967, Ser. No. 686,502  
Int. Cl. A61f 1/02

U.S. Cl. 3—19

2 Claims

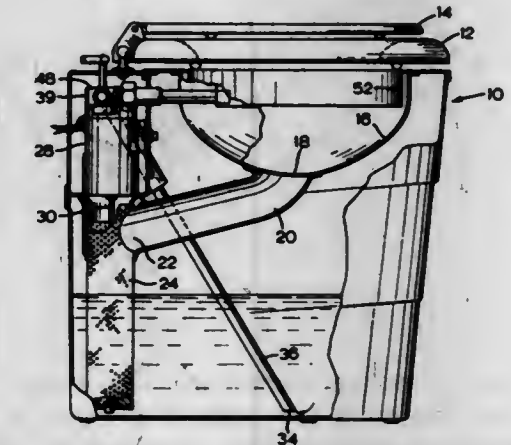


An artificial limb having a rigid outer shell defining a cavity for receiving a limb stump. A stump socket is carried in the cavity and includes flexible pads positioned adjacent the inner wall of the outer shell of the artificial limb. An expansible foam material is inserted in the cavity in a liquid state, and is capable of expanding into a substantially rigid cellular supporting foam structure. An elastomeric member is positioned on the patient's limb stump in a stretched state for emphasizing scar tissue and bony areas of the limb. The limb stump is inserted within the socket prior to the expandible polymer expanding so that when such expands a rigid cellular supporting structure is produced having a cavity with an inner wall complementary in shape to the limb stump.

3,520,003

**TOILET UNIT**  
Charles J. Shaw, 20 Bridesburg Drive,  
Weston, Ontario, Canada  
Filed Jan. 5, 1968, Ser. No. 696,021  
Int. Cl. E03d 11/00, 11/11

9 Claims



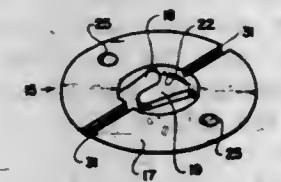
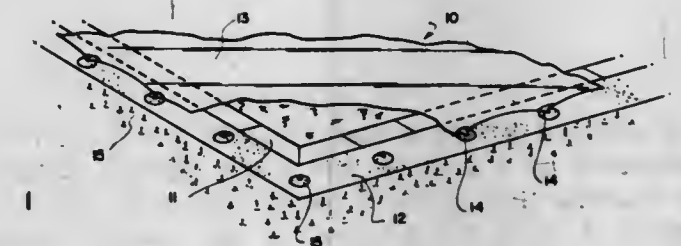
A self-contained toilet chemically and physically treats the effluent from the toilet bowl and holds the treated effluent in a tank where, on a control actuation it is pumped into the bowl as the flushing liquid. Preferably the pump motor is used to drive the physical treatment means so that physical treatment and flushing takes place simultaneously.

3,520,004

**SWIMMING POOL COVER ANCHOR**  
Henry A. Patnaude, 831 Los Molinos Way,  
Sacramento, Calif. 95825  
Filed Oct. 20, 1967, Ser. No. 676,836  
Int. Cl. E04h 3/19

U.S. Cl. 4—172.12

1 Claim



A cleat or anchor for a swimming pool cover characterized by a circular plate having a smooth convex top surface having a central opening, a projection extending into the opening laterally in flush relation with the top surface, and a drainage groove in the underside of the plate.



3,520,005

## TOILET SEAT STRUCTURE

John Malcolm Downes, 315-C Cornelia St.,

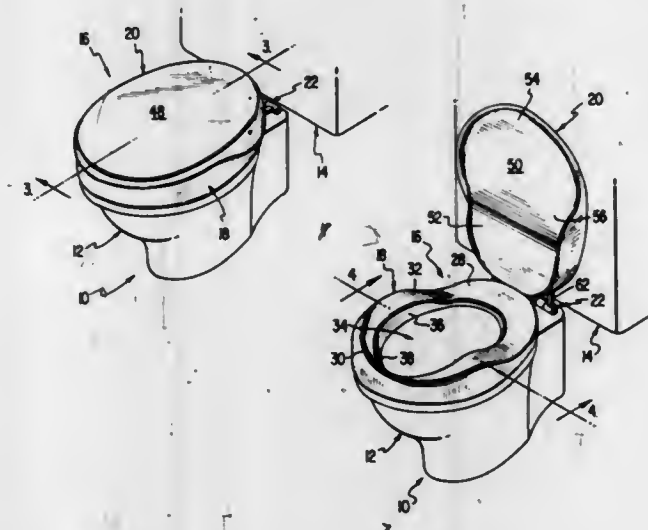
Plattsburg, N.Y. 12901

Filed Dec. 14, 1967, Ser. No. 690,481

Int. Cl. A47k 13/02

U.S. Cl. 4-234

7 Claims



Toilet seat structure comprising a one-piece generally annular seat having a top surface elevated at the front thereof and a complementarily configured lid for abutting the seat.

3,520,006

## DOUBLE SOFA-BED

Olav Arnold Walstad, Middelthunsgt. 15A,

Oslo, Norway

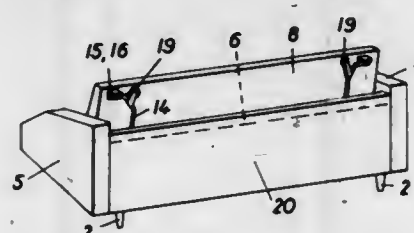
Filed Oct. 17, 1962, Ser. No. 231,130

Claims priority, application Norway Oct. 19, 1961, 141,835

Int. Cl. A47c 17/04

U.S. Cl. 5-29

5 Claims



A sofa-bed having a seat which in a sofa position is constituted by a mattress and a seat cushion resting on the mattress and attached thereto along the front edge thereof. A back rest is pivotally connected at opposite ends thereof to respective arms located at the lateral edges of the mattress and hingedly connected to the frame thereof near the front edge of the mattress, whereat the seat cushion is also attached to the mattress, such that when the sofa is to be converted to a bed, the back rest can be swung down substantially 90 degrees to rest on the seat cushion and therefrom be swung substantially 180 degrees into a position in front of and substantially flush with the mattress. The back rest in the latter position is supported on the floor by means of legs which are turnably supported on the rear side of the back rest. The seat cushion is then turned 180 degrees up from the mattress and upon the out-turned back rest so as to form, together with the back rest and the mattress, the bed surface. Between the back rest and the arms is a locking de-

vice which locks the back rest to the arms when the back rest has been swung down onto the seat cushion.

3,520,007

## PROCESS OF DYEING POLYESTER FIBERS AND PRODUCTS

Karl Schuster and Karlheinz Schneider, Ludwigshafen (Rhine), Germany, assignors to Joh. A. Benckiser G.m.b.H., Chemische Fabrik, Ludwigshafen (Rhine), Germany, a German company

No Drawing. Filed June 3, 1966, Ser. No. 554,993

Claims priority, application Germany, June 5, 1965, B 82,292; July 31, 1965, B 83,090

Int. Cl. D06p 5/04

U.S. Cl. 8-171

33 Claims

A method of treating polyester fibers and products thereof which involves using certain polyphosphoric acid compounds prior to or with the dyeing of the polyester to minimize or obviate the use of dye accelerant or so-called carriers. The products obtained and the dye baths for such treatments.

3,520,008

## REINFORCED EXPANDED SYNTHETIC RESIN ARTICLE

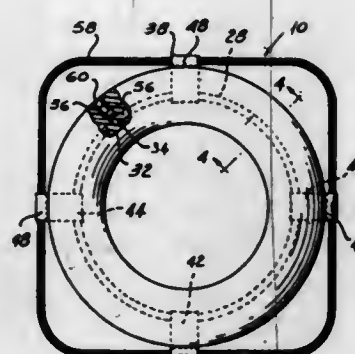
Leonard P. Frieder, Clarks Green, and Edgar G. Baker, Carbondale, Pa., assignors to Gentex Corporation, New York, N.Y., a corporation of Delaware

Filed June 13, 1966, Ser. No. 557,052

Int. Cl. B63c 9/10

U.S. Cl. 9-14

6 Claims



In general our invention contemplates the provision of a method of making a reinforced expanded plastic article in which we first place in the open mold a heating agent distributor formed of material which is stronger than the finished expanded plastic and which is so shaped as effectively to convey and distribute the heating medium, such as steam, throughout the mold. When the distributor has been placed in the mold, the mold is closed and filled with the beads of resinous material. When the heating medium is supplied to the distributor, it causes all of the beads to expand to form the completed article. When the article has been formed, the distributor remains therein as a reinforcing element to provide an article which is stronger than is the expanded plastic material per se.

3,520,009

## AUTOMATIC COMBINATION DRILLING AND TAPPING MACHINE

Howard Hoefener, River Vale, N.J., assignor to Hydrotherm, Inc., Northvale, N.J., a corporation of New Jersey

Filed June 27, 1967, Ser. No. 649,326

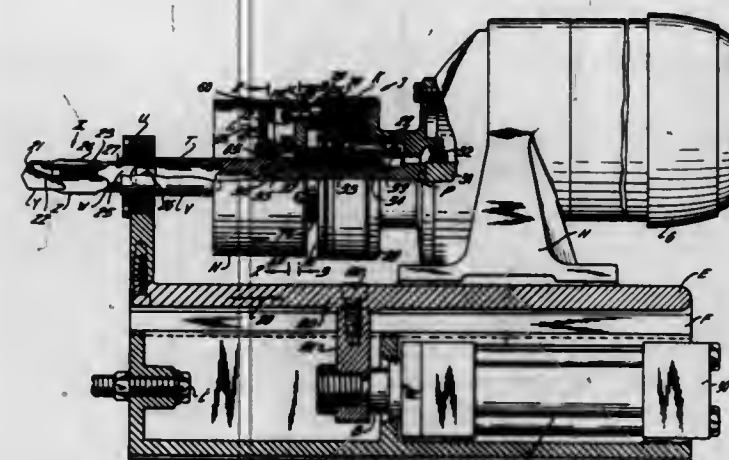
Int. Cl. B23g 1/00

U.S. Cl. 10-87

1 Claim

The disclosure describes an automatic combination drilling and tapping machine which will automatically rotate and feed a drill point and follow it up with a tap,

advancing the tap accurately by a lead screw. Then a reverse motion takes place to remove the tap and the



drill and finally retract to the initial position in readiness for the next cycle.

3,520,010

## PARISON SEVERING MEANS HAVING BLADE WITH SHARP EDGE AND OFFSET TOP SURFACE

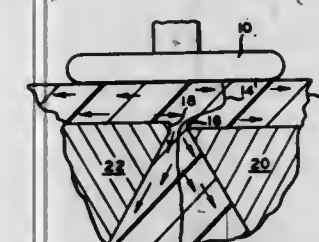
Calvin D. Dockery, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 20, 1967, Ser. No. 617,404

Int. Cl. B29c 17/07; B29d 23/03

U.S. Cl. 18-5

2 Claims



Pinching off and sealing thermoplastic parisons using at least a pair of blades, one of which blades has an anvil or flat surface, against which the parison is severed, and the other blade having a sharp edge.

3,520,011

## METHOD AND APPARATUS FOR REMOVING HAIR ROOTS FROM PORK BELLIES

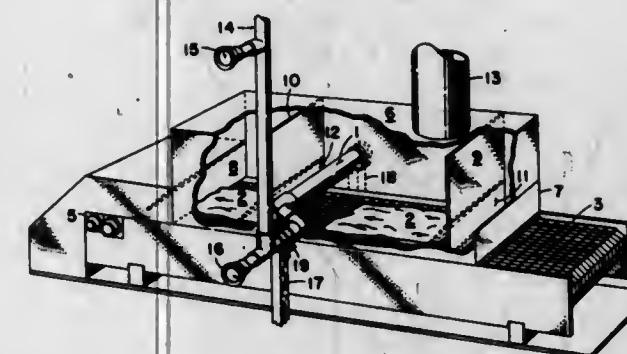
Willis W. Lehman, Glenville, and Elwood A. Olson and Leo E. O'Neal, Albert Lea, Minn., assignors to Wilson and Co., Inc., Chicago, Ill., a corporation of Delaware

Filed May 27, 1968, Ser. No. 732,177

Int. Cl. A22b 5/08; C14b 17/00

U.S. Cl. 17-1

7 Claims



Disclosed are a method and apparatus for removing hair roots from skinned pork bellies by impinging upon the bellies a spray of hot water under pressure.

3,520,012

## SQUEEGEE NOZZLE FOR WET PICKUP SUCTION CLEANER

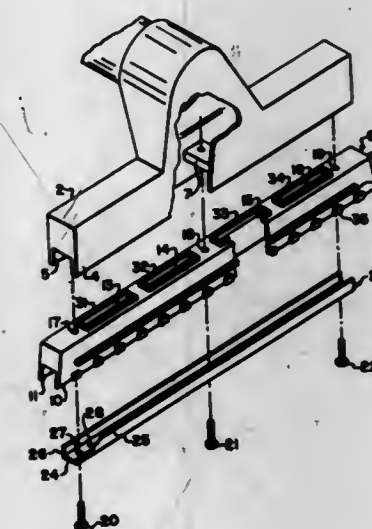
George F. Carabet and Louis E. Segesman, North Canton, Ohio, assignors to The Hoover Company, North Canton, Ohio, a corporation of Delaware

Filed Feb. 20, 1968, Ser. No. 706,949

Int. Cl. A47i 9/02

U.S. Cl. 15-402

10 Claims



A squeegee nozzle for a wet pickup suction cleaner has a one-piece elastomeric squeegee member including a perforated top web and integral lips. A rigid mounting member positioned between the lips is attached to the inlet mouth of a nozzle and traps the squeegee web. The squeegee lips have bumps along their outer bottom edges. The squeegee web has dams around the perforations to keep water from draining back onto a floor. The squeegee lips have flanges on their outer faces for positioning against the bottom edges of the nozzle. The mounting member may be easily detachable and have numerous small perforations so it acts as a filter.

3,520,013

## VEHICLE CLEANING APPARATUS

Harry K. Gougoulas, 1875 Philomine,

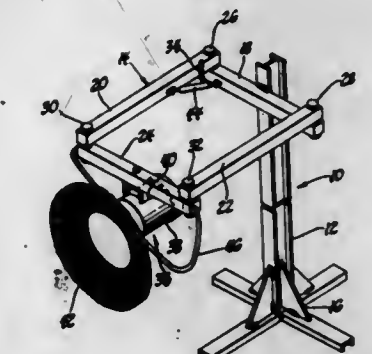
Lincoln Park, Mich. 48146

Filed July 30, 1968, Ser. No. 748,778

Int. Cl. B60s 3/06

U.S. Cl. 15-21

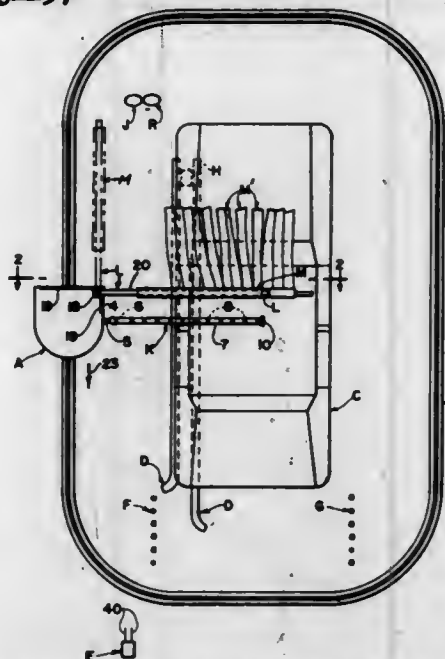
8 Claims



Vehicle cleaning apparatus comprising an open-faced frusto-conical shaped brush driven by a motor and carried by parallelogram linkage in turn supported by a vertical standard. The parallelogram linkage is gravity biased to a position of maximum extension and automatically senses the width of the vehicle to be cleaned, thereby accommodating itself to many different widths to clean the side surfaces of vehicles.

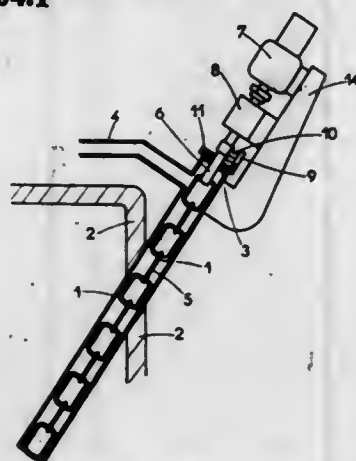


**3,520,014**  
**AUTOMATIC VEHICLE WASHING APPARATUS**  
 Frank A. Mello, 702 McLaughlin St.,  
 Richmond, Calif. 94805  
 Filed Aug. 1, 1968, Ser. No. 749,371  
 Int. Cl. B60s 3/04  
 U.S. Cl. 15—97 6 Claims



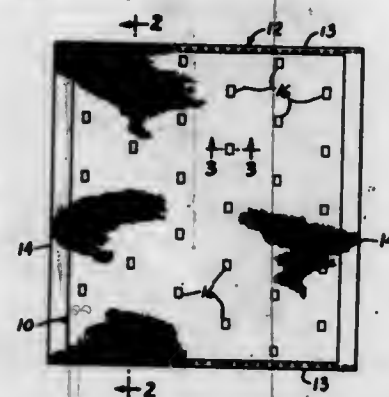
An automatic vehicle washing apparatus wherein a mobile carriage travels around an endless track that encircles the vehicle, the carriage supporting a spray arm that directs a liquid heated detergent and hot water under pressure and onto the exterior surfaces of the vehicle for cleaning it while the carriage makes one or more trips around the vehicle. The carriage makes an additional one or more trips around the vehicle and the same spray arm directs cold rinse water under pressure against the vehicle for rinsing off the detergent liquid. An auxiliary arm is mounted on the carriage and it carries a heavy fabric that is dragged over the vehicle immediately in back of the spray arm as the carriage moves so that it will be saturated with the detergent liquid and will aid in removing dirt from the vehicle. Novel means is used for swinging the auxiliary arm into inoperative position during the rinsing cycle of the washing operation so that its fabric will not make contact with the vehicle.

**3,520,015**  
**DEVICE FOR CLEANING TUBES THROUGH WHICH A CURRENT OF DUST-CONTAINING GAS FLOWS**  
 Gérard Deynat, Chalon-sur-Saône, France, assignor to Société des Forges et Ateliers du Creusot, Paris, France, a company of France  
 Filed Aug. 6, 1968, Ser. No. 750,595  
 Claims priority, application France, Dec. 15, 1967, 132,572  
 Int. Cl. B08b 9/02  
 U.S. Cl. 15—104.1 2 Claims



The invention provides a device for cleaning a gas flow tube, the device comprising a rotatable chain in the tube and driving means therefor.

**3,520,016**  
**ABSORBENT WIPES**  
 Gary H. Meitner, Oshkosh, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware  
 Filed Oct. 9, 1968, Ser. No. 766,195  
 Int. Cl. A471 25/08  
 U.S. Cl. 15—209 5 Claims



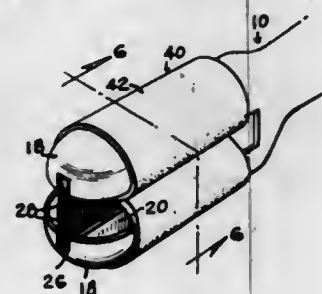
A wipe embodying a flat, low-density, absorbent pad composed of a multiplicity of layers of creped cellulosic tissue, which absorbs and holds large amounts of organic cleaning solvent, or water, and releases such liquids readily under wiping pressure, and a gauze envelope wrapped around the pad which protects the pad from tearing, screens loose pad fibers from escaping, and provides a rough, non-abrading surface for better cleaning.

**3,520,017**  
**MOP CONSTRUCTION**  
 Theron V. Moss, 3175 Falmouth, Shaker Heights, Ohio 44120  
 Filed Feb. 1, 1968, Ser. No. 702,262  
 Int. Cl. A471 13/20  
 U.S. Cl. 15—229 7 Claims



A mop swab including a multiplicity of absorbent mop cords which are secured together adjacent the ends of the swab by strands of thread or yarn which extend transversely of the swab in and among the mop cords. The mop cords may also be secured substantially centrally of the swab in a bunched together relationship by a canvas or fabric band.

**3,520,018**  
**CLEANING DEVICE FOR VENETIAN BLINDS AND THE LIKE**  
 Joseph P. Zaidan, 1234 S. Broad St., Philadelphia, Pa. 19146  
 Filed Jan. 22, 1968, Ser. No. 699,708  
 Int. Cl. A471 9/06  
 U.S. Cl. 15—394 1 Claim

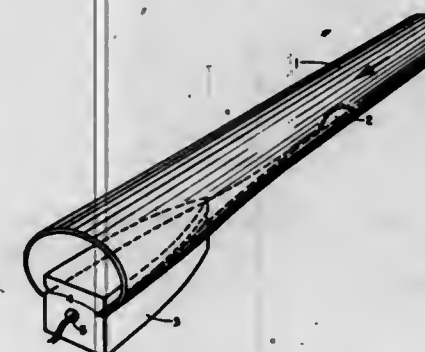


A body molded of plastic or hard rubber is provided with one end of circular cross-section connectable to a

vacuum cleaner hose, while the other end is bifurcated to provide spaced arms each carrying inwardly projecting brushes engageable with individual slats of the Venetian blind to clean them, the dust loosened from the blind being carried off by the vacuum cleaner hose.

**ERRATUM**  
 For Class 17—1 see:  
 Patent No. 3,520,011

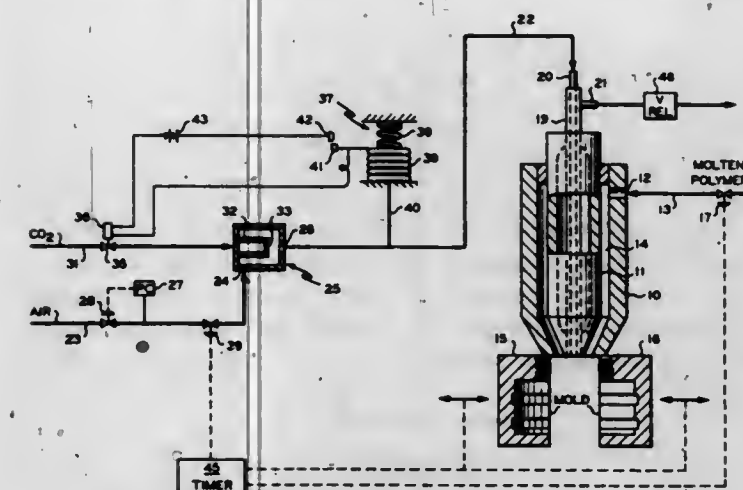
**3,520,019**  
**SLITTING APPARATUS**  
 Helmut P. Fochler, Chagrin Falls, and Fernando V. Guerrero, Solon, Ohio, assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware  
 Filed Oct. 10, 1967, Ser. No. 674,338  
 Int. Cl. B29d 7/00  
 U.S. Cl. 18—2 1 Claim



Apparatus for slitting and smoothing plastic article such as pipe, wherein slit edges are heat softened to allow smoothing.

**ERRATUM**  
 For Class 18—5 see:  
 Patent No. 3,520,010

**3,520,020**  
**APPARATUS FOR COOLING THERMOFORMED ARTICLES**  
 George E. Williams and Edward C. Held, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware  
 Filed Jan. 22, 1968, Ser. No. 699,525  
 Int. Cl. B29c 17/07; B29d 23/03  
 U.S. Cl. 18—5 4 Claims



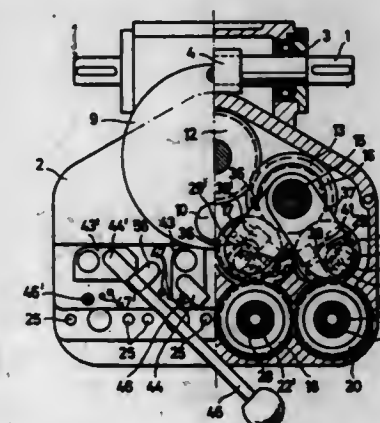
Cooling fluid, such as liquid carbon dioxide, is introduced into thermoformed articles to aid in cooling. A pressure switch in the blowing fluid conduit introduces the cooling fluid when the pressure of the blowing fluid reaches a first value and stops flow of the cooling fluid when a second higher pressure is reached.

**3,520,021**  
**APPARATUS FOR THE CONTINUOUS MANUFACTURE OF BLOW-MOLDED ARTICLES**  
 Charles J. Waechter, Piscataway, and Lloyd Kovacs, Somerset, N.J., assignors to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio  
 Filed Feb. 1, 1967, Ser. No. 613,322  
 Int. Cl. B29c 17/07; B26d 7/06  
 U.S. Cl. 18—5 4 Claims



A continuously operating worm extruder simultaneously forms a plurality of plastic parisons which are blown into jugs to be fed to a milk filling station. The extruded jugs are continuously formed, deflashed, automatically transferred in an up-ended position to a neck shearing and cleaning apparatus thence passed on to temporary storage or to a filling station.

**3,520,022**  
**APPARATUS FOR THE DRIVE OF PUMPS**  
 Karl Lehner, Frankfurt, Germany, assignor to Vickers-Zimmer Aktiengesellschaft, Planung und Bau von Industrieanlagen, Frankfurt am Main, Germany  
 Filed Nov. 1, 1967, Ser. No. 679,848  
 Int. Cl. D01d 5/00; F16h 37/06, 3/26  
 U.S. Cl. 18—8 14 Claims



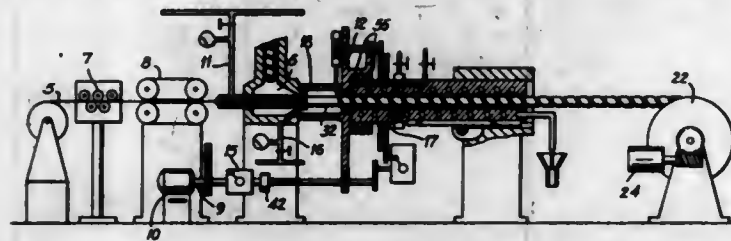
The invention relates to a device for the drive of several spinning pumps in a spinning apparatus for the spinning of synthetic fibers, threads, bands or the like from a polymer melt or solution. Said device having a main gear located behind the drive motor and infinitely controllable, and fine-regulating gears engaged on output side of this main gear and connected directly with the spinning pumps.

**3,520,023**  
**TUBULAR INSULATION FORMING MACHINE FOR TELECOMMUNICATION CONDUCTORS**  
 Paul François Vergès, Boulogne-sur-Seine, and Jacques Allanic, Sceaux, France, assignors to Société Anonyme de Télécommunications, Paris, France  
 Filed Oct. 2, 1967, Ser. No. 672,250  
 Claims priority, application France, Oct. 21, 1966, 80,919  
 Int. Cl. B29f 3/10 1 Claim

A machine for the manufacturing by an extrusion process of a tubular plastic insulation around an electrical conductor, in which said tubular insulation is provided with



at least one helical groove at the bottom of which an insulating strip is wound, characterized by a rotating winding device for said strip driven with a rotation velocity equal to a constant fraction of the linear motion



velocity of said conductor, and by a molding and calibrating device inside which said tubular insulation is cooled and takes its final shape under the action of air pressure applied to both its internal and external surfaces.

3,520,024

# DEVICE FOR CURING PNEUMATIC TIRES OR SIMILAR HOLLOW ARTICLES

Renato Caretta, Gallarate, and Antonio Paciarini, Milan, Italy, assignors to Pirelli S.p.A., Milan, Italy

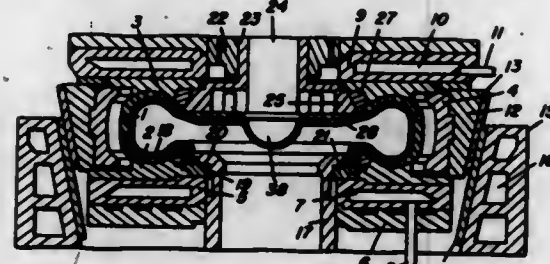
Filed Jan. 4, 1967, Ser. No. 607,227

Claims priority, application Italy, Jan. 13, 1966, 13,350/66

Int. Cl. B29h 5/02

U.S. Cl. 18-17

9 Claims



An apparatus including two cylindrical elements movable to and from each other for fixing the edges of the tire in the mold and for effecting the pumping action of the curing bag.

3,520,025

# TIRE RETREAD MATRIX MOLD WITH TAPERED LOCK HEATER RING

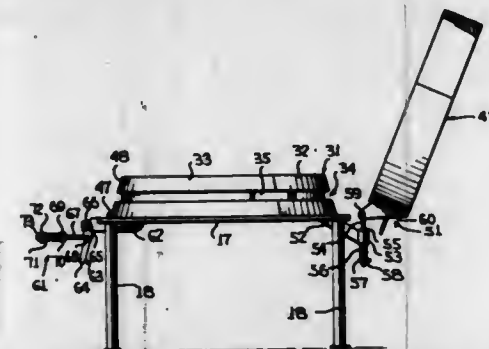
Donald M. MacMillan, deceased, late of Macon, Ga., by Kenneth T. MacMillan, executor, 4992 Wesleyan Woods Drive, Macon, Ga. 31204

Filed Sept. 29, 1965, Ser. No. 492,989

Int. Cl. B29h 5/02

U.S. Cl. 18-18

4 Claims



This disclosure relates to a matrix mold for use in tire treading operations and including a horizontally disposed, radially split matrix which is swingable to an open position to facilitate the insertion and removal of a tire relative thereto and to a fixed curing rim, and a continuous heater ring which is swingable from a horizontal position to a vertical position and which heater ring has surfaces which are tapered and which mate with like surfaces of the matrix to permit the heater ring to automatically lock the matrix in a closed position. The curing rim cooperates with the matrix to completely con-

fine a tire being cured and is of a construction so as to facilitate the use of a conventional inner tube and the curing tube.

3,520,026

# RUNNER SYSTEM HAVING RESISTANCE HEATED COMPONENTS

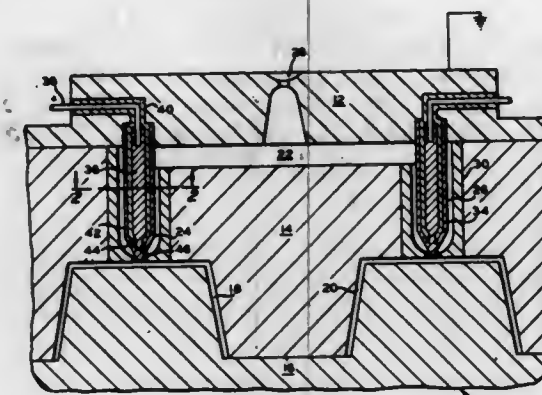
Charles O. Stidham and Charles W. Osborn, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 12, 1968, Ser. No. 704,648

Int. Cl. B29f 1/08

U.S. Cl. 18-30

3 Claims



A runner system for multi-gated molds is heated by utilizing certain components of the system such as a torpedo in the sprue area or the runner block itself as resistance heated elements.

3,520,027

# APPARATUS FOR THE INCORPORATION OF FILAMENTARY MATERIAL IN RESINOUS MATRIX

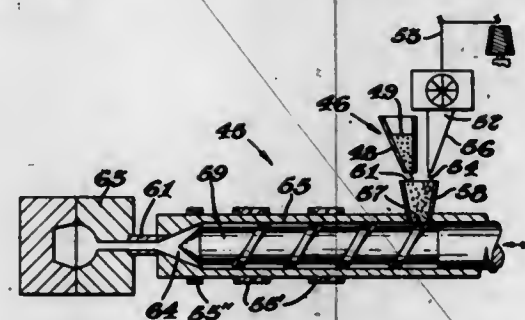
James L. Amos and Arnett L. Bird, Midland, and Robert P. Snyder, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Application Jan. 7, 1966, Ser. No. 532,819, which is a continuation-in-part of application Ser. No. 342,659, Feb. 5, 1964, which in turn is a continuation-in-part of application Ser. No. 302,504, Aug. 16, 1963. Divided and this application July 11, 1968, Ser. No. 744,096

Int. Cl. B29f 1/02

U.S. Cl. 18-30

11 Claims



Glass reinforced thermoplastics are formed by directly adding chopped filaments and particulate thermoplastic resin to heat fabricating apparatus such as an extruder or pre-plasticizing injection molding machine under non-stratifying conditions to provide a glass reinforced molded article.

3,520,028

# CARDING MACHINE CLEANER PLENUM

John E. Crowley, Jr., Charlotte, N.C., assignor to Southern Suction and Equipment Company, Charlotte, N.C., a corporation of North Carolina

Filed Oct. 21, 1968, Ser. No. 768,991

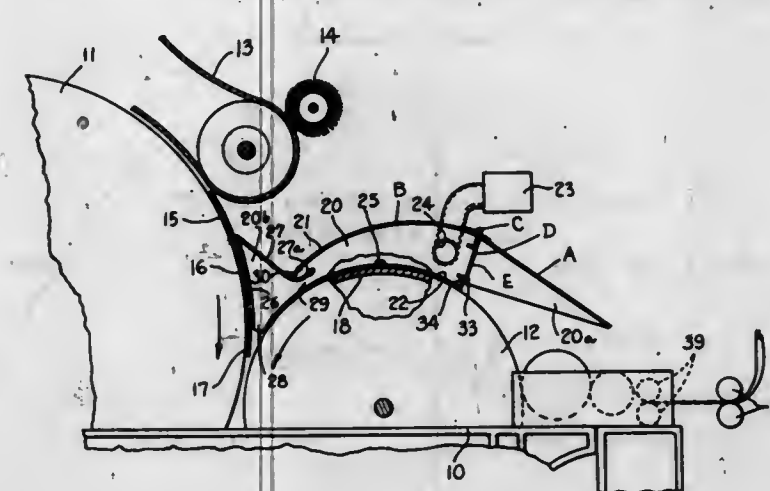
Int. Cl. D01g 15/82

U.S. Cl. 19-107

2 Claims

A card cleaner plenum extending along and across a card cylinder has a hood portion hinged to a fixed por-

tion and an end wall carried thereby adjacent the hinge for defining a suction orifice. The hood portion may be raised so as to pivot about the hinge permitting access to



the plenum for cleaning purposes. A second orifice may be positioned adjacent a juncture of the doffer cylinder and the main cylinder.

3,520,029

# DRAFTING ROLL WEIGHTING MECHANISM

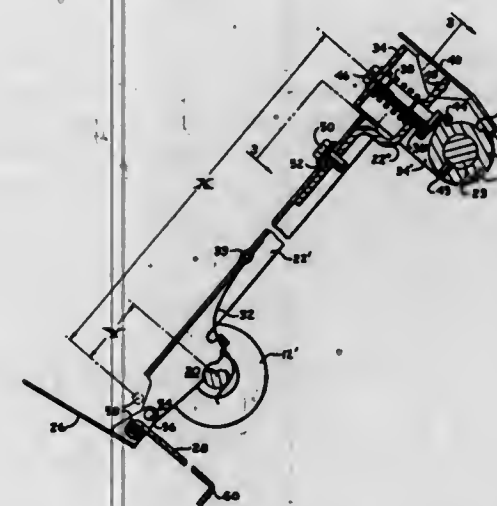
Philip B. Tarbox, Clemson, S.C., assignor to Maremont Corporation, Chicago, Ill., a corporation of Illinois

Filed Sept. 13, 1968, Ser. No. 759,734

Int. Cl. D01h 5/46

U.S. Cl. 19-267

4 Claims



A weighting mechanism for the top front roll of a drafting assembly, the mechanism by leverage generating a roll weighting force of many times greater magnitude than the magnitude of the weighting spring employed therein. The mechanism includes an arm pivotably mounted adjacent its rear end for movement between a raised inoperative position and a lowered operative position. The arm is releasably retained in inoperative position by a latch at its rear end, and in operative position by a toggle mechanism at its forward end. The arm preferably carries the front top roll of the assembly, and permits positional adjustment thereof relative to the front bottom roll.

3,520,030

# MATTRESS STAY

Sara B. Hawkins, 1204 W. Pinedale Drive, Plant City, Fla. 33566

Filed Feb. 16, 1968, Ser. No. 706,057

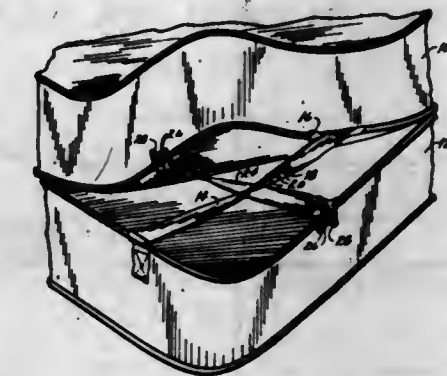
Int. Cl. A47c 21/02

U.S. Cl. 24-72.5

5 Claims

A mattress stay which comprises straps diagonally positioned across the corners of the box spring with one

end of each strap attached to the opposite corner of the mattress whereby limited lifting of the mattress is possible to make up the bed but sliding of the mattress is prevented during sleeping.



3,520,031

# SPRING CLIP

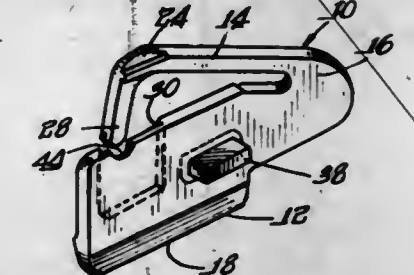
John Frederick Nelson, Des Plaines, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Dec. 4, 1968, Ser. No. 781,114

Int. Cl. A44b 19/06

U.S. Cl. 24-73

9 Claims



The present invention relates generally to spring clips adapted for mounting channeled workpieces such as molding strips and the like. The embodiment of the invention disclosed herein comprises a one-piece plate-like member, one section of which has a margin for engaging one flange of a channeled workpiece, and another section of which is in the nature of an arm hingedly supported at one extremity by the first-mentioned section, said arm diverging from the work engaging margin of the first-mentioned section, and at its free extremity providing a margin or edge for engaging the opposite flange of the channeled member. Another portion of the arm extends toward the first-mentioned section and is adapted to superimpose and in fact be trapped beneath said section when a channeled workpiece is supported by the clip. Means is also provided in the nature of a resilient shank element for securing the plate-like member to an apertured panel.

3,520,032

# TENDON ANCHORAGE

George H. Howlett, Oakland, and James W. Howlett, Richmond Annex, Calif., assignors to Howlett Machine Works, a corporation of California

Filed Aug. 12, 1968, Ser. No. 751,951

Int. Cl. E04c 3/10, 3/26, 5/08

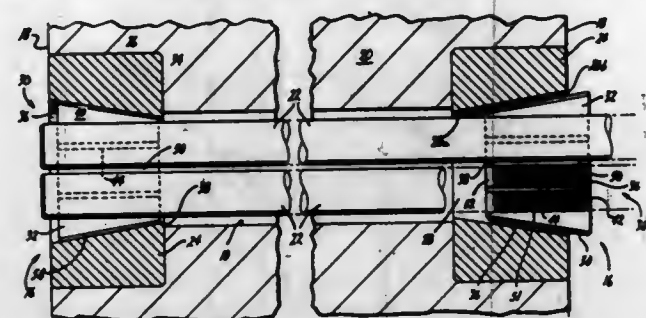
U.S. Cl. 24-122.6

18 Claims

A tendon anchorage primarily for use in pre-tensioning and post-tensioning concrete in which the anchorage includes an axially convergent bore and a tendon gripping wedge disposed in the bore. The wedge includes interiorly located gripping surfaces for engaging the tendon and a slit extending from a peripheral wall of the wedge to the gripping portion. One or more grooves are spaced from the slit and extend from the gripping portion toward the peripheral wall to increase the flexure of segments of the wedge defined by the grooves when forces in a radial direction act on the peripheral wall of the wedge. It is preferable that the grooves terminate short of the peripheral wall



to provide an axially extending hinge. Alternatively, a groove may extend through to the peripheral wall over a portion of the axial length to provide the desired flexure. Flexure enhances the gripping force, and when a plu-



ality of tensioned tendons are used, gripping forces are additive to increase the gripping force per tendon over what the force would be if only one tendon were provided.

3,520,033

## STRAP FASTENER

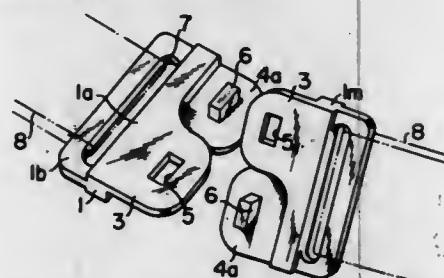
Genji Usuda, Tokyo-to, Japan, assignor to Kabushiki Kaisha Okuto, Osaka-shi, Osaka-fu, Japan  
Filed Nov. 4, 1968, Ser. No. 773,033

Claims priority, application Japan, Nov. 15, 1967, 42/73,521

Int. Cl. A44b 17/00

U.S. Cl. 24-201

5 Claims



A strap-end fastener consisting of two identical fastener halves, each half having a latch member, an engagement hole, and a recess engageable for fastening respectively with an identical engagement hole, identical latch member, and identical recess in the other fastener half. The two halves can be fastened merely by bringing the halves together and rotating them relative to each other in one direction and can be unfastened merely by a rotation thereof in the opposite direction.

3,520,034

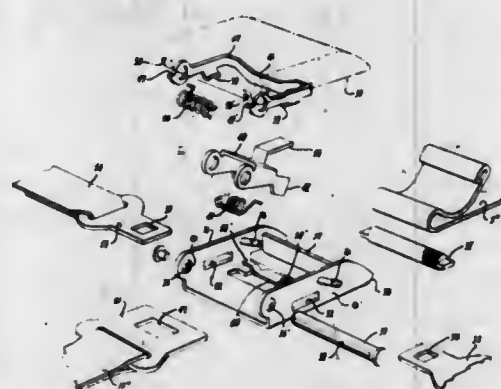
## SAFETY BELT BUCKLE

James E. Glauser, Santa Ana, and Don L. Friak, Orange, Calif., assignors to Pacific Scientific Company, City of Commerce, Calif., a corporation of California  
Filed Aug. 14, 1967, Ser. No. 660,335

Int. Cl. A44b 17/00, 19/00

U.S. Cl. 24-205.19

2 Claims



A safety belt having a buckle provided with latching means for initially interconnecting two seat belt sections

and thereafter providing for connecting additional sections such as shoulder straps and crotch straps, the latching means automatically latching the sections when attached but permitting detachment of auxiliary sections without detaching the main seat belt sections.

3,520,035

## FASTENING DEVICE

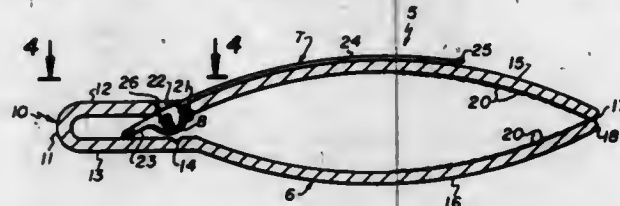
Francis A. Clark, 1192 Park Ave., New York, N.Y. 10028

Filed May 2, 1968, Ser. No. 726,119

Int. Cl. A44b 21/00

U.S. Cl. 24-255

2 Claims



A fastening device, especially useful in lieu of safety pins or the like, to releasably hold together parts of a diaper. The device includes a clamp unit consisting of a U-shaped member, having a web and a pair of parallel arms, and a pair of arcuate jaw members, each of which is an extension of a corresponding arm. One of the arms is provided with a through opening and the other with a recess in its inner surface opposite the opening. A lever extends through the opening and is pivotally connected to said one of the arms about an axis across the opening. The part of the lever to one side of the axis projects into the space between the arms and toward the web, while the part of the lever to the other side of the axis is exterior the clamp unit and normally overlies a jaw member. The distance between the axis and the free end of said one part of the lever is greater than the distance between the axis and the recess when the device is in normal closed condition. Pivotal movement of the lever in one direction about the axis causes relative outward flexing of the arms and registration of the free end of said one part of the lever with the recess.

3,520,036

## CLAY CENTERING AND SPREADING APPARATUS

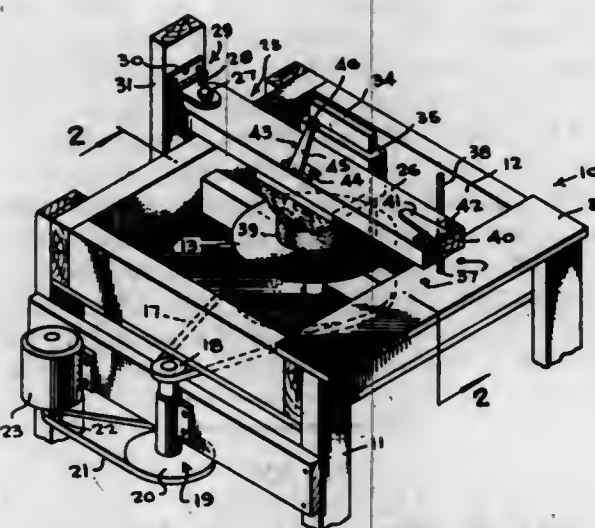
James E. Maloney, Lightfoot, Va. 23090

Filed Mar. 22, 1968, Ser. No. 715,286

Int. Cl. B28b 1/02

U.S. Cl. 25-24

10 Claims



Apparatus centering and spreading a ball of plastic clay on a rotating potter's wheel, including an elongated arm hinged for pivotal movement about vertical and longitudinal axes above and overlying the potter's wheel,

having a downwardly facing sponge therein for engaging the clay and pressing it downwardly, and a panel guided for vertical movement on the arm to rest on the surface of the potter's wheel and laterally engage the ball of clay. A retractable cavity forming member and a retractable support for the free end of the arm are also mounted on the arm.

3,520,037

## METHOD AND APPARATUS FOR PRODUCING WIDE WEBS FROM CONTINUOUS MULTIFILAMENT YARNS

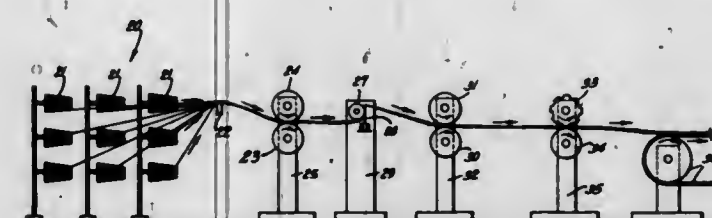
Frank Kalwaite, Somerville, and Ernest L. Poitras, Cranbury, N.J., assignors to Johnson & Johnson, a corporation of New Jersey

Filed Dec. 7, 1967, Ser. No. 688,857

Int. Cl. D02g 1/10

U.S. Cl. 28-1.5

11 Claims



A method and apparatus for producing wide webs from a plurality of continuous multifilament yarns comprising moving a plurality of continuous multifilament yarns in a first path with the yarns substantially parallel to each other, changing the direction in which the yarns are moving to a second path making an angle of less than 70 degrees with the direction of the first path, while simultaneously increasing the speed at which said yarns are moving in said second path by at least 2 percent to apply tension to said yarns and intermittently applying tension and relaxing forces to the yarns to disengage filaments of individual yarns.

3,520,038

## PROCESS FOR COATING AN INTERLACED SHEET MATERIAL

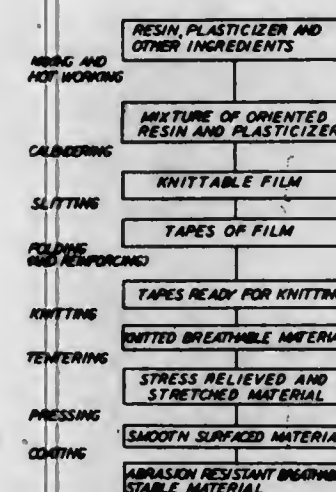
Paul D. O'Kray, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Apr. 1, 1968, Ser. No. 717,553

Int. Cl. D06c 27/00

U.S. Cl. 28-74

10 Claims



A polyvinyl chloride resin having an inherent viscosity of about 1.31 is blended with a plasticizer, a filler, and any desired pigmentation, hot worked calendered into a sheet material, cut into narrow tapes, and knitted into a material particularly suited for use as an upholstery

covering for automobile seats and home furnishings. A protective coating is applied to each exposed element of the knitted material without affecting its breathability by a felt covered applicator roll. The resulting material is strong, stable, luxurious, abrasion resistant, and breathable.

3,520,039

## METHOD OF SEALING HIGH ALUMINA ARC TUBES

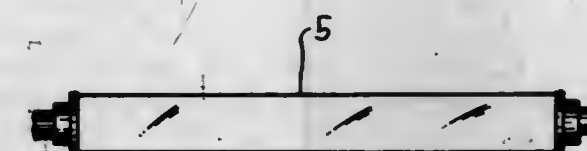
Albert W. Olson, Gloucester, and Paul Patry, Marblehead, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed June 17, 1968, Ser. No. 737,459

Int. Cl. H01j 9/18, 9/00

U.S. Cl. 29-25.11

4 Claims



Endcaps of niobium are used to seal the ends of an alumina arc tube. To improve the bond between the endcap and the tube, the niobium endcaps are cleaned in hot hydrogen peroxide prior to sealing.

3,520,040

## METHOD FOR MANUFACTURING ALIGNED-GRIDS ELECTRON DISCHARGE DEVICE

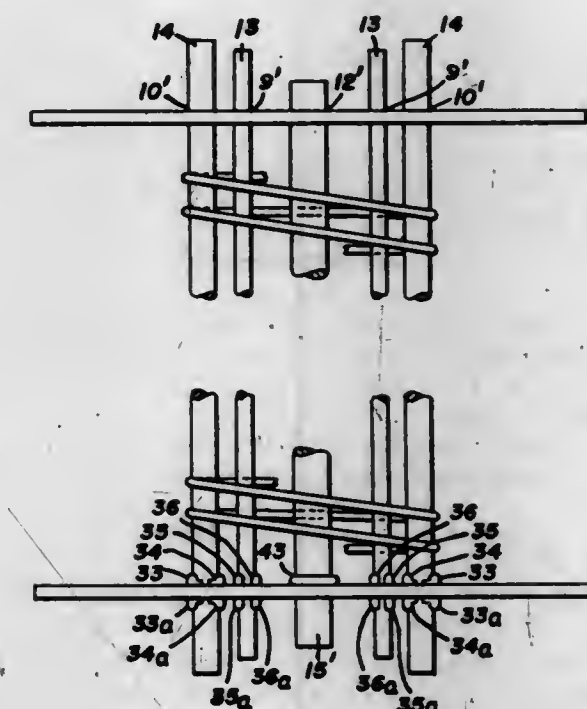
James C. Munday and Junius B. Neale, Owensboro, Ky., assignors to General Electric Company, a corporation of New York

Application May 15, 1967, Ser. No. 649,401, now Patent No. 3,422,514, dated Jan. 21, 1969, which is a division of application Ser. No. 319,920, Oct. 14, 1963, now Patent No. 3,364,379, dated Jan. 16, 1968. Divided and this application Aug. 5, 1968, Ser. No. 763,464

Int. Cl. H01j 9/18, 9/36

U.S. Cl. 29-25.16

3 Claims



A method of aligning and mounting plural grid electrodes attached to support rods by positioning the support rods in apertures of spaced plates and deforming the rods to secure the rods to one of the spaced plates.



3,520,041

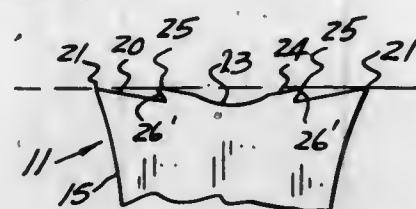
**CUTOFF BLADE**Donald L. Shephard, 11500 Lambs Road,  
Memphis, Mich. 48041

Filed Aug. 28, 1969, Ser. No. 853,760

Int. Cl. B23p 15/28; B26d 1/00

U.S. Cl. 29—95

7 Claims



In a cutoff blade with uniform body and enlarged head, wherein the leading edge is cut away downwardly and rearwardly to define at the top juncture, a transverse irregularly shaped cutting edge uniform throughout the head length and wherein the edge has a cross-section defined by a plurality of interrupted hollow ground individual cutting surfaces and a centrally grooved central section to provide a plurality of separate cutting edges and cutting corners and to thus provide in the cutoff work piece, a corresponding number of arcuate chip elements.

3,520,042

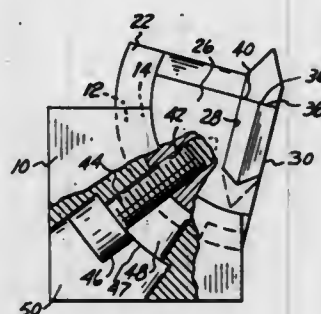
**ADJUSTABLE THREADING TOOL**Henry W. Stier, Dearborn Heights, Mich., assignor to  
Carnet Company, Pittsburgh, Pa., a corporation of  
New Jersey

Filed Oct. 11, 1967, Ser. No. 674,628

Int. Cl. B26d 1/00

U.S. Cl. 29—98

6 Claims



A tool holder for indexable and reversible threading insert of the type consisting of a polygon having a plurality of radially extending cutting edges, the tool holder comprising a shank having a partially conical recess in one end and a clampable partially conical block, adapted to support the cutting insert, disposed in such recess. The angular position of the conical block is adjustable relative to the shank.

3,520,043

**SELF-REGULATING HEATING ELEMENTS**Alan S. Darling, London, England, assignor to Johnson,  
Matthey & Company Limited, London, England, a  
British company

Filed June 16, 1967, Ser. No. 646,697

Claims priority, application Great Britain, June 17, 1966,  
27,231/66

Int. Cl. B32b 15/02; H05b 3/10

U.S. Cl. 29—194

12 Claims

This invention relates to self-regulating heating elements in which first and second components are connected in parallel so that the resistivity versus temperature characteristic of the element is such that the resistivity increases with temperature. Preferably, one component forms a sheath for a core made from the other component. Suitable materials for the sheath include nickel-chromium alloys and iron-chromium-nickel alloys and suitable materials for the core (apart from iron, iron alloys, nickel and nickel alloys) include cobalt, molybdenum, tungsten, platinum, palladium and tantalum.

3,520,044

**CUTTER CONSTRUCTION**Alois Fischer, Friedrichshafen, Germany, assignor to  
Zahnradfabrik Friedrichshafen, Aktiengesellschaft,  
Friedrichshafen, Germany

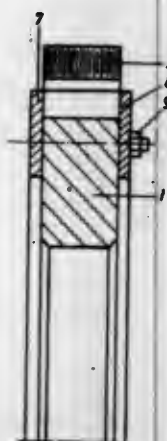
Filed June 14, 1968, Ser. No. 737,039

Claims priority, application Germany, July 7, 1967,  
Z 12,942

Int. Cl. B26d 1/12

U.S. Cl. 29—105

5 Claims



The invention relates to circular cutters having a plurality of teeth radially arranged wherein each tooth has cutting surfaces comprised of flanks having a plurality of arcuate cutting edges. Such tools are used for the fine shaving of metal in the making of precision parts or gears and the like. The principal feature of the invention resides in eliminating the usual costly method of making such cutters by utilizing tooth members which are set into a support ring and peripherally spaced in grooves previously cut radially into the ring. Thus the machining of the ring is a relatively simple matter and each of the teeth can be provided with flanks having a plurality of shaving edges much more readily prior to being made integral with the ring than is possible with presently known methods of making such tools.

3,520,045

**ADJUSTABLE CLAMPING DEVICE FOR SECURING A REMOVABLE PART TO A SUPPORT AND ITS VARIOUS APPLICATIONS**Karl Kühn, Saint-Germain-en-Laye, France, assignor to  
Société d'Etudes de Machines Thermiques, Saint-Denis,  
Seine-Saint-Denis, France, a company of France

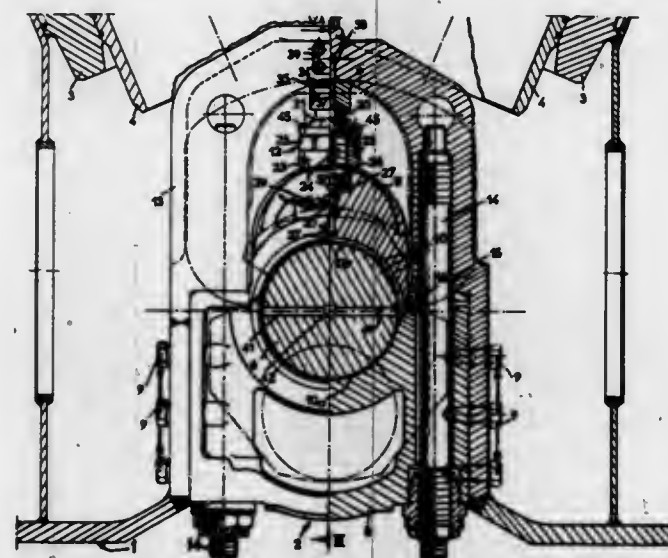
Filed Oct. 3, 1967, Ser. No. 672,481

Claims priority, application France, Jan. 9, 1967,  
90,415

Int. Cl. B23p 19/04

U.S. Cl. 29—200

10 Claims



A clamping device for pressing the bearing cap against the bearing saddle of a crank-shaft bearing, comprising at least one threaded thrust pin engaging with its

top end the crank-case through an intermediate pad element and a nut screwed on said pin and engaging said bearing cap towards the bottom end of said pin which is engageable endwise by a hydraulically actuated piston slidably mounted in a pressure fluid working chamber formed in said bearing cap, a bore extending axially through said pad, pin and piston for interconnecting oil ducts in the crank-case and bearing cap, respectively.

3,520,046

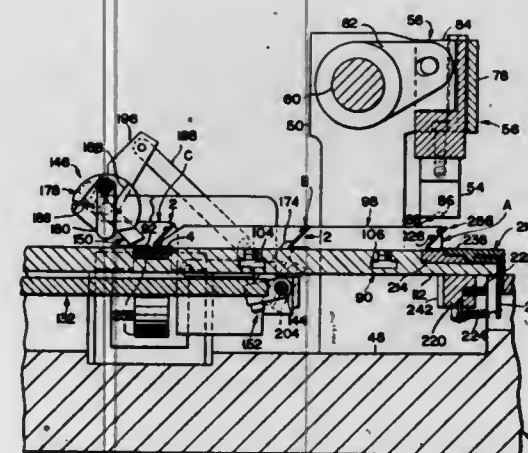
**AUTOMATIC MACHINE FOR ATTACHING FASTENERS TO A WORKPIECE**William A. Erhardt, Jr., Cambridge, and John T. Griffin,  
Peabody, Mass., assignors to United-Carr Incorporated,  
Boston, Mass., a corporation of Delaware

Filed Mar. 29, 1968, Ser. No. 717,199

Int. Cl. B23g 7/10, 11/00

U.S. Cl. 29—211

22 Claims



In an automatic fastener attaching machine, fasteners are fed from a hopper to a conveyor belt which carries them to a reciprocating fastener indexing mechanism which progressively and incrementally advances the fasteners from the belt to a fastener setting die. A fastener setting punch which is driven by a toggle press acts cooperatively with the die to attach fasteners to a workpiece. The operation of the punch and the fastener indexing mechanism are mechanically independent. Electrical timing circuits which activate the pneumatically driven press and indexing mechanism insure that their operation is sequential.

3,520,047

**METHOD OF SHAPING THE END OF A PIPE OF THERMOPLASTIC MATERIAL INTO A BELL**Karl Mühlner and Karl Jirka, Munich, and Johann  
Guthhuber, Iribach, Germany, assignors to Kunststoff-  
werk Gebrüder Anger GmbH & Co., Munich, Germany

Filed July 29, 1966, Ser. No. 568,508

Claims priority, application Germany, Aug. 2, 1965,  
K 56,785

Int. Cl. B23p 17/00, 11/02; B29c 19/00

U.S. Cl. 29—423

6 Claims



This disclosure relates to a mode of elastically deforming a thermoplastic pipe end to form an internal groove therein and assemble packing and supporting rings in the groove.

3,520,048

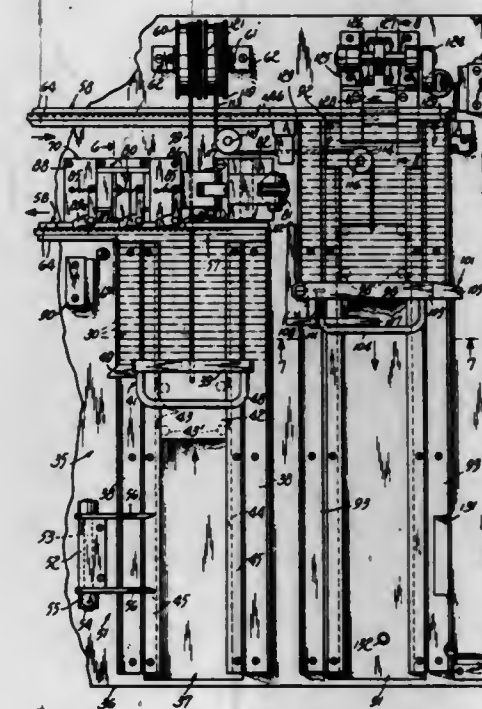
**METHODS OF AND APPARATUS FOR LOADING AND UNLOADING GROUPS OF ARTICLES INTO AND FROM AN ASSEMBLY MACHINE**Werner F. Esseluhn, Wyomissing, and Charles R. Fegley,  
Laureldale, Pa., assignors to Western Electric Com-  
pany, Incorporated, New York, N.Y., a corporation of  
New York

Filed June 17, 1968, Ser. No. 737,792

Int. Cl. B23p 11/00; H05k 13/00

U.S. Cl. 29—429

16 Claims



Methods of an apparatus for loading groups of handling racks into a feeding device and then feeding each of the handling racks in seriatim into, through and then out of an assembly apparatus. As the handling racks emerge from the assembly apparatus, the handling racks are accumulated in an ordered mass at an unloading station, from which mass predetermined groups of the handling racks are engaged and removed therefrom.

3,520,049

**METHOD OF PRESSURE WELDING**Dmitry Nikolaevich Lysenko, Ulitsa Galaktionovskaya  
191, kv. 15; Valerian Vladimirovich Ermolaev, Ulitsa  
Krasnoyarskaya 135, kv. 4; and Anatoly Alexeevich  
Dudin, Ulitsa Elektrofitsirovannaya 133, kv. 22, all of  
Kuibyshev, U.S.S.R.

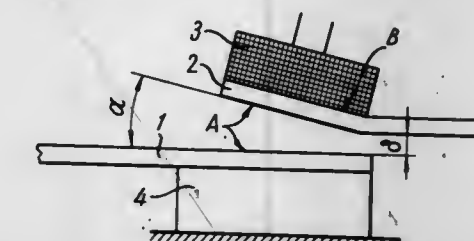
Filed Oct. 12, 1966, Ser. No. 586,094

Claims priority, application U.S.S.R., Oct. 14, 1965,  
1,032,128, 1,032,138

Int. Cl. B23k 31/02

U.S. Cl. 29—497.5

3 Claims



A method of pressure welding is based on the use of forces of interaction of magnetic fields, produced by an inductor through which an impulse of great intensity current is passed. The parts to be welded are positioned in spaced relation at an angle therebetween and the method can be used for obtaining overlapping welded joints of thin-walled parts having different thickness and made from different materials without melting, the resulting joints not requiring any further mechanical treatment.



3,520,050

## TOOL CHANGE MECHANISMS

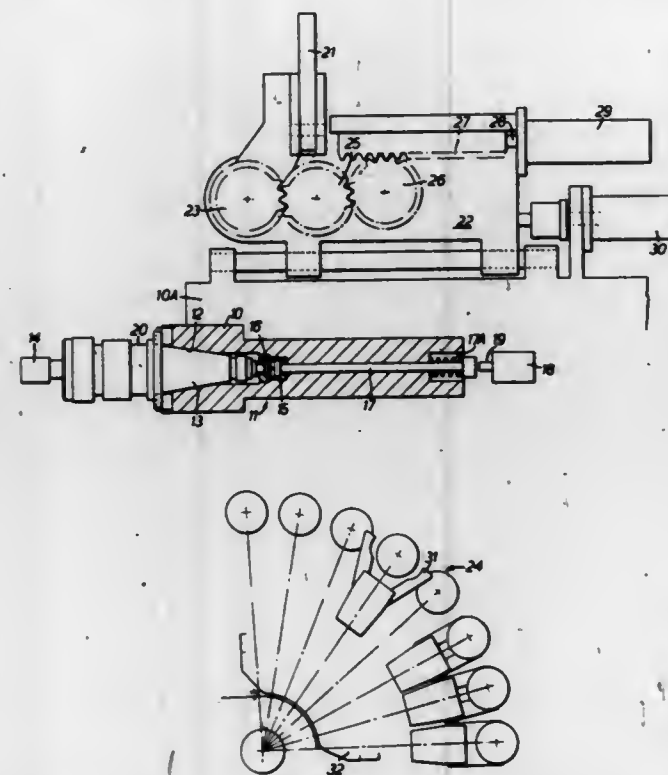
Maurice W. Trebble, London, England, assignor to The Glacier Metal Company Limited, Alpertown, Wembley, England

Filed Feb. 1, 1968, Ser. No. 702,315  
Claims priority, application Great Britain, Feb. 4, 1967, 5,478/67

Int. Cl. B23q 3/157

U.S. Cl. 29—568

7 Claims



A tool change mechanism includes a number of arms each having a clamp capable of holding a tool for use in a machine tool. A required tool for a particular operation is selected from an array of the arms and is moved first along a linear path and then through a semi-circular path to a position in which it is aligned with the spindle of the machine tool. A further linear movement is arranged to bring the selected tool into engagement with the chuck of the spindle. A given tool in the chuck is removed from the spindle by a reversed sequence of operations.

3,520,051

## STABILIZATION OF THIN FILM TRANSISTORS

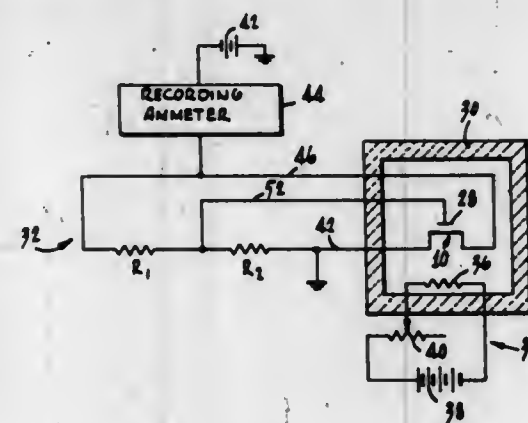
Morton L. Topfer, East Brunswick, and Richard E. Quinn, Willingboro, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed May 1, 1967, Ser. No. 634,972

Int. Cl. H01l 11/14

U.S. Cl. 29—571

5 Claims



More stable thin film transistors of the type comprising a layer of a polycrystalline semiconductor such as cadmium sulfide, deposited on an insulating substrate and having closely spaced source and drain electrodes and

an insulated gate electrode, are obtained by a heat treatment in which the device to be stabilized is heated at a temperature of preferably 150° C. until the resistance of its semiconductor reaches a level value. The semiconductor resistance is monitored by means of a circuit which supplies a gate voltage to the transistor which is a fixed fraction of its drain voltage.

3,520,052

## METHOD OF MANUFACTURING MATRIX ARRANGEMENTS

Hans Hoffmann, Friedrichsgrabe Post, Harksheide, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

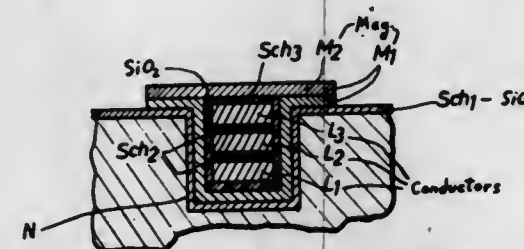
Filed Mar. 8, 1966, Ser. No. 532,698

Claims priority, application Germany, Mar. 19, 1965, P 36,321

Int. Cl. H01j 7/06

U.S. Cl. 29—604

15 Claims



A method of manufacturing a magnetic storage matrix including the steps of providing a raster of grooves on a silicon substrate, plating magnetic material and insulated conductors into grooves, and providing islands of excitation elements around the outer edge of the substrate to permit integrated drivers to be assembled with the matrix.

3,520,053

## LAMINATED PANELS INCORPORATING HEATING WIRES

Brian J. Hinton, Alum Rock, Birmingham, and Kenneth F. Kite, Kings Norton, Birmingham, England, assignors to Triplex Safety Glass Company Limited, a British company

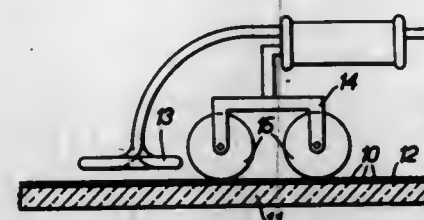
Filed June 9, 1967, Ser. No. 644,854

Claims priority, application Great Britain, June 11, 1966, 26,126/66

Int. Cl. H05b 3/00

U.S. Cl. 29—611

7 Claims



In making laminated panels incorporating heating wires the heating wires are placed on an even surface and a feed conductor is laid across the wires. The feed conductor comprises a metal strip coated with solder. The feed conductor is heated by high frequency induction so as to melt or soften the solder. The solder is caused or allowed to flow over the adjacent parts of the wires so that when it is subsequently allowed to cool and harden the wires are trapped by the solder. Heating may be effected by an induction coil moved along the feed conductor, though spaced from it. The coil may be carried by a resilient roller which bears on the feed conductor to assist in causing the solder to flow over the wires. Alternatively, the heating may be effected, after the lamination is completed, by a coil which is slid along the panel and is coated with a material having low coefficient of friction.

3,520,054

## METHOD OF MAKING MULTILEVEL METALLIZED CERAMIC BODIES FOR SEMICONDUCTOR PACKAGES

Harvey M. Pensack and Gary Hillman, Livingston, N.J., assignors to Mitronics Inc., Murray Hill, N.J.

Filed Nov. 13, 1967, Ser. No. 682,108

Int. Cl. H05k 3/28; B23p 17/00

U.S. Cl. 29—627

3 Claims



Flat green ceramic body is metallized in a selected pattern and coined to produce a multilevel ceramic body with the desired arrangement of metallizing on all the levels. The selectively metallized multilevel ceramic body is then cured and cooled. A semiconductor is mounted in the recess formed by the coining operation and is electrically connected to the metallized areas. The ceramic body with attached semiconductor may be potted, or provided with a lid hermetically sealing the semiconductor in the coined recess, and may be mounted to a printed circuit board or may be provided with external leads.

3,520,055

## METHOD FOR HOLDING WORKPIECES FOR RADIANT ENERGY BONDING

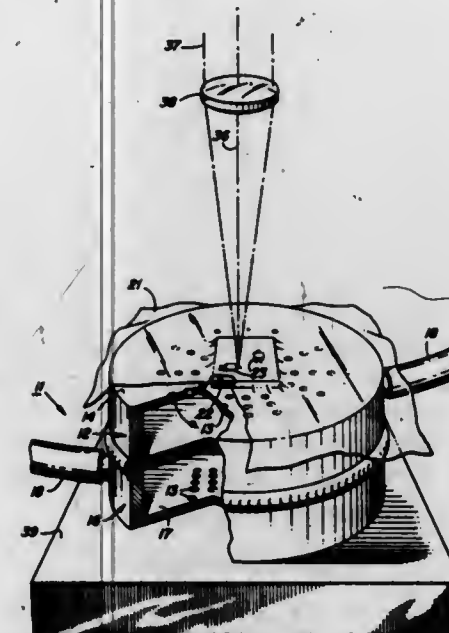
Frederick Joseph Jannett, West Millington, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 26, 1967, Ser. No. 633,854

Int. Cl. H01r 43/00; H05k 3/30

U.S. Cl. 29—628

17 Claims



A vacuum is employed to draw a flexible transparent cover about at least two workpieces to hold the workpieces in alignment relative to each other without interfering with the application of radiant energy to the workpieces. In addition, facilities are disclosed for permitting displacement of the workpieces without disturbing the alignment of the workpieces relative to each other to

bring a selected area of the workpieces into alignment with an optical axis of a radiant energy source. This permits the application of radiant energy to the workpieces to bond the workpieces together.

3,520,056

## REMOVABLE HAND LEVER CONSTRUCTION

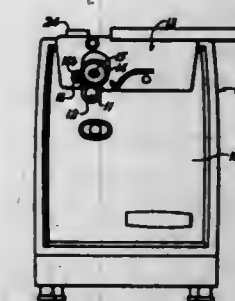
Robert J. Scott, Blue Springs, Mo., assignor to Rival Manufacturing Company, Kansas City, Mo., a corporation of Missouri

Filed Jan. 15, 1968, Ser. No. 697,977

Int. Cl. B67b 7/38, 7/32

U.S. Cl. 30—4

5 Claims



An electrically powered can opener has a cutter wheel carrying hand lever pivotally attached to its forward upright frame by an elongate pin assembly. One embodiment includes a push button operated latching member which releasably locks the pin assembly (and hand lever) to the can opener frame. When the push button is depressed, the latch releases the pin assembly and the hand lever may be removed from the can opener.

The second embodiment, which also facilitates hand lever removal, utilizes a combination key way and locking bar. When the hand lever is in a preselected position, the locking bar on the rearward end of the pin assembly is aligned with the key way thereby permitting withdrawal of the hand lever from the can opener frame.

3,520,057

## TUBE CUTTER TOOL WITH A CALIBRATED SCALE

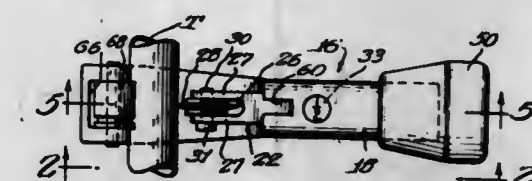
William C. Gore, Streamwood, and Eugene B. Shapiro, Highland Park, Ill., assignors to Chicago Specialty Manufacturing Co., Skokie, Ill., a corporation of Illinois

Filed Nov. 24, 1967, Ser. No. 685,684

Int. Cl. B23d 21/08

U.S. Cl. 30—102

2 Claims



A tube cutter and reamer in which the tube cutter has means for indicating the diameter of the tube to be cut and in which the reaming device is movable into reaming and non-reaming positions.

3,520,058

## CUTTING SHEAR HAVING A GRIPPING DEVICE

Arthur W. Pfaffenbach, Watertown, Wis., assignor to McGraw-Edison Company, a corporation of Delaware

Filed Mar. 20, 1968, Ser. No. 714,678

Int. Cl. B26b 13/00

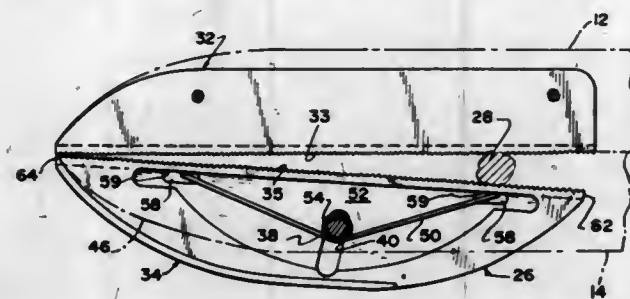
U.S. Cl. 30—134

7 Claims

A cutting shear having a gripping device for holding until released an item, such as a twig, to be cut and including cooperating jaw members mounted on the cutting blades, one jaw member being fixed to one blade and the



other jaw member being slidably and pivotally supported relative to the other blade and biased by a spring toward the one jaw member and against the one jaw member



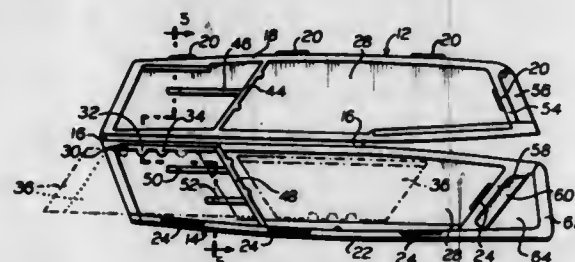
when the shear is closed, and the jaw members being aligned with or coplanar of the cutting edges on the blades when the shear is opened fully.

3,520,059

**KNIFE HANDLE FOR ADJUSTABLE BLADE**  
Donald Gringer, West Nyack, N.Y., assignor to Allway Tools, Inc., Bronx, N.Y., a corporation of New York  
Filed Oct. 5, 1967, Ser. No. 673,159  
Int. Cl. B26b 1/00; B25g 3/38

U.S. Cl. 30-293

2 Claims



Handle for a knife blade. Includes a pair of complementary shells, a hinge integral with the shells and secured to one side of each of the shells, and means for detachably securing the other sides of the shells to one another so as to form a casing for a knife blade.

3,520,060

**DENTAL X-RAY TEACHING AND TRAINING REPLICAS**

Clinton Larry Crabtree, Ray Warren Alcox, and Wayne Reynold Jameson, Rockville, Md., assignors to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare

Filed July 1, 1969, Ser. No. 838,206

Int. Cl. A61c 19/00

U.S. Cl. 32-71

4 Claims



A device is provided for teaching the technique of taking dental X-rays. The device comprises a natural human skull filled with a radio equivalent plastic and

covered with rubber and plastic-foam sections to simulate a human head having correct external anatomical form. Pliable lips and cheeks and a soft, mobile tongue realistically reproduce the dental radiographic problem. The head is supported on a structure which hangs from the back of a dentist's chair; it can be adjusted for all angulations and may be strapped quickly and firmly to the head-rest of the chair.

3,520,061

**MASONRY GUIDE**

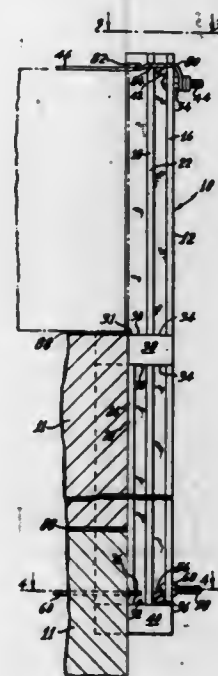
James W. Wigglesworth, P.O. Box 1314, Gainesville, Fla. 32601

Filed Feb. 12, 1969, Ser. No. 798,736

Int. Cl. G01c 15/10

U.S. Cl. 33-85

10 Claims



A combined masonry course and corner guide device including a first elongated generally upright L-shaped member for positioning the device on a previously laid outside corner of a structure being built, a second elongated generally upright L-shaped member spaced from and generally parallel to the first member and having anchor means for connecting upper and lower guidelines to the device for securing the device to the corner of the structure. The device further includes a third elongated generally upright L-shaped member spacedly positioned between the first and second members and parallel thereto. The two side portions of the third member are disposed at right angles to each other and each includes a horizontal slot positioned adjacent its upper edge portion to receive and engage respective segments of the upper guideline to properly align same with the outer edges of previously laid courses of block forming the corner of the structure with the intersection of the upper guideline segments in vertical alignment above the outer corner formed by previously laid block.

3,520,062

**CALIBRATED SHEAVE WHEEL**

Denis R. Tanguy, Darien, Conn., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Mar. 14, 1968, Ser. No. 713,158

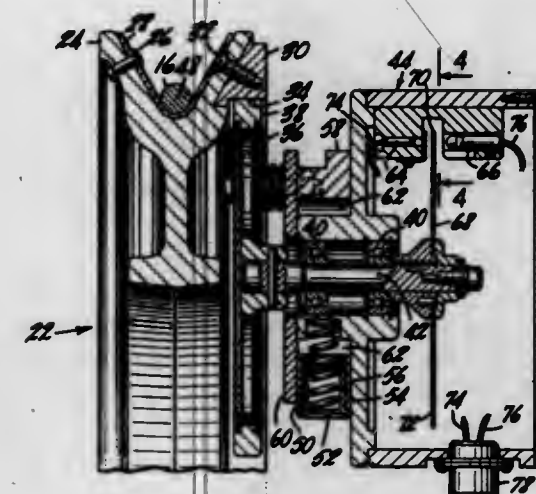
Int. Cl. G01b 3/12

U.S. Cl. 33-129

6 Claims

A cable suspending a well tool in a well bore is operatively carried by a pulley that is correspondingly rotated by the cable as the well tool is moved in the well

bore. Cable-measuring apparatus is provided including a measuring wheel that is operatively engaged with a circular track portion on the pulley and, as the pulley rotates, driven thereby through a given number of revolutions for a known distance around the circular track. To offset dimensional variations of the circular track induced by temperature changes, the measuring wheel is



made of a material having a negligible coefficient of linear expansion so that each revolution of the measuring wheel will always represent a constant incremental length of cable relating to the actual distance that the wheel has traveled to provide accurate measurements of the cable length irrespective of changes in ambient temperatures.

3,520,063

**MULTIAXIS INSPECTION PROBE**

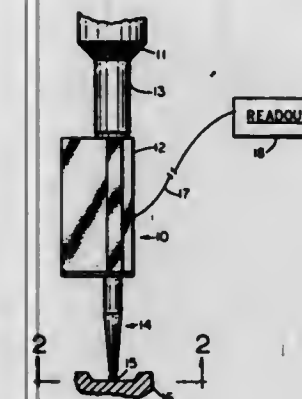
William F. Rethwish, Bonita, and William D. Wilson, San Diego, Calif., assignors to Rohr Corporation, Chula Vista, Calif.

Filed Aug. 30, 1968, Ser. No. 756,649

Int. Cl. G01b 3/22, 5/20

U.S. Cl. 33-169

3 Claims



A probe of the type used in automatic numerically-controlled inspection systems for checking sizing of machined articles is disclosed. The probe is responsive to movement along either of three axes to effect an electrical signal indicative of same. The structure of the probe includes an elongate member partially extending into a housing and supported by a spherical bearing slidably secured within one end of the housing. The end of the elongate member which extends into the housing is provided with a cone-shaped extension containing a ball and mated to a similar cone-shaped element of an opposing spring biased follower structure. Deflection of the exterior end of the elongate member in any direction results in a deflection of the follower by a similar amount. A transducer is provided to sense the follower movement.

3,520,064

**CAMBER-CASTER GAUGE**

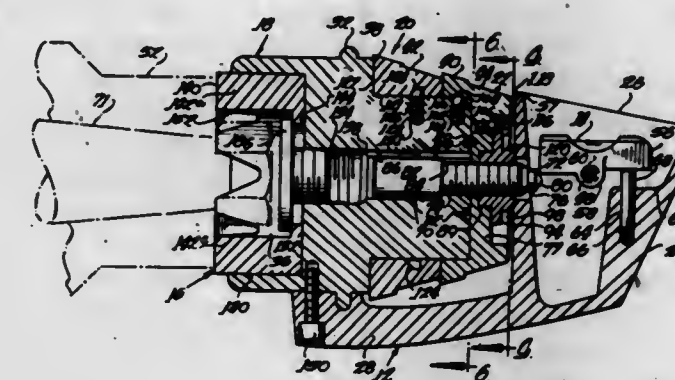
Walter P. Kushmuk, Niles, Ill., assignor to Ammco Tools, Inc., North Chicago, Ill., a corporation of Illinois

Filed Apr. 5, 1967, Ser. No. 628,618

Int. Cl. G01b 5/255

U.S. Cl. 33-203.18

9 Claims



A camber-caster gauge is magnetically mounted coaxially with the steering spindle and includes two coaxial adjacent rotatable sleeves, one bearing a caster scale and the other a camber scale. Both scales are tapered to lie in the plane of a single cone and the camber scale has a pointer printed upon it to indicate caster readings on the adjacent scale. The camber sleeve is frictionally engaged with a central bushing that rotates therewith to drive longitudinally an actuating screw. The actuating screw threadedly engages the tapered central bore of the bushing and has a wedge on its end, which wedge is positioned under one end of a pivotable spirit level to adjust the level in accordance with camber readings on the scale.

3,520,065

**PENDULOUS INCLINOMETER DEVICE**

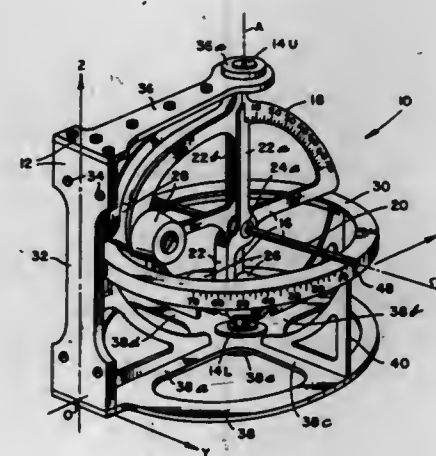
Robert E. Pace, Long Beach, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 19, 1967, Ser. No. 677,011

Int. Cl. G01c 9/14

U.S. Cl. 33-215

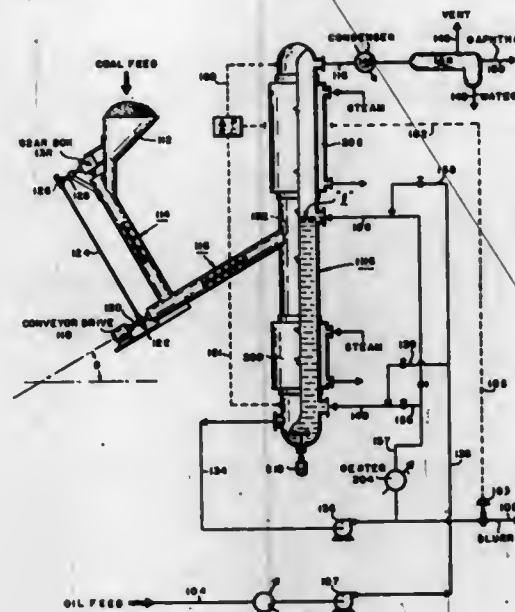
2 Claims



An inclinometer device for use in providing information concerning a sloped plane comprises a frame for supporting a pair of pivot bearings in alignment along a generally vertical frame axis. A subframe made of one-piece metal plate construction is mounted between these bearings for rotation about the axis. The pendulum is pivotally mounted to the subframe to swing about a pendulum arm pivot axis which is transverse to the subframe and which intersects the vertical frame axis at a point



equidistant between the pivot bearings. The pendulum arm is adapted to have the center of gravity of the pendulum weight lie in the plane of the subframe and is limit stopped to allow the pendulum arm to deflect only to one side of the vertical frame axis. The subframe also includes an integral moment arm structure which carries an auxiliary weight. This moment arm structure is disposed to the side of the vertical frame axis in which the pendulum arm swings, and is adapted to have the center of gravity of the auxiliary weight lie in the plane of the subframe. As the frame tilts in accordance with the slope of the plane under measurement, the plane of the subframe will align itself in the direction of maximum slope along the plane, and the pendulum arm will align itself in a vertical attitude relative to space. The frame carries a scale which cooperates with a pointer carried by the subframe to indicate relative direction of the maximum slope. The subframe carries a scale which cooperates with a pointer carried by the pendulum arm to indicate angular magnitude of inclination in this direction.



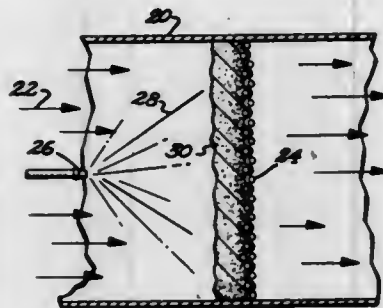
### 3,520,066 SPRAY DRYING METHOD

Reginald E. Meade, Stillwater, Minn., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

Filed May 26, 1966, Ser. No. 553,101  
Int. Cl. B01d 1/16

U.S. Cl. 34-9

17 Claims



A process for drying fluids by spraying into a drying atmosphere, directing the drying atmosphere and dispersed droplets of the fluid toward a perforate collecting screen and allowing the droplets to dry to the point where they are in a tacky condition when they reach the screen. The tacky bodies when they contact one another become bonded together to form a self-supporting porous mat. A portion of the drying atmosphere is passed through the porous mat collected upon the screen to dry it as it forms. The screen (typically an endless conveyor belt) can be used, if desired, to transport the mat into a zone where cool air is forced through it to further rigidify the mat.

### 3,520,067 COAL DRYING

Edgar C. Winegartner, Baytown, Tex., assignor to Esso Research and Engineering Company

Filed Oct. 24, 1968, Ser. No. 770,281  
Int. Cl. F26b 3/00

U.S. Cl. 34-9

10 Claims

An apparatus and method for drying coal particles are disclosed. Coal is moved upwardly in a screw conveyor and introduced adjacent to but below the surface of a pool of a heat transfer liquid (such as oil) in a confined drying zone. To provide heat for vaporization of water, the slurry of solids in heat transfer liquid is preferably removed near the bottom of the drying zone; heated, and

Drying conditions include a temperature from 220° F. to 600° F.

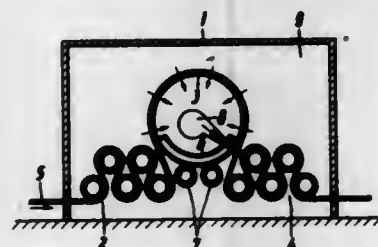
### 3,520,068 PROCESS AND APPARATUS FOR THE TREATMENT OF TEXTILE MATERIALS SUBJECTED TO A LONGITUDINAL STRESS

Heinz Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to VEPA AG.  
Filed June 18, 1968, Ser. No. 737,916  
Claims priority, application Germany, June 23, 1967, V 33,931

Int. Cl. F26b 3/00, 7/00

U.S. Cl. 34-9

21 Claims



The present disclosure is directed to an apparatus for the treatment of textile materials which comprises a first holding and drawing system and a second holding and drawing system, each of said systems containing several roller means, and at least one permeable heating-up and conveying means subjected to an excess pressure or a suction draft disposed between said first and second holding and drawing systems. The present disclosure is also directed to the process for the treatment of textile materials subjected to a longitudinal stress using the above-described apparatus.

### 3,520,069 PROCESS AND APPARATUS FOR WASH-AND-WEAR FINISHING OF WOVEN CLOTHS, KNITTED GOODS OR FIBER FLEECES OF CELLULOSE FIBERS

Christian August Meler-Windhorst, Heidenkampsweg 66, Hamburg, Germany

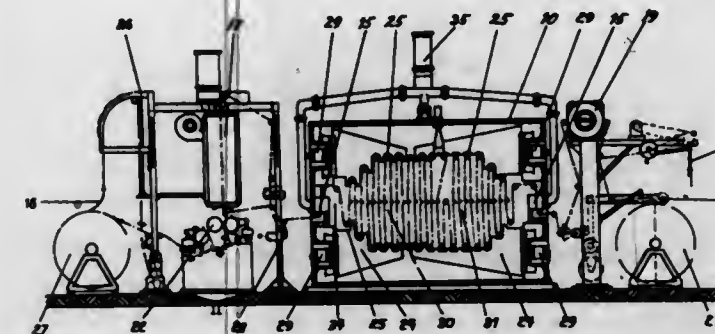
Filed Jan. 29, 1968, Ser. No. 717,481  
Int. Cl. F26b 7/00

U.S. Cl. 34-17

11 Claims

Textile fabrics and fleeces of cellulose fibers are treated by a continuous process producing creaseless, no-iron per-

manent shrinkage or water-repellent finishing. The process includes a combined steaming and drying treatment of an impregnated fabric in superheated steam at atmos-



phere pressure, heating the fabric at a temperature ranging between 140° C. and 170° C. and then subjecting the fabric in dry condition to a dry heat treatment.

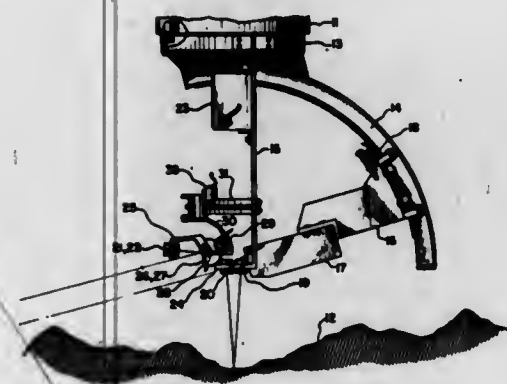
### 3,520,070 AIRCRAFT FLIGHT SIMULATOR

Richard O. Gibson, Westerville, Ohio, assignor to North American Rockwell Corporation

Filed Sept. 23, 1968, Ser. No. 761,609  
Int. Cl. G09b 9/08

U.S. Cl. 35-12

5 Claims



An aircraft flight simulator system having a vidicon camera transport is provided with prescribed ultrasonic transducers at its sensor head and with cooperating signal processing circuit means. The apparatus is operated in viewing relation to a terrain model, directs sound waves to the model, receives reflected sound waves, and processes the received sound waves into range signals which simulate terrain clearance information derived from aircraft radar equipment.

### 3,520,071 ANESTHESIOLOGICAL TRAINING SIMULATOR

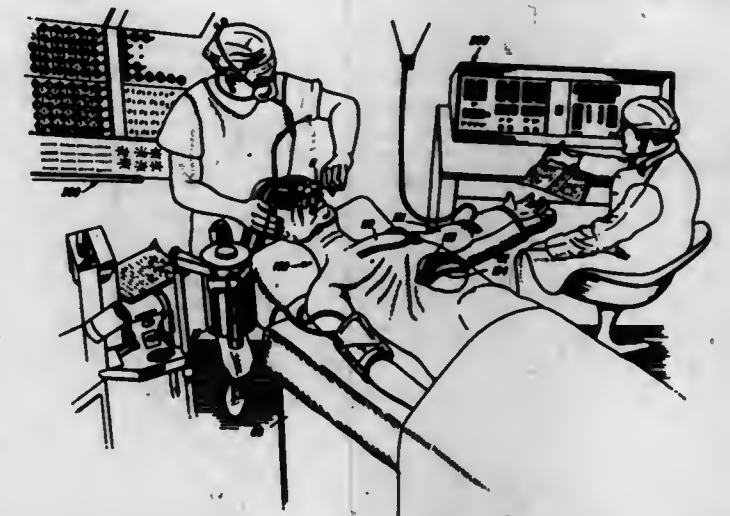
Stephen Abrahamson and Judson S. Denson, Los Angeles, Alfred P. Clark and Leonard Taback, Azusa, and Tullio Ronzoni, Pasadena, Calif.; said Clark, said Taback, and said Ronzoni assignors to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio

Filed Jan. 29, 1968, Ser. No. 701,367  
Int. Cl. G09b 23/28

U.S. Cl. 35-17

19 Claims

An anesthesiological training simulator comprising a manikin attached in operating position on its back to an operating table, interconnected with a computer and an instructor's console and miscellaneous instruments, with mechanism in the manikin and associated ap-



paratus allowing all body reactions to appear to take place as might occur during the performance of procedures followed during the administration of anesthesia to a patient undergoing surgery.

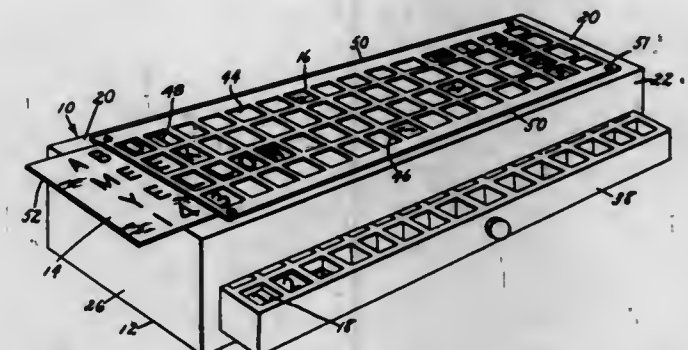
### 3,520,072 SPELLING SYSTEM

Frank Greenwood, 200 Dyckman St., New York, N.Y. 10040

Filed Dec. 13, 1967, Ser. No. 690,352  
Int. Cl. G09b 17/00

U.S. Cl. 35-35

1 Claim



Educational spelling system comprising a plurality of interchangeable indicia bearing panels carrying prespelled words arranged in context, the letters or numbers being arranged in predetermined positions; an orificed grid, the orifices of which juxtapose said letters or numerals; a plurality of separate cards each having a single letter or numeral corresponding to the letters or numerals on said panel, the cards being receivable within said orifices to overlie the identical letters or numerals.

### 3,520,073 MULTIFUNCTION ASTRONOMICAL DISPLAY PLANETARIUM

Klaus Baader, 30 Hartelstrasse, 42 Munich, Germany  
Continuation-in-part of application Ser. No. 470,079, July 7, 1965. This application Nov. 4, 1968, Ser. No. 773,255

Claims priority, application Germany, July 8, 1964, B 77,589

Int. Cl. G09b 27/06, 27/02

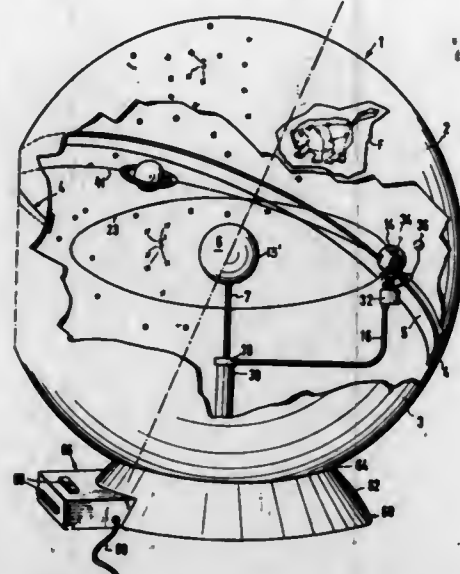
U.S. Cl. 35-45

22 Claims

A planetarium capable of displaying astronomical relationships and operations in a selected one of at least two modes, as by permitting a choice among a display similar to that of a star globe, to that of an orrery or tellurion, or to that of a projecting planetarium. This choice is obtained by use of a hollow sphere having a darkened thin wall of such limited light permeability that the wall as viewed from the exterior of the sphere is substantially opaque when no light is emitted from a light source therewithin and is substantially transparent when



light is emitted from the light source, together with fixed star representing means on the sphere wall and planet rep-



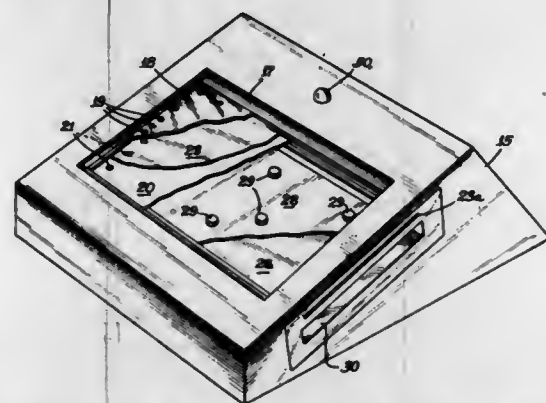
resenting means disposed between the centrally located light source and the sphere wall.

### 3,520,074 INSTRUCTION SYSTEM PROVIDING PERMANENT RECORDS

Victor G. Severin, Arlington Heights, and Leonard J. Kobek, Chicago, Ill., assignors to Instruction Systems, Inc., Chicago, Ill., a corporation of Illinois  
Filed Oct. 4, 1967, Ser. No. 672,878  
Int. Cl. G09b 7/06

U.S. Cl. 35-48

1 Claim



A student's console is combined with a programed audio/visual device to provide an instructional system. An answer record is inserted in the console between a clear faceplate panel and an opaque underpanel, each of which define a matrix of apertures in register with selected locations on the answer record indicative of answers to questions. Answers are permanently recorded when a student inserts a stylus through corresponding aligned apertures which guide the stylus in perforating the answer record. A program board, resiliently mounted beneath the opaque underpanel, is provided with risers at those locations representing correct answers. Deflection of the program board generates a signal to restart the audio/visual device. In addition to the regular "answer" locations, a "restart" location is included for restarting the audio/visual device when a task, as distinguished from an answer, is indicated.

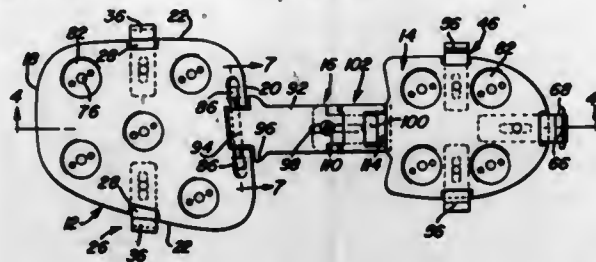
**3,520,075  
DETACHABLE GOLF SPIKE ATTACHMENT**  
Josiah W. Mullikin, Badge 90376, Box 455, % Aramco, Ras Tanura, Saudi Arabia  
Filed Feb. 10, 1969, Ser. No. 797,813  
Int. Cl. A43c 15/00

U.S. Cl. 36-65

8 Claims

A self-contained attachment through the medium of which an ordinary street shoe can be readily converted

to a golf shoe and can be detached and stored for subsequent use. It embodies sole and heel plates each having replaceable spikes and distributively arranged attaching clips capable of being adjusted and then clamped



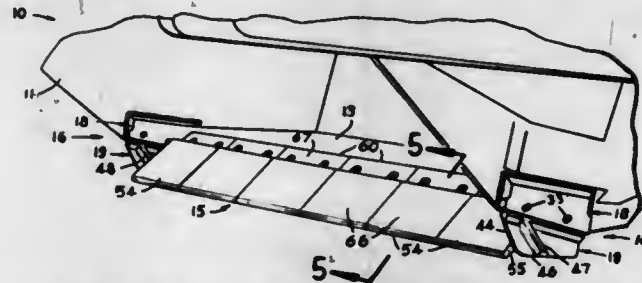
on the sole and heel of the shoe. The respective rearward and forward marginal edges of the plates are hingedly and adjustably joined by novel linking means in a manner to facilitate applying and removing the attachment.

### 3,520,076 BLADE ARRANGEMENT FOR EARTHMOVING EQUIPMENT

Irvin H. Nichols, Auburn, Calif. (4040 Badillo Circle, Apt. 87, Baldwin Park, Calif. 91706)  
Filed July 5, 1967, Ser. No. 651,245  
Int. Cl. E02f 9/28

U.S. Cl. 37-141

8 Claims



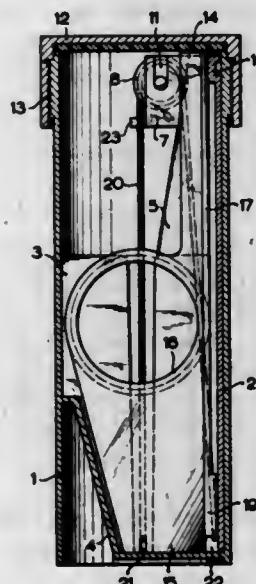
An earth-engaging blade arrangement including a member having a portion to engage the earth and a plurality of portions projecting from one edge thereof for receipt in recesses in a supporting member and held by drive pins, said projecting portions tapering in thickness outwardly from said edge, the earth-engaging surface of the blade projecting laterally outwardly of the surface of the supporting member.

### 3,520,077 STORAGE BOX FOR PRODUCING SOAP BUBBLES OR THE LIKE

Alfred Bockhacker, Ludenscheld, Westphalia, Germany, assignor to Artur Hammer, Ludenscheld, Westphalia, Germany  
Filed May 31, 1967, Ser. No. 642,480  
Int. Cl. A63h 33/28

U.S. Cl. 46-7

10 Claims



This disclosure provides a device for blowing bubbles which includes a frame member movably mounted within

a container which has a cover to maintain the supply of bubble producing liquid therein. A biasing means is mounted in the container to urge the frame member outwardly of the container an amount effective to expose an opening located within the said frame member. The movement of the frame member is limited by corresponding abutment means located on the frame member and the container.

### 3,520,078 SELF-STORING MULTICHARACTERED TOY

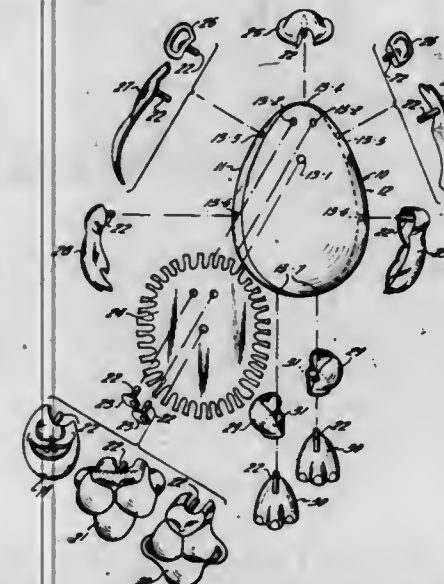
Reuben B. Klammer, 245 S. Barrington Ave., Los Angeles, Calif. 90049

Filed Aug. 14, 1967, Ser. No. 660,356

Int. Cl. A63h 33/00, 3/16

U.S. Cl. 46-22

5 Claims



A self-storing toy having individual sets of pieces adapted for adjustable securement on the outside of a two section break apart shell to provide features representing a variety of characters. Certain of the pieces are positioned to contact both sections of the shell to aid in rigidifying the toy. The pieces can be stored in the shell when the toy is not in use.

### 3,520,079 RIM-DISC TOY

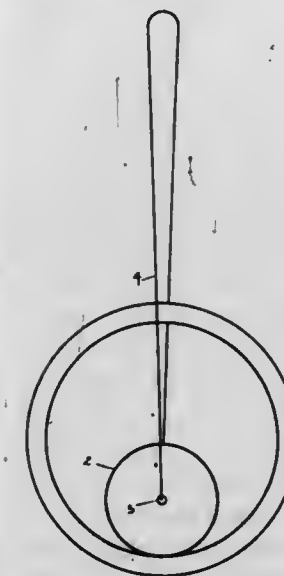
Floyd Barnes, Jr., 2652 W. Lafayette Ave., Baltimore, Md. 21216

Filed Aug. 28, 1967, Ser. No. 664,234

Int. Cl. A63h 1/32

U.S. Cl. 46-47

1 Claim



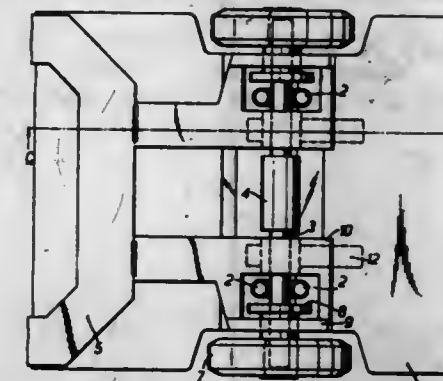
The invention relates to toys, and more particularly to toys of a circular design. The object resides in the provision of a toy made of two separate members attached to appear as two unattached members revolving in a substantially circular orbit in a vertical plane.

**3,520,080  
TOY OR MODEL VEHICLES**  
Howard William Fairbairn, Northampton, England, assignor to The Mettoy Company Limited  
Filed Mar. 7, 1968, Ser. No. 711,272  
Claims priority, application Great Britain, Mar. 22, 1967, 13,380/67

Int. Cl. A63h 11/10

U.S. Cl. 46-201

6 Claims



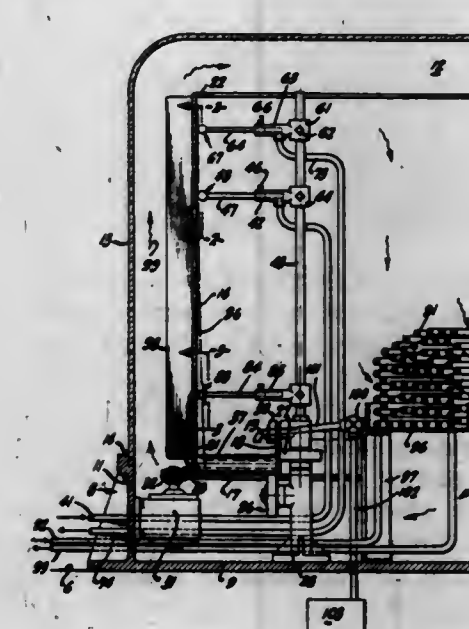
For improving the realism and play value of toy motor vehicles, the road wheels of such vehicles are removable from their supporting axles. Each wheel has on its inner face an axial extension formed externally with a circumferential groove, in which is normally engaged a detent. The detent can be moved out of the groove at will to free the road wheel for removal from its axle. Preferably, the detent is formed by a spring which serves to oppose upward movement of the axle, relative to the body. The means for moving the detent may comprise a rotary cam, mounted on the axle, and having an operating lever which serves as a jack to support the vehicle with one wheel off the ground. The cam may mount the axle on the body, and cause it to be displaced downwardly, in the same action which disengages the detent, to permit the removal of a wheel which would otherwise foul a wheel arch of the body.

**3,520,081  
METHOD FOR GROWING ALGAE**  
William J. Oswald, Concord, Clarence G. Golueke, San Pablo, Charles A. Beeson, El Cerrito, and Don O. Horning, Berkeley, Calif., assignors to The Regents of the University of California, Berkeley, Calif.  
Continuation of application Ser. No. 673,029, Oct. 5, 1967, which is a division of application Ser. No. 411,027, Nov. 13, 1964, now Patent No. 3,362,104, dated Jan. 9, 1968. This application Oct. 31, 1968, Ser. No. 772,434

Int. Cl. A01g 7/00

U.S. Cl. 47-1.4

4 Claims



A method of growing algae includes first providing a body of liquid having a planar surface parallel to an axis,



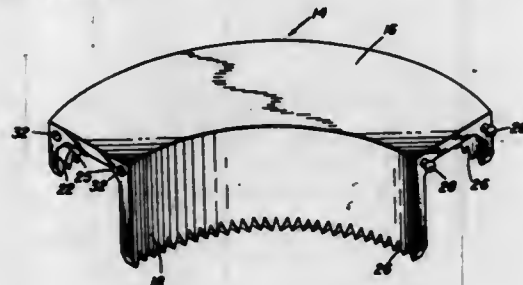
then rotating said body of liquid about said axis sufficiently to reshape said body of liquid substantially into annular form, providing algae and nutrients in said liquid and subjecting said annular body of liquid to light preferably on both sides simultaneously.

### 3,520,082 LANDSCAPE EDGING AND EROSION CONTROL DEVICE

Mary M. Smith, 39 Burwood Ave.,  
Stamford, Conn. 06902  
Filed Jan. 22, 1968, Ser. No. 699,607  
Int. Cl. A01g 1/00

U.S. Cl. 47-33

6 Claims



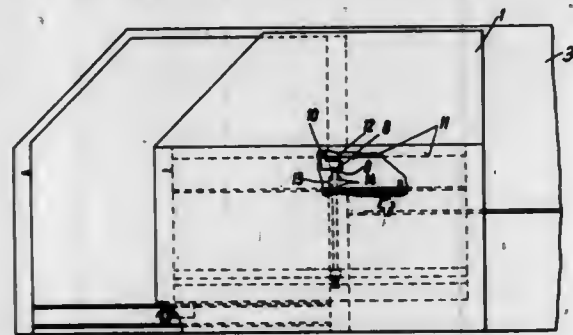
The disclosed edging device consists of plural, modular-U-shaped plastic sections of various configurations arranged end to end for establishing a permanent boundary separating grassed or other vegetation areas and contiguous areas of soil etc. Each section consists of a top of sufficient width to inhibit the spread of vegetation thereacross and depending sides whose bottom edges are serrated to facilitate insertion into the ground. Complementary interconnecting means at the ends of each section connect adjacent ones together. Cleats formed on the underside of the top dig into the ground to maintain initial placement.

3,520,083  
**SWINGABLE SLIDING CAR DOOR ASSEMBLY**  
Gerhard Erb, Kassel, and Ingo Britzke, Kassel-Bettenhausen, Germany, assignors to Wegmann & Co., Kassel-Bettenhausen, Germany, a company of Germany  
Filed Apr. 17, 1968, Ser. No. 722,039  
Claims priority, application Germany, Apr. 21, 1967, W 43,820

Int. Cl. E05d 15/10

U.S. Cl. 49-212

5 Claims

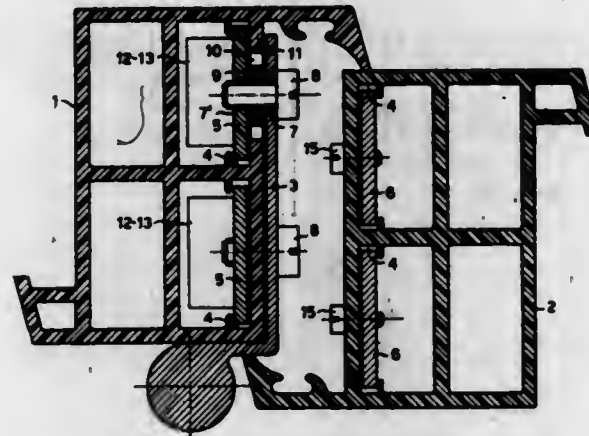


A door for a car particularly for a passenger car which can be opened and closed by a combination of swinging and sliding movements. Linkage means steady the door in all positions thereof. The linkage means also guide and support the door while the same is being moved into and out of its closed position and prevent effectively a tilting of the door out of its correct vertical plane. The door can be gently closed, or can be slammed in the same manner as a hinged door. The entire linkage and guidance mechanism of the door is concealed except for a few barely noticeable slots on the outside of the car body and at the door frame so that the ornamental appearance of a car equipped with the door according to the invention is not marred.

3,520,084  
**FRAME ASSEMBLY**  
Vincenzo Gigante, Via A. Volta 13,  
Monza, Milan, Italy  
Filed Dec. 5, 1968, Ser. No. 781,401  
Claims priority, application Italy, Dec. 12, 1967, 817,422  
Int. Cl. E05d 15/02

U.S. Cl. 49-381

7 Claims

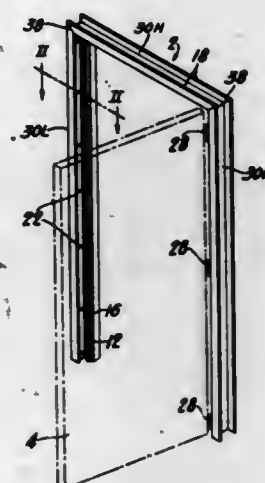


Rigid metal bars are provided in hollow portions of a fixed frame and a hinged frame constituting a plastic frame assembly for doors or windows. Screws are used for fastening the hinges to the bars and slightly thicker spaces are interposed to avoid compression of plastic sections by the screws.

3,520,085  
**ADJUSTABLE DOOR FRAME**  
Robert W. Pond, Bethel Park, Pa., assignor, by mesne assignments, to American Air Filter Company, Inc., a corporation of Delaware  
Filed Dec. 4, 1968, Ser. No. 781,137  
Int. Cl. E06b 1/20

U.S. Cl. 49-505

2 Claims

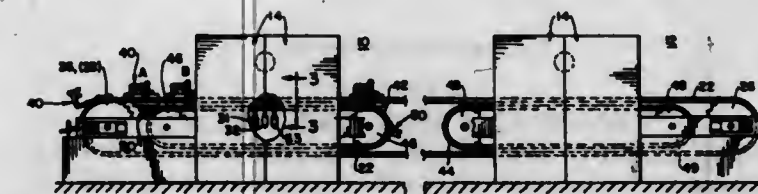


The invention is an adjustable, easily weatherstripped door frame. The adjustable feature is the side jambs and head jamb combination which consists of two overlapping and contiguous members. The jambs can be made to span walls of varying thicknesses by merely sliding one overlapping member over the other in a horizontal direction until the wall has been spanned. The jambs are then secured by inserting a fastener through both overlapping members and securing the fastener into the surrounding wall. The door frame is further distinguished as being easy to weatherstrip by having two normally extending stops located one on each side of the two side jambs and the head jamb. These stops are longitudinally serrated on opposed surfaces and are disposed on a converging course engaging the surrounding wall at a slight angle, leaving a crevice between stops and the wall. Sealant material is applied within this crevice.

3,520,086  
**APPARATUS FOR ORNAMENTING ARTICLES**  
Charles Edward Stevens, East Grand Rapids, Mich., assignor to John M. Exton as trustee of the trust known for business purposes as the Exton Development Company, New York, N.Y.  
Filed July 3, 1967, Ser. No. 650,967  
Int. Cl. B24c 3/00

U.S. Cl. 51-14

22 Claims



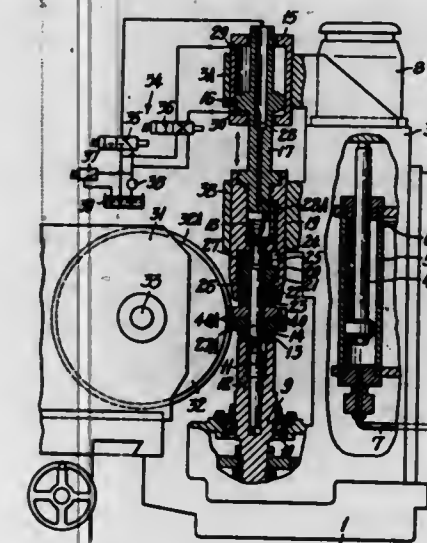
Apparatus for mass producing engraved glass articles comprises a plurality of spaced apart abrasive blasting stations and a main conveyor for moving the glass articles through each of said stations at which a different portion of the design is formed. The articles are contained in individual holders secured to the main conveyor and, at each blasting station, a separate station conveyor brings an individual mask into suitable registration with each of the retained glass articles, after which the design is formed by blasting through the openings of the masks.

The masks are desirably less than one-eighth inch in thickness and comprising a sheet of plastic material reinforced by a metallic plate having openings larger than the openings on the plastic sheet, whereby the openings through which blasting occurs diverge in a direction away from the surface of the article to be blasted.

3,520,087  
**METHOD AND APPARATUS FOR CONCURRENTLY GRINDING THE TEETH OF A PLURALITY OF GEAR STOCK MEMBERS**  
Shigeo Kanai, Yamato-machi, Kitaadachi-gun, and Yukiyasu Nakamura, Sayama-shi, Japan, assignors to Honda Giken Kogyo Kabushiki Kaisha, Tokyo, Japan  
Filed Mar. 14, 1968, Ser. No. 713,013  
Claims priority, application Japan, Mar. 20, 1967, 42/17,046  
Int. Cl. B24b 1/00, 3/00

U.S. Cl. 51-95

10 Claims

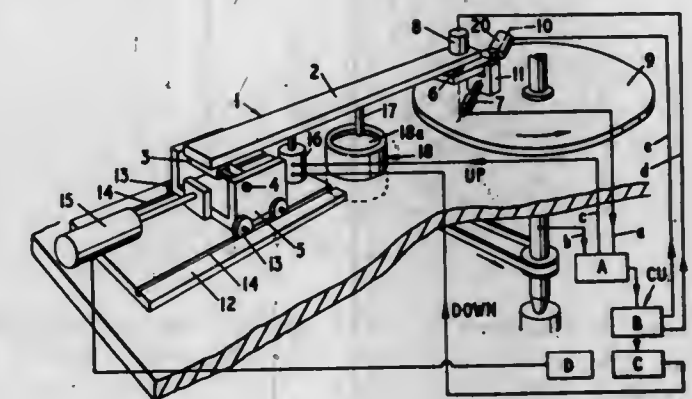


A grinding method and apparatus in which a plurality of gear stock members are supported on a common shaft one above another and are lightly held together and angularly positioned by a rotating spiral grindstone meshing with the teeth until the teeth of the gear members are coincident whereafter the gear members are tightly clamped together and axially reciprocated and rotated to grind the teeth by the spiral grindstone.

3,520,088  
**GEM STONE POLISHING MACHINE**  
Alec Leibowitz, London, England, assignor to Spectrum Diamonds (Proprietary) Limited, Johannesburg, Republic of South Africa, a company of Republic of South Africa  
Filed Dec. 15, 1967, Ser. No. 690,915  
Claims priority, application Great Britain, Dec. 20, 1966, 56,978/66  
Int. Cl. B24b 7/00, 19/00

U.S. Cl. 51-122

5 Claims

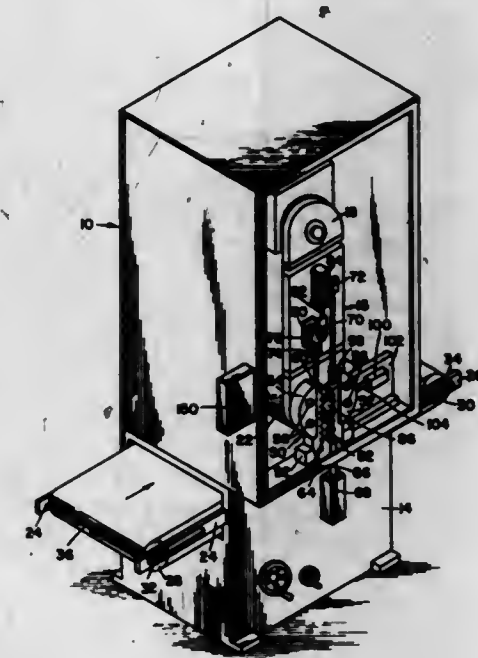


A machine for automatically faceting gem stones which enables a complete ring of facets to be formed on a stone automatically, the machine having a control system for automatically polishing each facet to the same depth and automatically indexing the stone to different facet forming positions between each polishing operation.

3,520,089  
**GRINDING MACHINE**  
Francis M. Owrey, Niagara Falls, Richard D. Rutt, Wilson, and Adolph C. Carlson, Grand Island, N.Y., assignors to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware  
Filed July 19, 1967, Ser. No. 654,578  
Int. Cl. B24b 21/12

U.S. Cl. 51-141

9 Claims



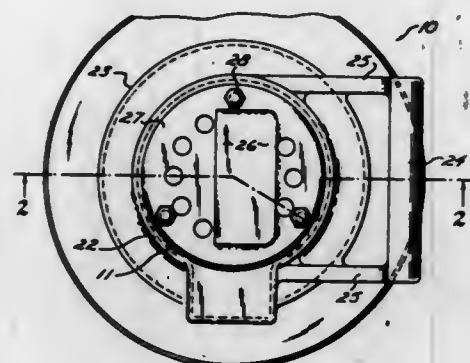
A grinding machine having a contact roll for pressing an abrasive belt against a workpiece. A rack and pinion air-activated lock-up mechanism is provided for automatically positioning the cantilevered end of a contact roll support and locking the same in such position to maintain the contact roll parallel to a workpiece support.



**3,520,090**  
**SURFACE FINISHING MACHINE**  
 Donald Lee, 3633 Strandhill Road,  
 Shaker Heights, Ohio 44122  
 Filed Jan. 29, 1968, Ser. No. 701,144  
 Int. Cl. B24b 23/00; B24d 17/00

U.S. Cl. 51-170

7 Claims



There is disclosed herein a surface treating machine of the type having a freely rotatable member driven in an eccentric path and means for detachably snap fitting a disk of surface finishing material to the rotatable member.

**3,520,091**  
**METHOD OF GRINDING THE EDGES OF LENSES**

Osmond Philip Raphael, Warborough,  
 Oxfordshire, England  
 Filed Aug. 24, 1967, Ser. No. 663,060  
 Int. Cl. B24b 1/00, 5/16, 17/02

U.S. Cl. 51-284

4 Claims

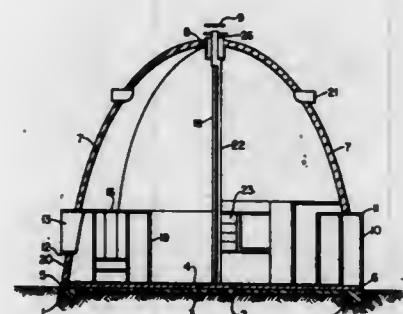


For smoothly grinding the edge of a lens a first template-guided grinding operation is carried out in a conventional manner, followed by a second grinding operation in a lightweight machine devoid of template guidance.

**3,520,092**  
**PREFABRICATED HOUSE**  
 Dragan R. Petrik, 274 Trouw St., Capital Park,  
 Pretoria, Transvaal, Republic of South Africa  
 Continuation of application Ser. No. 272,191, Apr. 9,  
 1963. This application Aug. 19, 1968, Ser. No. 758,648  
 Int. Cl. E04b 1/12, 1/16, 1/32

U.S. Cl. 52-80

10 Claims



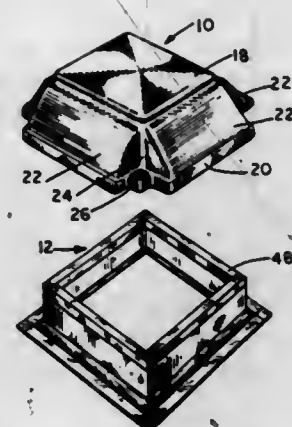
A monolithic readily transportable housing unit made of lightweight materials and including spaced inner and

outer wall members and thermally insulating material located therebetween, the unit having around its lower end a rim which cooperates with a fixed base at a selected site to mount the house room unit in a desired location. The unit also has an opening in the top and a flanged ring is positioned therein to reinforce and fasten the inner and outer walls together and provide an access opening through which a lifting mechanism may be inserted for transporting the unit as a whole from its place of fabrication to its final housing location.

**3,520,093**  
**COVER FOR ROOF VENTILATOR**  
 Phillip Painter, Indianapolis, Ind., assignor to Jenn-Air Corporation, Shadeland, Ind., a corporation of Indiana  
 Continuation of application Ser. No. 690,255, Dec. 13, 1967. This application July 10, 1969, Ser. No. 847,490  
 Int. Cl. E04d 13/03; F24f 7/02

U.S. Cl. 52-200

18 Claims



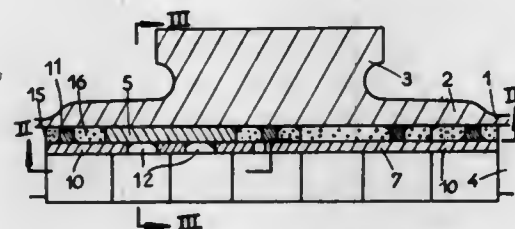
This disclosure is to an improved weather protective cover for a roof ventilator. The cover is preferably of unitary concave-convex configuration having a top and depending side walls adapted to overlie a rectangular building curb and opening for protection from the weather and for establishing air communication from the curb opening to the atmosphere.

The cover has formed therein corners or recesses having laterally extending footing means which are adapted to nest with corners of the curb and be supported thereby. The footing means may be supported directly from the curb or from an orifice which may include a power driven fan.

**3,520,094**  
**DEVICE FOR PROTECTING THE COLLARS OF ROTARY KILNS**  
 Gérard Deynat, Chalon-sur-Saone, France, assignor to Societe des Forges et Ateliers du Creusot  
 Filed Aug. 5, 1968, Ser. No. 750,288  
 Claims priority, application France, Dec. 22, 1967, 133,504  
 Int. Cl. F27d 1/10

U.S. Cl. 52-249

3 Claims

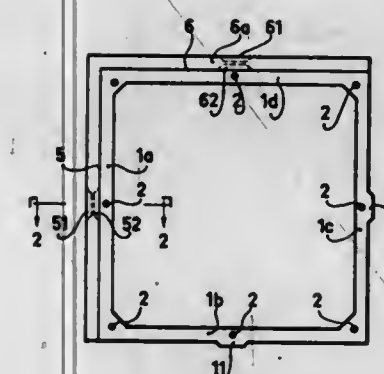


This invention provides a kiln, the collar of which is protected by plates on the inner wall of the collar.

**3,520,095**  
**MOUNTING MEANS FOR TILES**  
 Hans Gottfrid Jonason, Rubinlagen 29, and Fritz Arne Lundmark, Rubinlagen 23, both of Sundsvall, Sweden  
 Filed May 10, 1968, Ser. No. 728,266  
 Claims priority, application Sweden, May 16, 1967, 6,770/67; Apr. 17, 1968, 5,150/68  
 Int. Cl. E04f 13/14, 21/18

U.S. Cl. 52-387

2 Claims

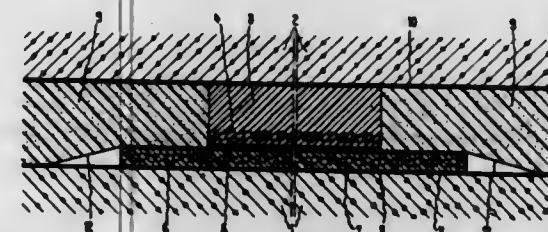


A mounting for tiles consisting of a frame on which a tile is fitted, the frame having a plurality of upstanding guide walls against which edges of a tile are fitted, the frame having edge recesses located below the walls, and the frame has other edges formed with projecting lugs complementary to the recesses so that when a number of the frames are placed together in side-by-side relation, the lugs on some of the frames will fit into the recesses provided on neighboring frames.

**3,520,096**  
**BEARING BETWEEN PARTS OF A BUILDING**  
 Fredi Kilcher, 6 Berthastrasse, 4500 Solothurn, Switzerland  
 Filed July 5, 1967, Ser. No. 651,230  
 Claims priority, application Switzerland, July 20, 1966, 10,500/66  
 Int. Cl. E04b 1/36; E01d 19/04

U.S. Cl. 52-396

4 Claims

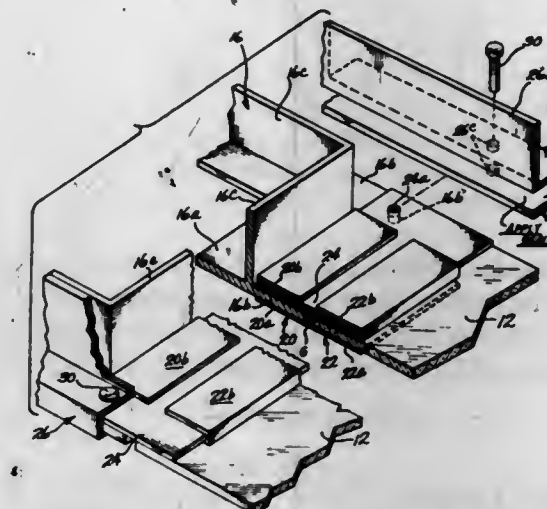


A bearing assembly adapted to be inserted between parts of a building for taking up relative movements of the building parts, comprising thin sliding layers of plastics material such as Teflon applied to an elastic bearing pad and a flexible carrying layer respectively, layers of reinforcing material such as fabrics imbedded in said bearing pad and carrying layer near said sliding layers, the whole assembly being flexible to a degree allowing rolling of tapes thereof, but said reinforcing material preventing deformation of said sliding layers transversely to the load transmitted through the bearing assembly.

**3,520,097**  
**WINDOW FRAME CONSTRUCTION**  
 John F. Bischoff, 17101 Sea Lawn Drive, Edmonds, Wash. 98020  
 Filed Oct. 7, 1968, Ser. No. 765,338  
 Int. Cl. E06b 7/08, 3/62

U.S. Cl. 52-456

4 Claims

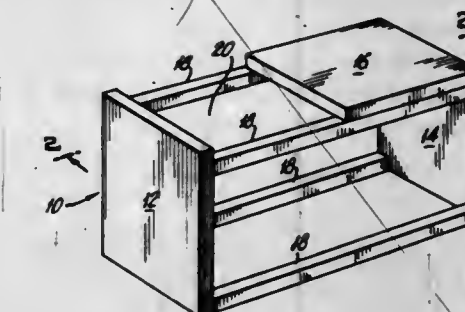


A multi-panel framed window structure is disclosed wherein abutted Z-section members accommodate the mutually adjacent panel edges in oppositely directed channel portions of such members and accommodate a flat locking strip in codirected channels of such Z-section members so as to seal and lock the panels in substantially coplanar relationship. The channel of a peripheral framing member then accommodates the outer peripheral edges of the abutted panel sections as well as the lock strip and is secured thereto by means of a rivet or bolt passing through the channel flanges and the lock strip and one panel section flange or edge portion.

**3,520,098**  
**MODULAR UNIT ASSEMBLY FOR FURNITURE OR BUILDING CONSTRUCTION**  
 William B. Johnston, 229 W. 15th St., New York, N.Y. 10011  
 Filed May 14, 1968, Ser. No. 729,071  
 Int. Cl. E04c 1/08, 1/39

U.S. Cl. 52-503

10 Claims



A modular unit for use as furniture or in building construction. A multiplicity of these modular units can be assembled to form, for example, bookcases, shelving or in larger dimensions, as living or business quarters. The modular units may be stacked vertically in an inter-fitting manner or extended in an horizontal arrangement.

**3,520,099**  
**INTERLOCKING BUILDING SIDING UNIT**  
 Lee H. Mattes, South Bend, Ind., assignor to Mastic Corporation, South Bend, Ind., a corporation of Indiana  
 Filed Sept. 16, 1968, Ser. No. 759,852  
 Int. Cl. E04b 2/08; E04c 2/46; E04d 3/362

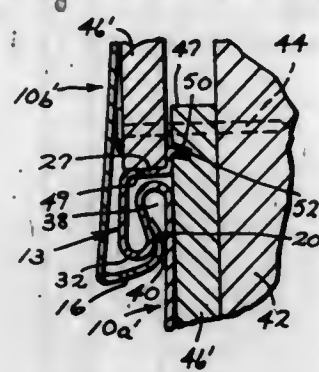
U.S. Cl. 52-531

1 Claim

A building siding unit formed of sheet material and having a panel portion, an upper interlock portion and a lower butt portion. The butt portion of the siding unit



includes an upturned rear flange. The interlock portion of the siding unit includes a downturned forward integral fold which is spaced from the upper edge of the unit and



which defines a channel which has a lower opening and which is adapted to receive in sliding interlocking engagement the upturned rear flange of the butt portion of an overlapping siding unit in the upper adjacent siding course.

3,520,100

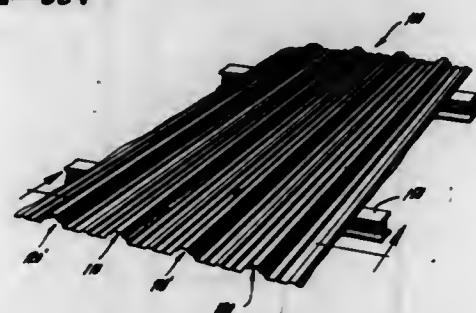
# **RIGID INTERLOCKING OVERLAPPING PANEL JOINT WITH A DRAIN GROOVE**

Jesse J. Webb, Chamblee, Ga., assignor to Dixsteel Buildings, Inc., Atlanta, Ga., a corporation of Georgia  
Filed Aug. 12, 1968, Ser. No. 751,867

Int. Cl. E04d 3/361, 13/04

U.S. Cl. 52-534

2 Claims



This is a panel construction for buildings which contains structural deep ribs. It defines improved drain grooves, especially in the side lap thereof to ensure proper drainage of moisture created by capillary action and the like. The panel is adapted to lapped installation with corresponding panels, whether each is made of metal or plastic or a combination of the two. The panel construction is said to be balanced to ensure resistance to bending loads that may be applied to either side thereof and as a result of the structure, it creates a uniquely durable and strong building construction.

3,520,101

# **WELDED WIRE FABRIC SUPPORT**

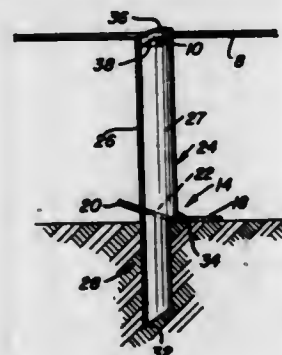
Alvin G. Casto, P.O. Box 317,  
Cambria, Calif. 93428

Filed Aug. 20, 1968, Ser. No. 753,939

Int. Cl. E04c 5/18; E04b 5/32

U.S. Cl. 52-681

3 Claims



Support means for welded wire fabric such as is currently used to reinforce concrete slabs resting atop a suitably compacted fill or subgrade. These slabs are

commonly used in the construction of sidewalks, garage, barn and enclosure floors, highways, airport runways and the like. A unique spike coacts with an equally unique sill plate which resides firmly atop the subgrade and elevates, supports and anchors the wire fabric at the prescribed level above the slab's bottom and below its top. The grade level sill plate is separate from the companion spike. This makes for compactness and convenience in shipping, handling and storage and makes the task of assembling and installation relatively simple and easy.

3,520,102

# **DEVICE AND PROCESS FOR EXTRACTING STOPPERS OR CLOSURES SEALING CONTAINERS**

Marc Emile Henrion, Gennevilliers, France, assignor to D.M.S. Distribution de Marques Selectionnees—Societe Anonyme

Filed June 29, 1967, Ser. No. 649,979

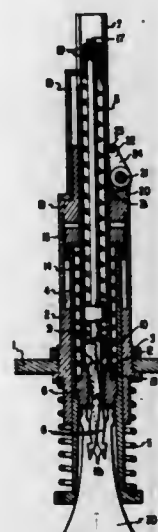
Claims priority, application France, July 6, 1966,

68,310; May 22, 1967, 107,150

Int. Cl. B67b 7/12, 7/24

U.S. Cl. 53-77

12 Claims



A device for extracting stoppers from containers having a pair of spreadable X-members for penetrating and retaining the stopper, a movable member for receiving the container and for spreading the X-members, and an ejector assembly for removing the container from the X-members.

3,520,103

# **APPARATUS FOR TUCKING IN VERTICAL END WEBS OF AN OVERWRAP**

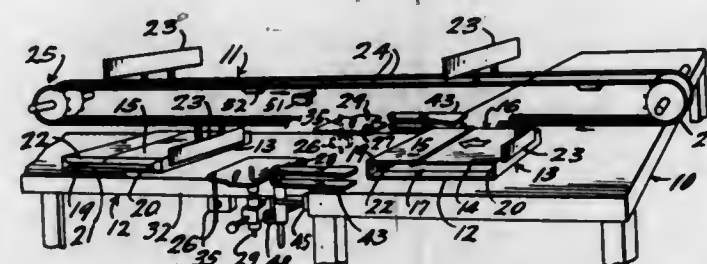
Charles R. Stevens, 4931 Oak Ridge Drive,  
Toledo, Ohio 43623

Filed May 6, 1968, Ser. No. 726,674

Int. Cl. B65b 7/04, 57/18

U.S. Cl. 53-78

3 Claims



An apparatus for tucking in the outwardly protruding ends of an overwrap, particularly a heavy paper overwrap of a rectangular block of sheets of paper such as a ream. The edges of the overwrap are overlapped and sealed in a previous operation and the overwrapped block is introduced into the apparatus for movement along a path perpendicular to the overlapped seal. The apparatus has a conveyor for pushing the girth wrapped reams of paper between a pair of laterally spaced, horizontal plates that

are pivotally mounted on vertical axes and that are spaced from each other a distance just slightly larger than the corresponding length of the block or ream of sheets. The plates engage the leading or front vertical web of the portion of the overwrap which extends beyond the block at a level approximately midway between the top and bottom of the block, and tuck the vertical webs of the overwrap horizontally inward between the horizontal webs thereof extending beyond the ream or block of sheets. When either of the plates is engaged by the corner of a canted or not centrally positioned block, it is swung outwardly on its vertical axis. The electrical circuit to the motor for the conveyor comprises two switches which are normally held closed actuators carried by the horizontal tucker plates. When either one of the tucker plates is swung outwardly by the corner of an offset or canted block of sheets, the respective switch opens thus stopping the conveyor so that the operator may reposition the girth wrapped folio or ream in properly centered position on the line between the tucker plates. Rear end tuckers are tripped to tuck in the rear vertical webs of the overwrap just prior to their arrival at the location of the horizontal tucker plates. The conveyor may then move the block through folding shoes or the like which fold the horizontal webs of the overwrap around the tucked in end webs and the block of sheets.

3,520,104

# **CARTONING MACHINE**

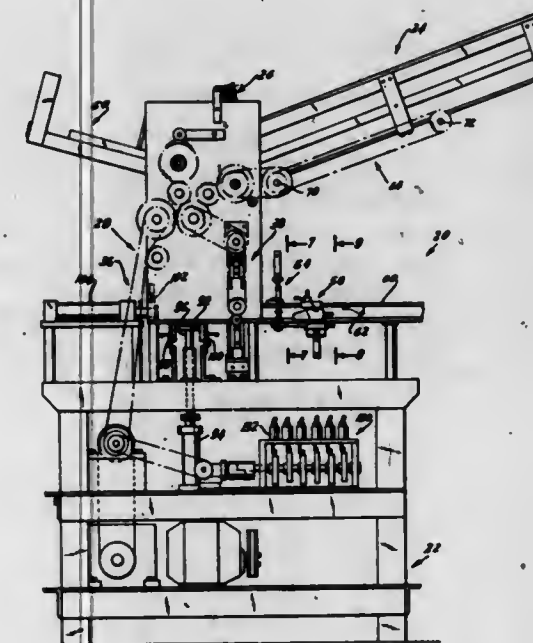
Adrian C. Mizelle and Robert D. Gillespie, Petersburg, Va., assignors to Brown and Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware

Filed June 7, 1968, Ser. No. 735,296

Int. Cl. B65b 61/20, 61/26

U.S. Cl. 53-131

6 Claims



A cartoning machine is provided for enclosing two rows of five packages of cigarettes each in a carton blank. A hopper on the machine chassis supports a plurality of substantially flat carton blanks in stacked relationship. A blank feeder serves to feed one blank at a time from the hopper to a location at which packages of cigarettes are adapted to be assembled therewith. A coupon feeding means is positioned on the support for feeding and coupling a coupon to each blank as it is fed from the hopper. The blank is then supported at the assembly location until the selected number of packages are collected for assembly therewith. A feeding mechanism for wrapped cigarette packages serves to collect the selected number of packages for assembly with the blank. An

elevator operates to arrange the packages in superimposed rows at an elevated position, and a support co-operates in supporting the elevated rows of packages. A plunger mechanism moves the top two rows of the packages into engagement with the support carton blank, and moves the blank and two rows of packages horizontally to a first station at which the blank is partially enclosed about the packages. A folding mechanism co-operates with the blank moving from the initial assembly location to the first station such that the blank has a leading panel over the forward end of the two rows of packages and top and bottom panels over the respective top face of the top row and bottom face of the bottom row together with bottom and side end flaps over part of the ends of the two rows. At the first station, the blank will have extending trailing top and bottom flaps and top end flaps. A pasting mechanism is so located as to apply a pattern of paste to one of the trailing flaps prior to the folding of these flaps. A flap folding means serves to fold these trailing flaps with the pattern of paste therebetween. Indicia applying means are positioned along the path of travel of the partially folded carton blank for applying selected indicia to the blank. The indicia applying means includes an anvil member vertically aligned with an imprinting member having selected indicia thereon. The members are positioned so that an end flap of a blank will become located therebetween and reciprocal drive means are present to drive one member with respect to the other so that the end flap is pressed therebetween to thereby emboss selected indicia thereon. The end flaps then have paste applied thereto by an end flap pasting means. Various pasting means each include reciprocating drive means on the support of the machine. A member is connected to the drive means so that it will reciprocate as the drive means reciprocates. The member has at least one chamber within and at least two passageways extending from each of the chambers to the exterior of the member. One of the passageways is adapted to be connected to a source of paste thereby permitting paste to enter the chamber. An applicator body is mounted in each of the passageways and has a central bore therein. An applicator rod is slidably mounted in the bore with one distal end extending from the exterior portion of the member and has openings therein which permit paste to pass from the chamber through the openings and out of the distal end of the rod to be applied to the end flaps when the drive means drives the member to an open position and precludes the paste from passing into the openings when the drive means drives the member to a closed position. Biasing means are present in the chamber tending to maintain the rod in the closed position. Following application of the paste to the top end flaps, a folding mechanism completes the folding of the carton by securing the end flaps to one another. The blanks and enclosed packages are directed along a substantially linear path from the initial assembly location to the discharge end of the cartoning machine.

3,520,105

# **MACHINE FOR FEEDING OBJECTS TO BE PACKED ONTO PLATES, TRAYS OR THE LIKE**

Folke Gustav Adolf Stenberg, Kungälv, Sweden, assignor to Aktiebolaget Iwema, Göteborg, Sweden, a corporation of Sweden

Filed Nov. 3, 1967, Ser. No. 680,409

Claims priority, application Sweden, Jan. 30, 1967,

1,289/67

Int. Cl. B65b 5/10

U.S. Cl. 53-244

3 Claims

The present invention relates to a machine for feeding uniform objects to be packed, such as cans and boxes, onto trays and the object of the invention is to ensure the







3,520,113

**AIR POLLUTION CONTROL DEVICE**

Rufus Stokes, 53 E. 67th St., Chicago, Ill. 60637

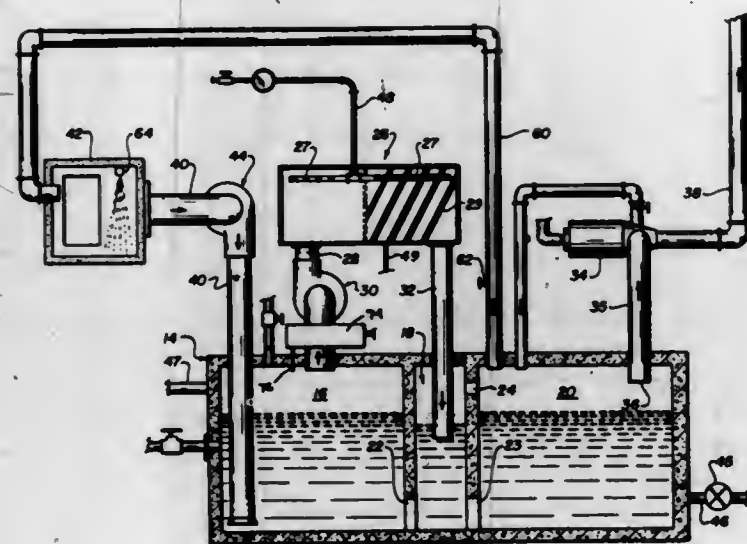
Filed Jan. 8, 1968, Ser. No. 697,283

(Filed under Rule 47(b) and 35 U.S.C. 118)

Int. Cl. B01d 47/00

U.S. Cl. 55-223

8 Claims



An air pollution control apparatus which includes, generally, a high pressure blower system for forcing the exhaust gases into a primary mixing chamber which comprises one of three water containing chambers within a tank. The exhaust gases are blown into the primary mixing chamber, below the surface of the water, so that the fumes will bubble through the water upon rising to the top. As the fumes rise to the top of the water, additional high speed blowers draw them out of the primary mixing chamber and force them into a precipitator-filter unit. In the precipitator-filter unit, the fumes are "washed" by means of a water spray and are filtered to remove still additional particulate matter. From the precipitator-filter unit, the fumes are returned to another mixing chamber within the tank. This mixing chamber is of a construction such that the fumes are retained therein, under pressure, so that the gases are absorbed by the water within the chamber. From this mixing chamber, the gases flow into a settling chamber within the tank. The water in this chamber is generally quiescent, and the fumes are retained in this chamber, until the fumes are drawn out of it, by the draft of the exhaust stack.

3,520,114

**VORTEX AIR CLEANER ASSEMBLY HAVING UNIFORM PARTICLE REMOVAL EFFICIENCY THROUGHOUT THE ARRAY OF AIR CLEANERS**

David B. Pall, Roslyn Estates, and Robert I. Gross, Roslyn Heights, N.Y., assignors to Pall Corporation, Glen Cove, N.Y., a corporation of New York

Filed June 28, 1968, Ser. No. 740,937

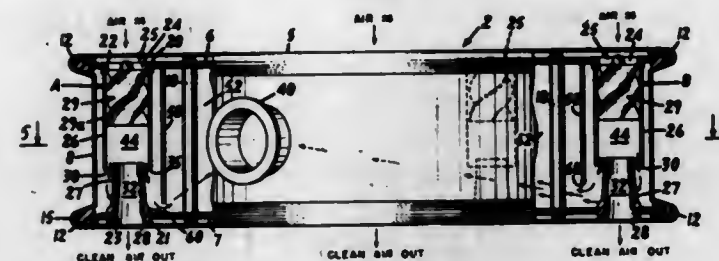
Int. Cl. B01d 45/12; B04c 3/00, 5/28

U.S. Cl. 55-347

18 Claims

A vortex air cleaner assembly is provided having an array of vortex air cleaners which remove contaminant particles from influent air. Each air cleaner in the array exhausts the removed particles in a scavenge flow of air through a scavenge passage into a chamber. The particles are swept from the chamber through a scavenge port by the scavenge flow. Variations in the upstream, downstream, and scavenge pressure drops between air cleaners at various points in the array cause variations in the scavenge flow resulting in poor particle removal efficiency. This invention provides a flow restricting means

in the line of flow from the scavenge passage of the air cleaners to the scavenge port. The flow restricting means compensates for the differences in pressure differential referred to above and provides relatively uniform scavenge



flow and uniform particle removal efficiency. A partition in the array is also provided to separate portions of the array so that the scavenge flow can be made uniform within each portion independently of the other portion.

3,520,115

**COLLAPSIBLE HOOD ASSEMBLY**

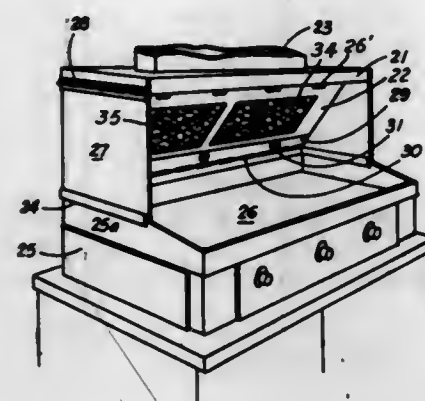
Lonnie E. Bowen, Bridgeton, Mo., assignor to American Air Filter Company Inc., Louisville, Ky., a corporation of Delaware

Filed June 24, 1968, Ser. No. 739,466

Int. Cl. B01d 46/42

U.S. Cl. 55-422

3 Claims



A hood assembly including a frame member with apertured panel means hinged to the frame to be extended outwardly from the frame to receive a stream of air through the apertures and to be folded into the frame in collapsed relation. Side panel means are hinged to the frame to be folded to the frame in closed position and opened to extend outwardly from the frame in contact with the sides of the first panel means and seal panel means are provided to support the first panel means at an angle relative to the frame in gas receiving position and to prevent flow of air around the first panel means. Gas permeable liquid de-entrainment pads can be provided to cover the apertures to remove liquid droplets entrained in the gas stream.

3,520,116

**VAPOR-LIQUID SEPARATOR HAVING IMPROVED VANE SPACER MEANS**

Robert Raphael Good, Dallas, Tex., assignor to Peerless Manufacturing Company, a corporation of Texas

Filed Dec. 23, 1968, Ser. No. 786,023

Int. Cl. B01d 45/00

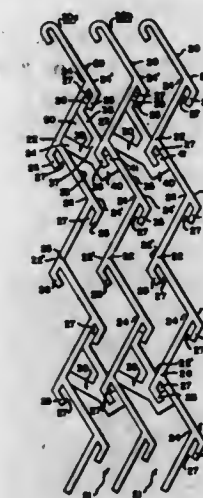
U.S. Cl. 55-440

5 Claims

A vapor-liquid separator, including spaced zig-zag shaped vanes separated by removable spacers formed to abut the surface of one vane in the vicinity of a crest thereof and the surface of a fin or pocket element of

an oppositely disposed vane, and further having tabs diagonally opposed which, respectively, fit snugly and

disposed selectively at whatever angles, relative to a "normal" horizontal position of the blade are necessary in order to cut growths lying adjacent sloping shore surfaces, at approximately uniform heights.



3,520,118

**INTERCHANGEABLE HEADER FOR USE WITH TRAIL-TYPE AND SELF-PROPELLED AGRICULTURAL HARVESTING MACHINES**

Lawrence M. Halls, New Holland, and Henry N. Lausch, Leacock, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed July 26, 1968, Ser. No. 747,908

Int. Cl. A01d 69/00

U.S. Cl. 56-10

18 Claims



partly in a pocket of the one vane and in a diagonally opposite pocket in the opposite vane.

3,520,117

**UNDERWATER WEED CUTTER MECHANISMS**

Rudolph J. Pepke, Cleveland, and Charles E. Metzler, Avon, Ohio, assignors to R-C Water Weeder Company, Inc., Cleveland, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 538,491,

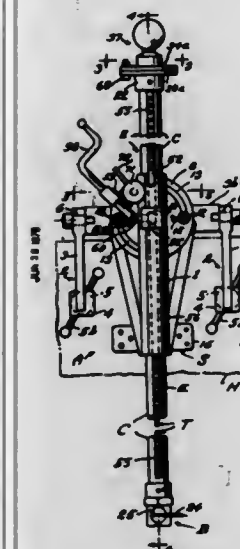
Mar. 24, 1966. This application Nov. 30, 1967, Ser.

No. 692,619

Int. Cl. A01d 45/08

U.S. Cl. 56-8

11 Claims



An underwater, weed cutting unit wherein the scythe-type cutter blade, during weed-cutting operations thereof incident to forward movement of a supporting boat, is held in cutting position by a torque rod-type supporting shaft in a tubular casing mounted in normally fixed upright position on the boat hull. The supporting shaft has a plurality of torsionally rigid sections and interposed leaf spring-like, twistably flexible sections designed for strong torque spring reactance to the cutting operation. Suitable adjustment means enables the cutter blade to project from a lower end portion of the supporting shaft at or into whatever angular positions, as about a vertical axis, are or may be found to be most effectual in respect to the particular weed growths, depths or other variables that are encountered. The cutter blade is raised and lowered by a rack and pinion mechanism; and the rack is manually releasable via a pawl biased to engage the rack. An adjustable jacking device, as between the tubular casing and the boat hull, enables the cutter blade to be

3,520,119

**COTTON PICKER**

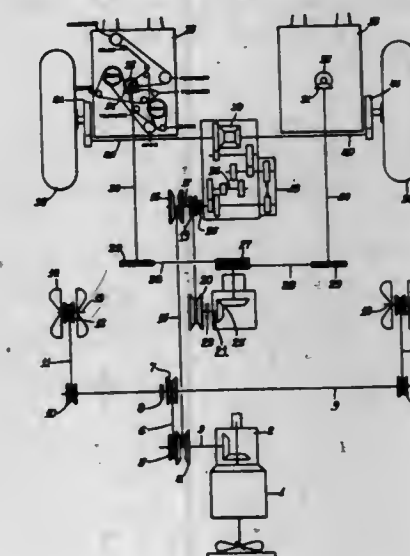
Robert S. Brace, Edward L. Robinson, Jr., and Paul J. Hulseberg, Memphis, Tenn., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed May 21, 1968, Ser. No. 730,827

Int. Cl. A01d 45/18

U.S. Cl. 56-14

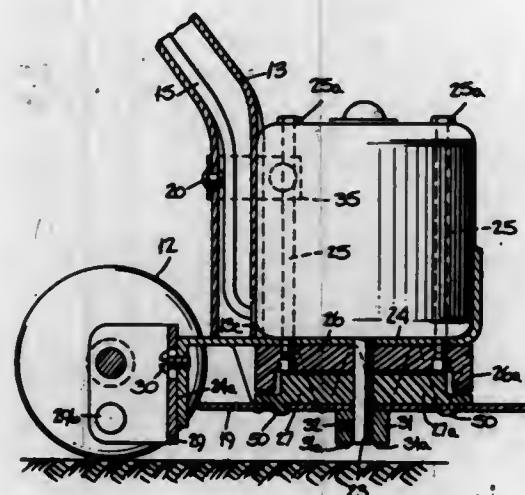
10 Claims



A cotton picker having a traction wheel driven ground traversing structure supporting a picker with rotors therein, a receptacle for harvested cotton and a conduit with constant speed fan means for conveying the cotton from the picker to the basket, and a power train from an engine to an input shaft of a transmission providing variable speed drive between the engine and the transmission driving the traction wheels and a drive from the input shaft of the transmission to the cotton picker rotors so that the speed of the rotors and the ground drive speed is synchronized independent of the fan speed.

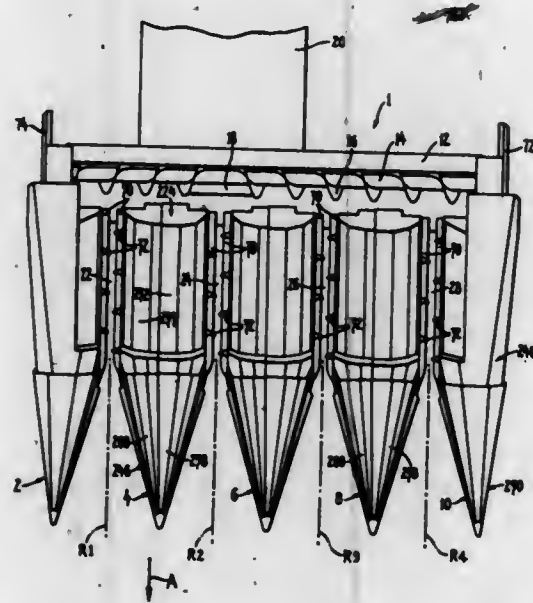


**3,520,120**  
**BATTERY OPERATED EDGER-TRIMMER AND POWER SCYTHE**  
 John R. Hardin, Jr., R.D. 1, Claremont Road, Bernardsville, N.J. 07924  
 Filed Jan. 22, 1968, Ser. No. 699,543  
 Int. Cl. A01d 35/26  
 U.S. Cl. 56—25.4 7 Claims



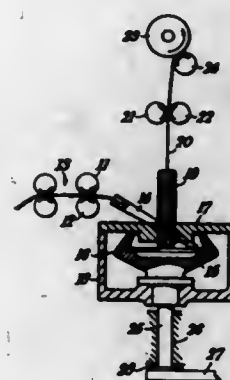
An edger trimmer power scythe for cutting growth including a deck having first and second sides and a motor located on a first side of the deck and rigidly secured to the deck. The motor has a shaft that projects through the deck with a cutter blade coupled to the shaft. A clog guard is secured to the second side of the deck and along with a rotor which is rotatable with the cutter blade prevents growth that is being cut from wrapping around the motor's shaft.

**3,520,121**  
**MULTI-ROW CORN HARVESTER**  
 Robert Ashton and James G. Butler, Islington, Ontario, Canada, assignors to Massey-Ferguson Industries Limited, Toronto, Ontario, Canada  
 Filed Dec. 28, 1966, Ser. No. 605,475  
 Int. Cl. A01d 45/02  
 U.S. Cl. 56—106 12 Claims



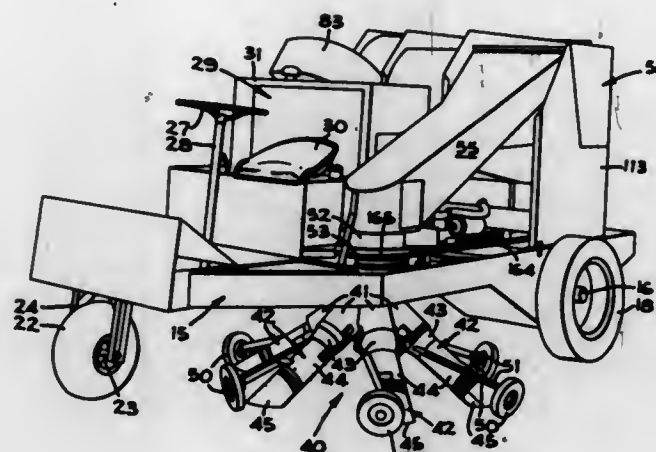
A combine header for harvesting corn (maize) in which a plurality of gathering and snapping units each having gathering chains and snapping rolls are supported side by side on a transverse tool bar or supporting beam and can be adjusted toward and away from each other to accommodate different corn row spacings.

**3,520,122**  
**SPINNING OF TEXTILE YARNS**  
 John Michael Shepherd, Ramsbottom, near Bury, England, assignor to T.M.M. (Research) Limited, Oldham, England, a British company  
 Filed Sept. 8, 1967, Ser. No. 666,361  
 Claims priority, application Great Britain, Sept. 12, 1966, 40,583/66  
 Int. Cl. D01h 1/12, 7/00  
 U.S. Cl. 57—58.89 12 Claims



An open-end fiber spinning apparatus in which the inner surface of the spinning rotor is provided with a fiber collecting circumferential groove. The groove is needle free and projection free and converges to a sharp point in which fibers are deposited and compacted before being twisted into a yarn.

**3,520,123**  
**NUT HARVESTER INCLUDING ROTATABLE SUCTION TUBES**  
 Joseph M. Patterson, Winter Park, Fla., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware  
 Filed July 11, 1967, Ser. No. 652,506  
 Int. Cl. A01g 19/00  
 U.S. Cl. 56—328 6 Claims



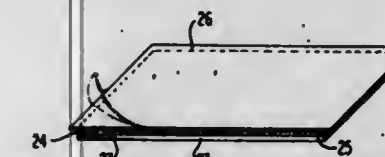
A nut harvesting machine, which moves along the ground, has a rotor with a plurality of suction tubes extending downwardly and outwardly therefrom. The tubes are vertically movable, and the ends thereof, which move in orbital paths, are maintained closely spaced from the ground by gage wheels. A centrifugal blower draws nuts and debris through the suction tubes, rotor, and a suction duct. A centrifugal chamber and a vortex chamber between the duct and the blower separates the light debris from the nuts and heavy debris, which fall through a rotary vacuum sealing valve to a conveyor. The conveyor has an upper run which moves larger debris in one direction and has a lower run which moves the nuts and small

debris on a grate in the opposite direction. The grate passes the small debris, and the nuts are carried from the grate by an elevator to a receptacle.

# ERRATUM

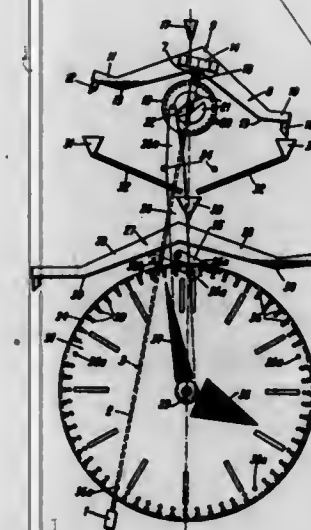
For Class 57—58.89 see:  
 Patent No. 3,520,122

**3,520,124**  
**TIMER DEVICE**  
 Sumner Myers, 3248 Patterson St. NW., Washington, D.C. 20015  
 Filed Feb. 13, 1969, Ser. No. 799,055  
 Int. Cl. G01d 21/00; G04f 1/00  
 U.S. Cl. 58—1 11 Claims



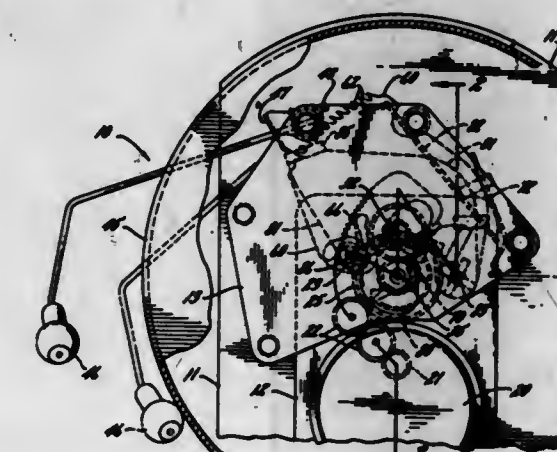
A device for indicating a predetermined time interval based on two or more materials which react, either chemically or physically over a predetermined period to produce a termination signal. The reacting materials are carried on a base member and are separated by a barrier preventing contact therebetween. Upon elimination of the barrier, a commencement signal is produced indicating the time reaction is underway. In preferred embodiments the commencement and termination signals involve abrupt color changes. The device finds particular utility as an elapsed time indicator for indicating motor vehicle parking time.

**3,520,125**  
**PENDULUM CLOCK**  
 Hans Arthur Kuhn, Erlenweg 14, Zollikofen, Switzerland  
 Filed Jan. 22, 1969, Ser. No. 793,068  
 Claims priority, application Switzerland, Jan. 24, 1968, 1,289/68  
 Int. Cl. G04b 17/02, 45/00  
 U.S. Cl. 58—2 7 Claims



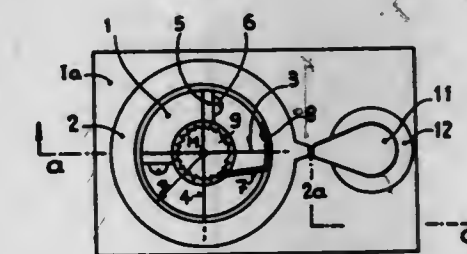
A liquid power pendulum clock is disclosed, the clock comprising a source of liquid for supplying motive power, a pivotally mounted beam member, time-indicating means controlled by the beam member, and regulator means including a pivotally mounted balance means rigidly mounted on the pendulum for controlling the beam member. The balance means includes two channel-shaped arms for receiving the liquid, each of the arms having pocket means in communication with the channel means for temporarily holding the liquid. In the extended position of the pendulum, the liquid is collected in one of the arms and discharged from the other whereby the beam member is alternatively acted upon on each side by the liquid being discharged from the balance means. The oscillation of the pendulum thus affected causes a cam-controlled drive lever to turn a minute disc and an hour wheel. A damper is provided so as to prevent the pendulum from swinging too far.

**3,520,126**  
**STRIKER MOVEMENT FOR ELECTRICALLY DRIVEN CLOCK**  
 Walter F. Kolodziej, La Salle, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware  
 Filed Oct. 15, 1968, Ser. No. 767,650  
 Int. Cl. G04b 21/04 8 Claims



A striking clock movement having a counting rack which is advanced past a pawl to operate a striker, the counting rack being located in an initial position by a snail for the striking of the hour and located in a single strike position by a half-hour positioning cam for the sounding of a single stroke at the half hour. A two-lobed minute cam initiates movement of the counting rack at the hour and half hour positions.

**3,520,127**  
**SPRING ACTION OSCILLATOR**  
 Hans Meyer, Bugnon 24, Renens, Switzerland  
 Filed Aug. 1, 1968, Ser. No. 749,452  
 Claims priority, application Switzerland, Aug. 2, 1967, 10,892/67  
 Int. Cl. G04c 3/04 8 Claims



A spring action oscillator has a steady frame and at least one oscillating member, as well as springs arranged radially to the oscillating member, which springs are secured by one of their ends to the frame and engage the oscillating member with the other end. The springs are of such shape that, within the range of useful oscillatory amplitudes, at the location of their points of contact with the oscillating member, they move along a circular arc, the center of which is located on the axis of rotation of the oscillating member.



3,520,128

**AUTOMATIC TIME DISTRIBUTION SYSTEM**

Oleg Dmitrievich Novikov, Trifonovskaya ul. 61, kv. 69; Viktor Alexandrovich Ilin, Oruzheiny per. 25, kv. 126; Vladimir Alexandrovich Shpolyansky, Ul. Lizy Chaikinoi 6, kv. 113; Valery Germanovich Serebrenny, Golanovo, korp. 32, kv. 77; Eduard Khadzhimurovich Chichev, I Dmitrovsky proezd 4, kv. 117; and Boris Leonidovich Rudyakov, Novokuznetskaya ul. 24, kv. 15, all of Moscow, U.S.S.R.

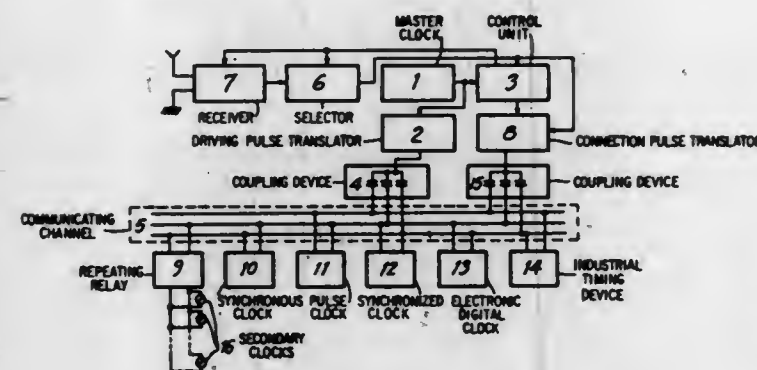
Filed Nov. 28, 1967, Ser. No. 686,268

Claims priority, application U.S.S.R., Nov. 28, 1966, 1,117,271

Int. Cl. G04c 13/02

U.S. Cl. 58—33

2 Claims



An automatic time distribution system in which an independent master clock is connected to a plurality of secondary timing devices via a receiver of exact time radio signals and a selector of exact time signals connected to the receiver for detection of a time mark, which is used as a base for generating a signal to correct the secondary timing devices and for conversion of the time mark to a correction signal. A control unit has inputs connected to the selector and the independent master clock and it includes means for generating its own correction signal when a correction signal fails to come from the selector in due time. A communication channel is connected to the secondary timing devices while an informational driving pulse translator has an input connected to the independent master clock and an output connected to the communication channel, and an informational correction pulse translator has inputs respectively connected to the control unit and to the selector of exact time signals and an output connected to the communication channel.

3,520,129

**TIMEPIECE WITH ROTATABLE BEZELS**

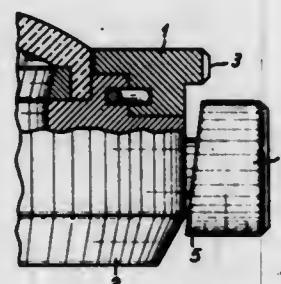
Ernest Schneider, Evillard, Switzerland, assignor to Sicura Watch Co. Ltd., Grenchen, Switzerland, a company

Filed Mar. 11, 1969, Ser. No. 806,232

Int. Cl. G04b 39/00

U.S. Cl. 58—91

3 Claims



A time piece has a rotatable bezel in a ring for locking the bezel in a given regular position.

3,520,130

**SUSPENDING DEVICE FOR TIMEPIECE MOVEMENT**

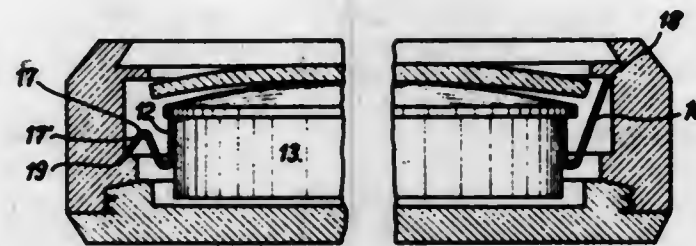
Jean-Jacques Oltramare, Naefels 4, La Chaux-de-Fonds, Switzerland

Continuation-in-part of application Ser. No. 620,527, Mar. 3, 1967. This application July 5, 1968, Ser. No. 742,594

Int. Cl. G01d 11/10; G04b 37/04

U.S. Cl. 58—94

9 Claims



Device for suspending in a shockproof manner a timepiece movement in a case by means of an axially extending part for holding the movement and a radially projecting flange part supported by the inner wall of the case, at least one of these two parts having elastic teeth for resiliently suspending the movement in the case in both axial and radial directions.

3,520,131

**EXHAUST GAS CONTROL**

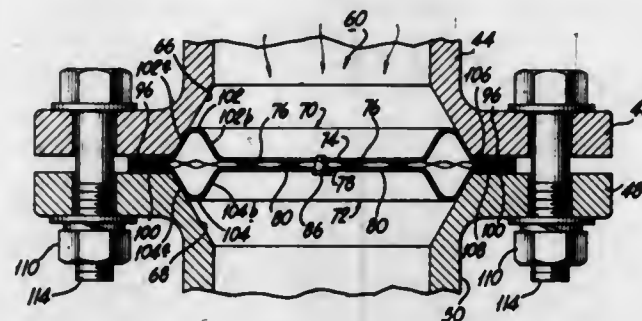
Southwick W. Briggs, 6420 Western Ave., Chevy Chase, Md. 20015

Filed Mar. 4, 1968, Ser. No. 710,104

Int. Cl. F01n 3/10

U.S. Cl. 60—30

14 Claims



Apparatus for reducing the pollution from exhaust gases flowing into the atmosphere from an exhaust conduit comprising a pair of closely spaced apart orifice plates disposed transversely across the path of gas flow in said conduit. Each of said plates includes at least one orifice opening therein substantially smaller than the flow area in said conduit and the openings in one orifice plate are in coaxial alignment with the orifice openings in the other and of different size to define a low mass venturi, thereby permitting exhaust gases to flow through aligned orifices at high velocity. Means are provided defining one or more outside air passages between the orifice plates, each passage having an outer end in communication with the atmosphere at the outer edge of the orifice plates for introducing a flow of outside air into the low pressure region developed by the high velocity gas flow through the aligned orifice openings. The outside air aids in further combustion and burning of the unburned components in the exhaust gas.

3,520,132

**STORED AIR SUPERCHARGER FOR RECIPROCATING INTERNAL COMBUSTION ENGINE WITH CONSTANT PRESSURE COMBUSTION**

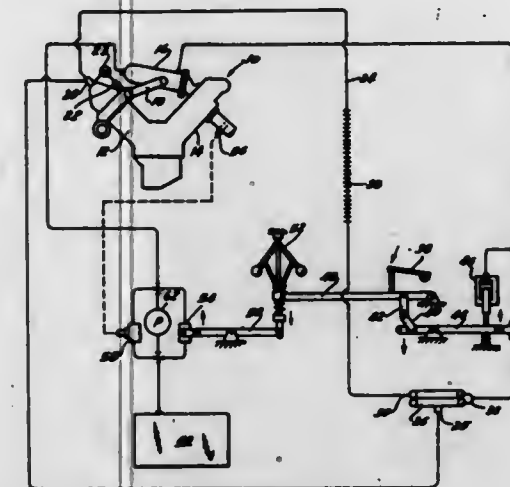
Glenn B. Warren, 1361 Myron St., Schenectady, N.Y. 12309

Continuation-in-part of application Ser. No. 806,159, Mar. 11, 1969. This application June 18, 1969, Ser. No. 834,335

Int. Cl. F02g 3/00

U.S. Cl. 60—39.6

7 Claims



A stored air supercharging system is provided for a reciprocating engine with constant pressure combustion in a combustion chamber separated from the compression and power cylinders. The system includes a reservoir supplied through an air cooler by the compression cylinder discharge, as well as means for controlling and limiting the increased air and fuel furnished to the combustion chamber. At times of increased power requirements, a small quantity of air may be bled into the inlet of the combustion chamber with additional fuel to provide additional horse power without creating excessive pressure or temperature in the combustion chamber.

3,520,133

**GAS TURBINE CONTROL SYSTEM**

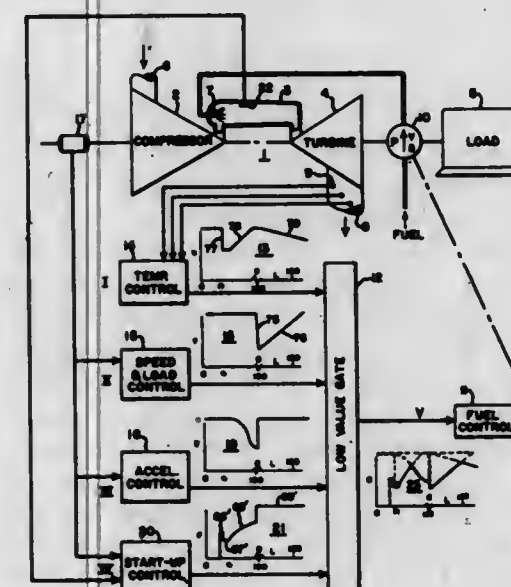
Arne Loft, Scotia, and Daniel Johnson, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Mar. 14, 1968, Ser. No. 713,107

Int. Cl. F02c 9/06, 7/26

U.S. Cl. 60—39.14

7 Claims



An integrated gas-turbine control system providing for open loop event-sequenced or programmed start-up con-

trol with a plurality of closed loop constraints simultaneously controlling the gas turbine in accordance with operating conditions such as temperature, speed and acceleration.

3,520,134

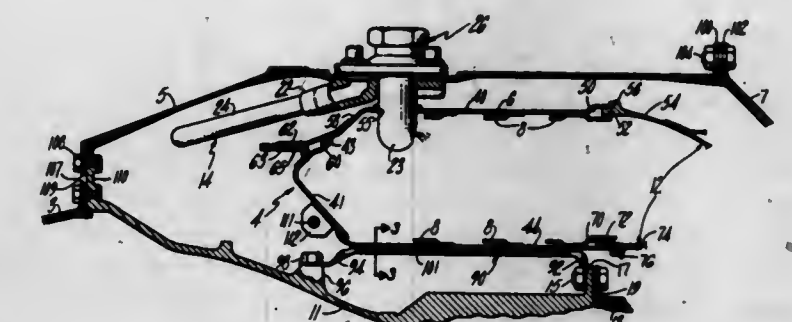
SECTIONAL ANNULAR COMBUSTION CHAMBER  
Frederick E. Cripe, North Palm Beach, and James C. De Longa, Palm Beach Gardens, Fla., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Feb. 26, 1969, Ser. No. 802,429

Int. Cl. F02c 7/00

U.S. Cl. 60—39.69

10 Claims



A gas turbine power plant having an outer casing contains an annular combustion chamber. This combustion chamber is formed in sections with an outer annular section being connected to the engine casing by fuel nozzle assemblies. The inner annular wall of the combustion chamber is formed of two semi-circular sections which are mounted on an inner support housing. In its assembled position the rear end of the outer annular section has a slip joint with a fixed member within the engine and the forward part of the annular section has a slip joint with each of the semi-circular inner sections of the combustion chamber. The two semi-circular sections are held together at their forward end by brackets and are connected to the inner support housing by two track members, one located at each line where edges of the sections come together. The rear ends of the two semi-circular sections each have a slip joint with a fixed member within the engine. A portion of the outer casing along with the fuel manifold and outer annular section of the combustion chamber can all be removed as a unit and the inner semi-circular sections of the burner can then be individually removed if necessary.

3,520,135

**MULTICYLINDER POWER STEERING SYSTEM**

Karl-Heinz Liebert, Schwabisch Gmund-Wetzgau, Germany, assignor to Zahnradfabrik Friedrichshafen, Aktiengesellschaft, Friedrichshafen, Germany, a corporation of Germany

Filed Mar. 19, 1969, Ser. No. 808,508

Claims priority, application Germany, Mar. 23, 1968, 1,755,033

Int. Cl. F15b 15/18; B62d 5/00

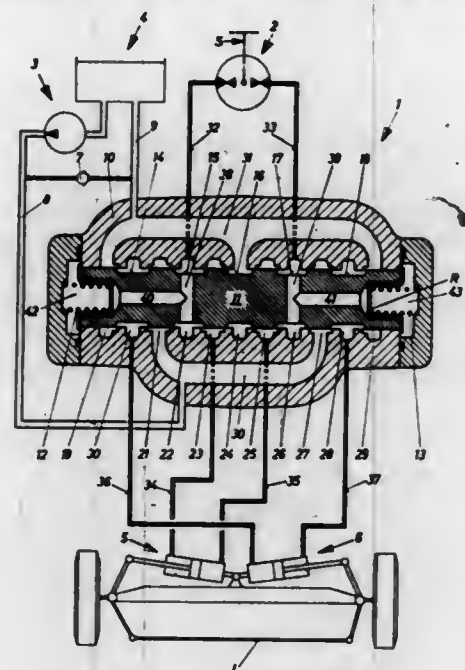
U.S. Cl. 60—50

7 Claims

The invention provides for multicylinder steering booster operation in which the pistons, e.g., of a dual cylinder system are tied together via the steering linkage mechanism. A main pressure source, i.e., a servopump, and a control or metering pump in conjunction with a valve means are utilized such that one cylinder is pressure fed via the control pump which has an inlet feed from the servopump while the other cylinder is pressure fed via



the valve means directly from the servopump. Thus the pressure fluid for the latter cylinder bypasses the control pump which feeds to one, only, of the cylinders in any plural arrangement.



pump which feeds to one, only, of the cylinders in any plural arrangement.

3,520,136

**HYDRAULIC BRAKE SYSTEM AND THE LIKE**

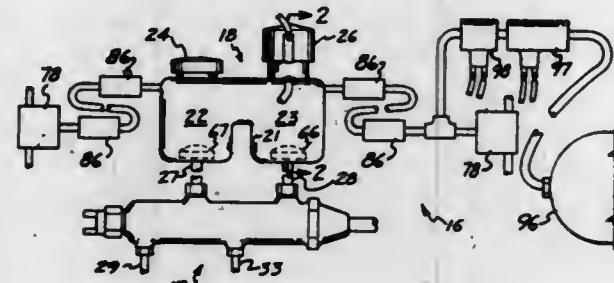
Rune Ingvar Steward, 598 Maureen Lane,  
Pleasant Hill, Calif. 94523

Filed Mar. 30, 1967, Ser. No. 627,158

Int. Cl. F15b 7/00, 7/08

U.S. Cl. 60—54.5

9 Claims



This invention provides a hydraulic brake system for automobiles and the like in which safety features are added to the regular brake system; the safety features including an improved vent for the reservoir together with a gauge for showing low fluid conditions; a recirculating system which provides new and good fluid to the wheel cylinders together with automatic bleeding of the cylinders, and a powered emergency brake capable of stopping the vehicle under abnormal conditions, as well as dirt traps and other devices to assure proper operation of the various components.

3,520,137

**ROCKET APPARATUS EMPLOYING ELECTROLYSIS**

Daniel D. Newman, Cincinnati, Ohio, and Harold A. Rosen, Santa Monica, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Original application Feb. 27, 1967, Ser. No. 618,651.

Divided and this application Nov. 1, 1968, Ser. No. 772,676

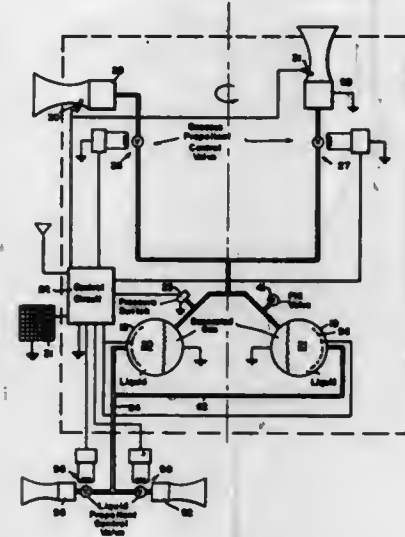
Int. Cl. B63h 11/00; F02k 7/00, 9/06

U.S. Cl. 60—221

10 Claims

The rocket propulsion apparatus employs propellant which is stored as a liquid and which is electrolyzed to

generate gaseous propellant as needed. The gas is either burned in an engine or employed in the cold gas technique. The generated gas can also provide pressure to feed liquid propellant to an engine.



3,520,138

**CONVERTIBLE ENGINE**

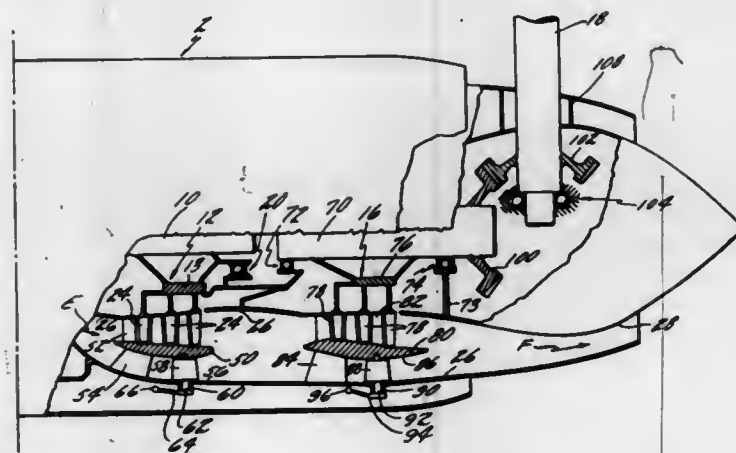
Samuel S. Fox, Jupiter, Fla., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Feb. 27, 1969, Ser. No. 802,949

Int. Cl. F02c 3/10; F02k 3/04

U.S. Cl. 60—226

17 Claims



A convertible engine, as disclosed herein, is comprised of three power section combinations. The basic or first power section combination is a hot gas generator and turbine combination including a compressor, a burner, and a first power turbine to drive the compressor. A second power section combination, consisting of a second power turbine with attached shaft, is located downstream of said first turbine of the hot gas generator compressor. A third power section combination, consisting of a third power turbine with attached shaft, is located downstream of said second power section combination. All three power section combinations operate in series with the blades of the second and third power turbines being located in a main annular passageway. Passageways are provided around second and third power turbines with valves disposed therein to progressively open or close the passageways bypassing the second and third power turbines. The second and third power turbine combinations are

connected to thrust producing devices in vertical takeoff and landing aircraft but may be connected to any power absorbing devices in general application. In its preferred configuration the shaft of the second power section combination is disposed in a coaxial position within the shaft of the first power section gas generator combination and extending forward to the front of the engine; the shaft of the third power section combination is disposed in a coaxial position with the shaft of the second power section combination but facing in a rearward direction toward the back of the engine assembly.

In its VTOL aircraft application the shaft of the second power section combination may be connected to a fan or propeller, providing horizontal thrust for forward propulsion, and the shaft of the third power section combination may be connected to a helicopter rotor providing vertical thrust or lift. Also, in the alternate configuration the shaft of the second power section combination may be connected to the helicopter rotor and the shaft of the third power section combination may be connected to a propeller or a fan. If said third power section combination were attached to a fan, a preferred configuration would be to make the fan blades integral with the turbine blades of the last stage of the power turbine, thereby eliminating a power transmission shaft.

The valving means controlling the flow of hot gas through the passageways bypassing the turbines of the second and third power section combinations are operated in the preferred configuration in a sequential manner, but may be operated in any manner providing the desired power output relationship of the second and third power section combinations. The control means actuating said valve means in the bypass passageways may be either manual or automatic.

3,520,139

**NOZZLE COOLANT SUPPLY SYSTEM**

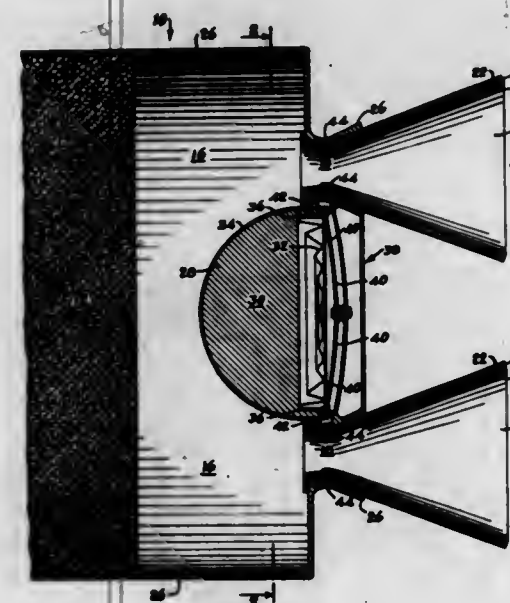
Sidney Elkind, Bronx, N.Y., and Joseph F. Loprete, Wayne, N.J., assignors to Curtiss-Wright Corporation

Filed June 11, 1964, Ser. No. 374,369

Int. Cl. F02k 11/00

U.S. Cl. 60—267

12 Claims



1. A cooling structure for a jet engine having an exhaust nozzle and a combustion chamber providing for flow of exhaust gases for discharge through said exhaust nozzle, said cooling structure comprising a reservoir containing a metallic coolant which is a solid at room temperatures, said reservoir being disposed downstream of said combustion chamber and having a first portion with

an outer wall thereof exposed to the flow of exhaust gases from said combustion chamber to said exhaust nozzle such that, during flow of said exhaust gases, said metallic coolant in said first portion of said reservoir is heated and converted from a solid to a liquid; passage means operatively connecting said first portion of said reservoir with said exhaust nozzle for discharge of liquid metallic coolant through said exhaust nozzle; diaphragm means in a second portion of said reservoir with said second portion of said reservoir being relatively remote from the flow of combustion gases from said combustion chamber to said exhaust nozzle so that the metallic coolant in said second portion is relatively cool, said diaphragm means being disposed relative to said first portion of said reservoir so that in response to pressure exerted on one side of said diaphragm means said relatively cool metallic coolant in said second portion of said reservoir is urged by said diaphragm in a direction toward said first portion of said reservoir; and means for exerting pressure against said one side of said diaphragm means for forcing said relatively cool metallic coolant from said second portion of said reservoir toward said first portion of said reservoir during engine operation such that the liquid metallic coolant in said first portion of said reservoir is displaced by said relatively cool metallic coolant and forced from said first portion of said reservoir into said passage means.

3,520,140

**SOIL SEALING METHOD**

Melvin F. Katzer, Danville, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 12, 1967, Ser. No. 674,771

Int. Cl. E02b 3/00, 3/04

U.S. Cl. 61—1

3 Claims

Layers of water-swellable, but water-insoluble, polymers are sandwiched between soil masses. The polymers, which are in a finely divided solid state, imbibe water on contact and thus become activated in situ as water barriers. Under dry conditions, water vapor is free to pass through the barrier. The invention is especially useful for the improvement of agronomic practices in porous sandy soils and to prevent water seepage into subterranean formations such as coal mines.

3,520,141

**IMPERMEABILIZATION OF SOIL TO WATER**

Willis G. Routson, Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 18, 1968, Ser. No. 760,669

Int. Cl. E02b 1/00

U.S. Cl. 61—1

7 Claims

Polyvalent metal ions and certain polymers are eluted sequentially into soil to produce a water-impermeable layer some distance below the surface of the soil. Preferred metal ions are provided in the form of metal salts which dissolve in water to yield di- and trivalent ions. Useful polymers include water-soluble anionic and nonionic polymers and solid polymers in the form of water emulsions.

3,520,142

**METHOD AND MEANS FOR PROTECTING AN EARTH SITU AGAINST SCOUR**

Lee A. Turzillo, Bath, Ohio  
(2078 Glengary Road, Akron, Ohio 44313)

Filed Mar. 28, 1968, Ser. No. 716,965

Int. Cl. E02b 3/04

U.S. Cl. 61—38

20 Claims

Method and means for forming protective liner over a substantial surface area of an earth situs by injection of



self-hardenable cementitious material into flexible bag means. Stop means on rigid tie elements, extending through bag superposed walls, variable before or during injection to vary expansion of bag for selective control of effective thickness of liner. Extension of tie elements into situs anchors bag walls against lateral movement and



maintains adjusted position of stop means. Positioning of anchored tie elements in selectively varied spacing functions to adjust bag means accordion-style, lengthwise and/or widthwise of bag means, to cover a wide range of sizes or extents of surface areas of the situs with use of same given size of bag means.

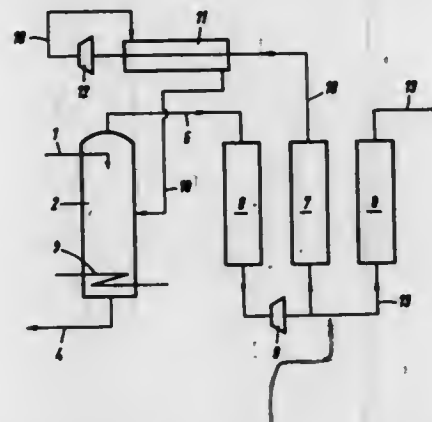
3,520,143

# PROCESS FOR THE SEPARATION OF MIXTURES WITH COMPONENTS HAVING WIDELY SPACED BOILING POINTS BY REFRACTION, PARTIAL CONDENSATION IN A REGENERATOR AND RE-CYCLE OF HIGH BOILING MATERIAL

Rudolf Becker, Munich-Solln, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany  
Filed July 27, 1966, Ser. No. 568,224  
Claims priority, application Germany, July 28, 1965, G 44,296

Int. Cl. F25j 3/06, 5/00; C10g 7/02  
U.S. Cl. 62-28

1 Claim



Separating a mixture having a wide boiling point range by:

- rectifying in a distillation column said mixture which is supplied at an upper section thereof at least partly in the liquid phase, and withdrawing from the column a bottoms fraction enriched in higher boiling component and a gaseous overhead fraction enriched in lower boiling point component;
- treating gaseous overhead fraction alone in a further separation step such as interchangeable regenerators, dephlegmators, interchangeable adsorbers, and absorption, wherein there is removed a fraction of higher boiling components therefrom, and withdrawing the remaining treated gaseous fraction as product; and

- recycling to the distillation column all higher boiling point fraction resulting from step (b), all of said latter fraction being introduced into the column at about the midpoint thereof.

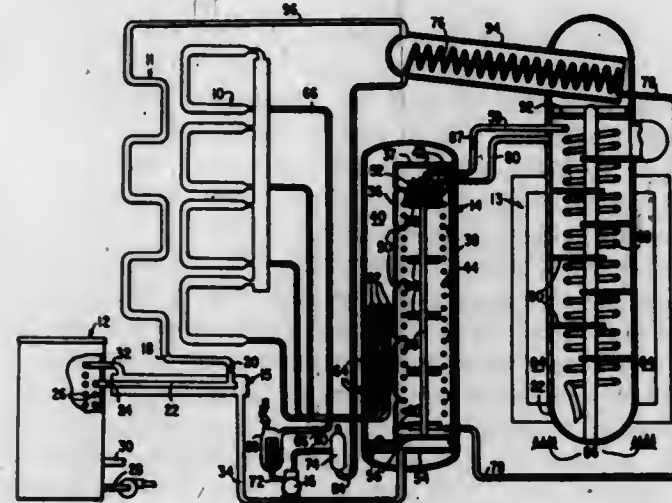
3,520,144

# ABSORPTION REFRIGERATION SYSTEM

Patrick L. Murphy, Indianapolis, Ind., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware  
Filed June 7, 1968, Ser. No. 735,325  
Int. Cl. F25b 47/00

U.S. Cl. 62-85

5 Claims



An absorption refrigeration system employing a "pulsar" type solution pump in which a pump discharge tank is provided to separate and store the noncondensibles in the system and utilize the collected noncondensibles to dampen the pump discharge pulsations.

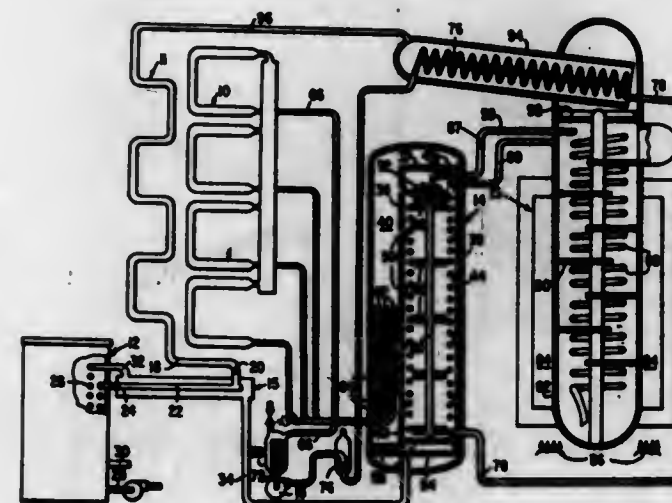
3,520,145

# ABSORPTION REFRIGERATION MACHINE

Patrick L. Murphy, Indianapolis, and Earl L. Brown, Brownsburg, Ind., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware  
Filed June 7, 1968, Ser. No. 735,362  
Int. Cl. F25b 15/00

U.S. Cl. 62-101

4 Claims



An air-cooled absorption refrigeration machine utilizing a pressurized burner for heating the machine gen-

erator. The velocity pressure of air discharged from the condenser-absorber fan in a radial direction is converted to static pressure to provide air to the burner at a higher pressure than the remainder of the air discharged from the fan.

3,520,146

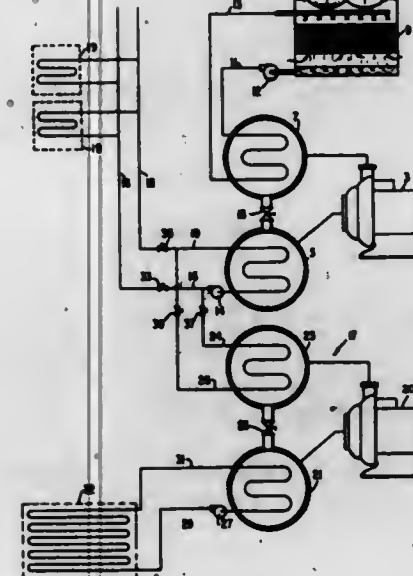
# REFRIGERATION SYSTEM

Richard S. Arnold, Sr., De Witt, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware  
Filed July 1, 1968, Ser. No. 741,621  
Int. Cl. F25b 1/00

U.S. Cl. 62-115

Int. Cl. F25b 1/00

4 Claims



A refrigeration system to simultaneously satisfy an intermediate temperature cooling load and a low temperature cooling load or to satisfy either an intermediate temperature cooling load or a low temperature cooling load exclusively.

3,520,147

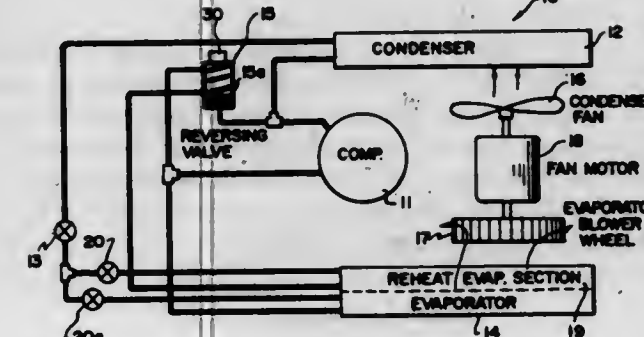
# CONTROL CIRCUIT

Charles E. Glackman, Elberfeld, Ind., assignor to Whirlpool Corporation, a corporation of Delaware  
Filed July 10, 1968, Ser. No. 743,880  
Int. Cl. F25b 29/00

U.S. Cl. 62-173

Int. Cl. F25b 29/00

8 Claims



A control circuit for use in an air-conditioning apparatus or the like, including a humidistat for controlling the air-conditioning apparatus to function as an automatic dehumidifying apparatus. The apparatus includes a reversing valve for utilizing a reheat evaporator section for warming the dehumidified refrigerated air before delivering it to the room being dehumidified. A thermo-

stat switch is provided for controlling the fan in conjunction with the humidistat control. A two-speed selector switch is provided for controlling the fan.

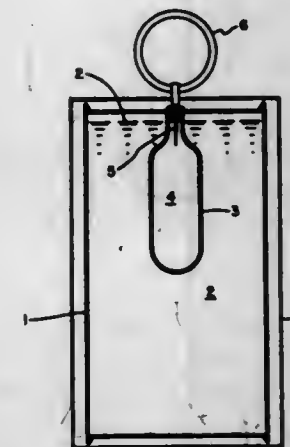
3,520,148

# SELF-COOLING CONTAINER

Richard D. Fuerle, Bryn Mawr, Pa.  
(263 Filbert Ave., Elmsere, Del. 19805)  
Filed July 30, 1968, Ser. No. 748,711  
Int. Cl. F25d 3/10

U.S. Cl. 62-294

3 Claims



A container primarily for liquids which is cooled by an expanding gas. A cartridge containing a compressed gas such as carbon dioxide is positioned next to a can so that when the gas is released it cools the can and its contents.

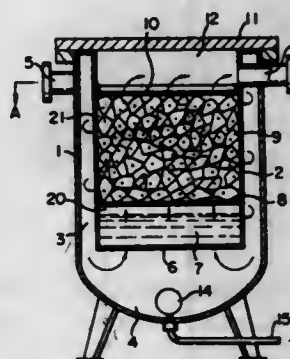
3,520,149

# APPARATUS FOR SEPARATING AND REMOVING OIL CONTAINED IN CIRCULATING REFRIGERANT

Eiichi Uratani, 3-1-9 Mukojima, Sumida-ku, Tokyo, Japan  
Filed Oct. 29, 1968, Ser. No. 771,401  
Claims priority, application Japan, May 9, 1968, 43/37,287

Int. Cl. F25b 43/02  
U.S. Cl. 62-470

4 Claims



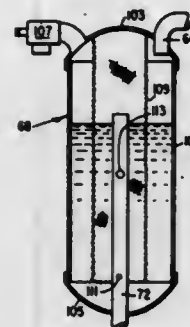
An oil separator for compressed refrigerant has an upright cylindrical shell which spacedly envelops a coaxial inner cylinder. Oil-bearing refrigerant is tangentially admitted to the annular gap between the shell and the cylinder, spirals downward in the gap and rises through layers of metal screening and porous foam plastic in the inner cylinder to an outlet at the top of the cylinder. Oil is centrifugally separated from the refrigerant in the annular gap. The metal screens break any foam of oil and refrigerant that may have formed, and the residual oil is filtered out by the plastic foam. Pure refrigerant is discharged from the top of the cylinder whereas the oil collects in the shell bottom and is drained.



**3,520,150**  
**ABSORPTION REFRIGERATION MACHINE**  
 Lowell A. McNeely, Indianapolis, Ind., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware  
 Filed June 7, 1968, Ser. No. 735,327  
 Int. Cl. F25b 43/04

U.S. Cl. 62—475

3 Claims

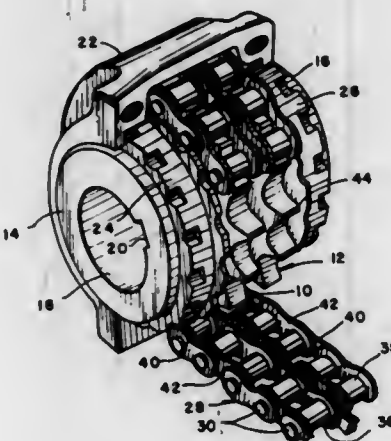


An absorption refrigeration machine having a generator and a condenser on the high side thereof and an evaporator and absorber on the low side employing a pump having an inlet tank associated therewith to transfer solution from the low side to the high side of the machine.

**3,520,151**  
**ROLLER CHAIN COUPLING**  
 Baird Eugene Resener, Indianapolis, Ind., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of Delaware  
 Filed Jan. 13, 1969, Ser. No. 790,659  
 Int. Cl. F16d 3/54

U.S. Cl. 64—19

5 Claims



A coupling for substantially coaxial shafts utilizing a double strand chain wrapped around a sprocket mounted on each of the shafts includes a roller chain having rollers of nonmetallic resilient material of high abrasion resistance, which has been found to greatly reduce wear on the sprocket teeth.

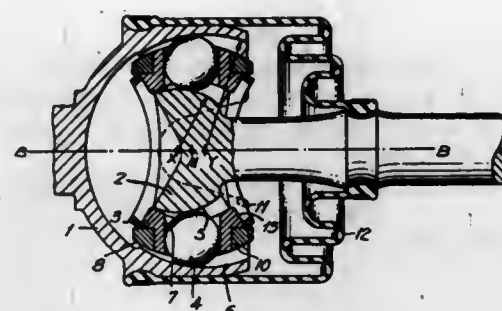
**3,520,152**  
**SYNCHRONOUS UNIVERSAL COUPLING**  
 Leopold Schmid, 49 Pischekstrasse, 7 Stuttgart, Germany  
 Filed Oct. 23, 1968, Ser. No. 770,026  
 Claims priority, application Germany, Nov. 20, 1967, 1,628,812  
 Int. Cl. F16d 3/30

U.S. Cl. 64—21

10 Claims

A synchronous universal coupling having grooves in an outer coupling member, and in an inner coupling member

which, for torque transmission, are engaged by anti-friction bodies guided by a cage, which in turn is guided by means of curved control grooves, in which other anti-friction bodies are received as control elements, the

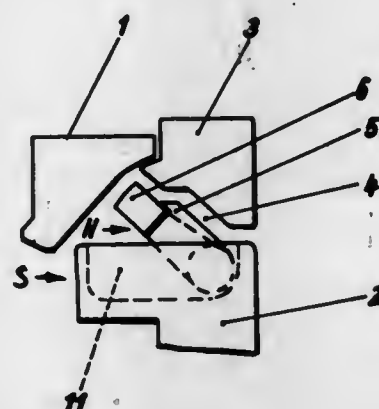


torque-transmitting anti-friction bodies being of roller-like shape and provided with a bore for receiving the cage-controlling anti-friction bodies.

**3,520,153**  
**CAM SYSTEM, ESPECIALLY FOR MULTI-FEED CIRCULAR KNITTING MACHINES**  
 Dieter Rothe, Mittweida, Saxonia, Germany, assignor to VEB Strickmaschinenbau Karl-Marx-Stadt, Karl-Marx-Stadt, Germany  
 Filed May 2, 1968, Ser. No. 726,172  
 Int. Cl. D04b 15/32

U.S. Cl. 66—57

3 Claims



A cam system for use in knitting machines with a needle bed, comprising a tuck cam member and a clearing cam member rotatable with respect to each other and respectively mounted on a hollow shaft and a solid shaft received in the hollow shaft, the two cam members being provided with partially or temporarily cooperating abutment means operable to permit independent rotation of the cam members in opposite directions with respect to each other while effecting rotation of one cam member by the other when rotating towards each other.

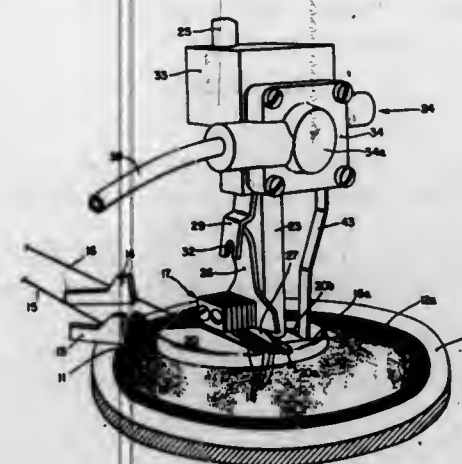
**3,520,154**  
**YARN SEVERING AND CLAMPING MECHANISM FOR KNITTING MACHINES**  
 John B. Lawson, 368 New Meadow Road, Barrington, R.I. 02806  
 Filed Dec. 11, 1967, Ser. No. 689,588  
 Int. Cl. D04b 15/61

U.S. Cl. 66—140

5 Claims

A yarn trimmer having a pneumatically powered cutting mechanism controlled by a yarn activated trigger.

A yarn clamping mechanism comprising spaced apart blades cooperates with the trimmer, the blades having

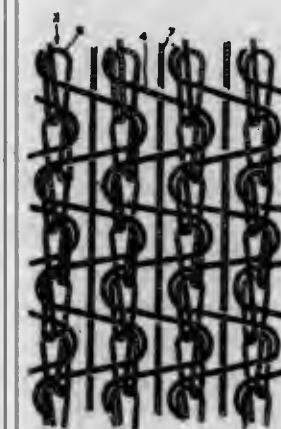


lower flexible portions biased against a plate at an angle of less than 90°.

**3,520,155**  
**RASCHEL KNIT FABRIC AND METHOD OF MAKING THE SAME**  
 Peter Koppenburg, Buchenweg 2, Obertshausen, near Offenbach am Main, Germany  
 Filed Apr. 5, 1968, Ser. No. 719,167  
 Claims priority, application Germany, Apr. 20, 1967, M 73,680  
 Int. Cl. D04b 7/14

U.S. Cl. 66—190

5 Claims



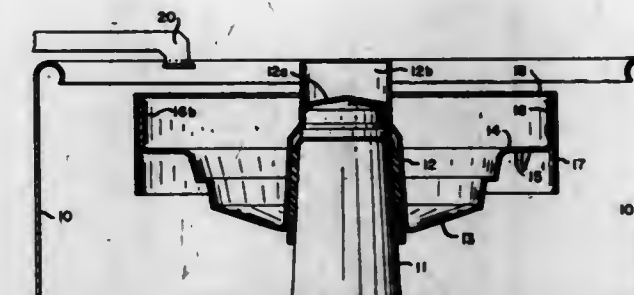
A warp knit fabric in which wales of warp stitches are connected by laid-in threads which also anchor standing threads between adjacent wales, and in which the coursewise strands of laid-in threads alternately pass over and under each standing thread in groups of two or four strands, the strand of each group following each other in a walewise direction. The fabric is knitted on a Raschel machine having a single needle bed, a fall plate, and three or four guide bars respectively supplying threads for the warp stitches, laid-in threads and standing threads in a knitting cycle requiring two forth-and-back swinging movements of the guide bars, and a laying-in motion including an overlap and an underlap.

**3,520,156**  
**LINT FILTERS AND BLEACH DISPENSING DEVICES**  
 Peyton W. Douglas, Bemus Point, N.Y., assignor to Blackstone Corporation, a corporation of New York  
 Filed Aug. 1, 1968, Ser. No. 749,482  
 Int. Cl. D06f 29/00, 39/08

U.S. Cl. 68—17

3 Claims

A combination lint filter, bleach or other wash and rinse water additive dispenser and fabric conditioner dis-

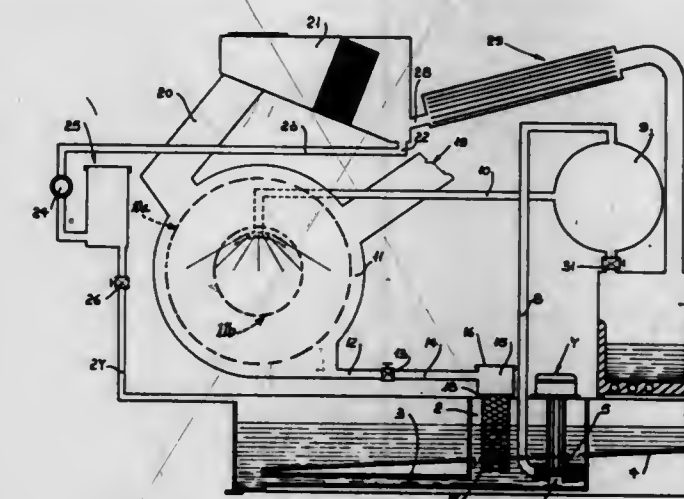


recirculating system, filters it and dilutes and delivers the bleach to the tub of the clothes washer and thereafter dispenses fabric conditioner during the spin-rinse cycle.

**3,520,157**  
**DRY CLEANING APPARATUS**  
 Attilio Donini, Bruno Donini, and Teodoro Donini, all of Via Croce Coperta 6, Bologna, Italy  
 Filed Apr. 12, 1968, Ser. No. 721,127  
 Claims priority, application Italy, Apr. 13, 1967, 1,606/67  
 Int. Cl. D06f 43/08

U.S. Cl. 68—18

7 Claims



This disclosure relates to a dry cleaning apparatus comprising at least one container for the solvent, a washing tank and a washing cage rotating within the washing tank, auxiliary hydraulic circuits for recovering and regenerating the solvent, at least one pump for circulating the solvent, at least one main filter for said solvent.

**3,520,158**  
**WASHING MACHINE**  
 Kojiro Takeyama, Amagasaki-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan  
 Filed Sept. 11, 1968, Ser. No. 758,971  
 Claims priority, application Japan, June 18, 1968, 43/42,671  
 Int. Cl. D06f 23/04, 37/40

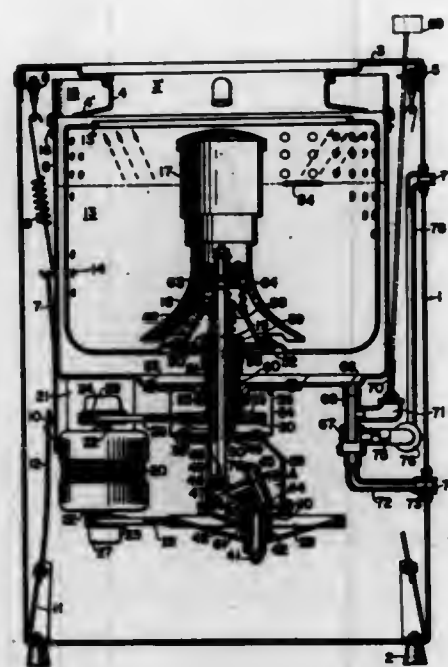
U.S. Cl. 68—23.6

4 Claims

A washing machine of the so-called one-drum type having a single drum which serves both as a washing drum and as a dehydration drum, said washing machine being so designed that a washing operation and a dehydrating operation are carried out selectively in said drum upon switching the rotating direction of a driving



motor from one way to the other, said washing operation being performed by an agitator disposed in said



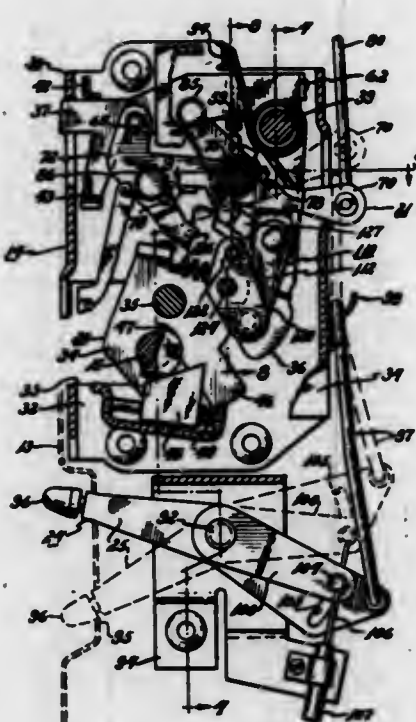
drum and moved up and down during the operation to cause streams of washing water.

### 3,520,159 ANTITHEFT LOCKING ARRANGEMENT FOR VEHICLES

Peter L. Swanney, Southfield, Mich., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland

Filed Dec. 16, 1968, Ser. No. 784,105  
Int. Cl. E05b 63/14, 65/32; E05c 3/26  
U.S. Cl. 70-241

15 Claims



An antitheft locking arrangement for motor vehicles including a locking mechanism for a door latch settable by either inside or outside manually operated controls and at least the outside being key operated. The locking mechanism may also be preset into lock position by a manually operated control concealed and made inaccessible upon the closure and locking of the door. The concealed control also actuates a hood locking mechanism and a master switch incorporated in the ignition

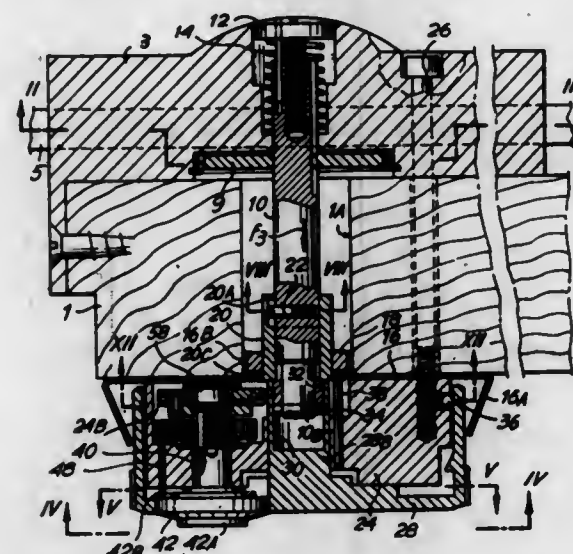
system. The latch locking mechanism has a dual independently actuated mechanism of which one is made inoperative or actuated to inoperative unlock position upon the setting of the other by either the concealed or the key operated control.

### 3,520,160 COMBINATION LOCKS Riccardo Martellini, Via de Sanctis 26, Florence, Italy Filed Aug. 1, 1968, Ser. No. 749,451 Claims priority, application Italy, Aug. 3, 1967, 4,693/67

U.S. Cl. 70-312

Int. Cl. E05b 37/12

6 Claims



A combination lock for a safe door has four combination devices each required to be set to a predetermined angular position before the safe door can be unlocked. Each combination device is angularly biased into a predetermined angular position and is allowed to return to its predetermined angular position only on rebolting the door after the correct combination has been selected to allow the door to be unbolted.

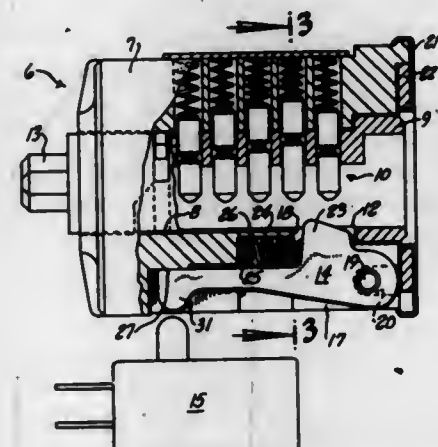
### 3,520,161 KEY CONTROLLED LOCK HAVING BUILT-IN SWITCH ACTUATOR OPERATED BY INSERTION AND REMOVAL OF KEY

Edward N. Jacobi, Milwaukee, Wis., assignor to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Delaware

Filed July 17, 1968, Ser. No. 745,639  
Int. Cl. E05b 35/14

U.S. Cl. 70-387

5 Claims



A key controlled tumbler lock with a cylinder rotatable in a bored lock casing, has a switch actuating lever pivotally mounted in a longitudinally extending slot in

the wall of the lock case. The free end of the lever is projected beyond the cylindrical boundary surface of the lock case by the engagement of the straight back edge of the key with a finger on the lever as the key is inserted into the keyway of the cylinder, and is retracted by a spring when the key is withdrawn, at which time the finger on the lever enters the keyway.

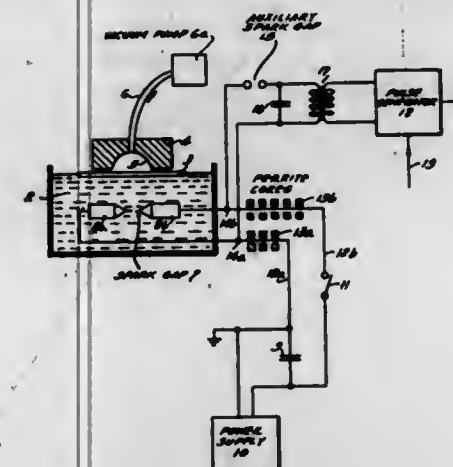
### 3,520,162 CIRCUIT ARRANGEMENT FOR LIQUID PRESSURE FORMING SHEET METAL

Frank Früngel, Herwigredder 105a,  
Hamburg-Rissen, Germany  
Filed Jan. 17, 1966, Ser. No. 520,939  
Claims priority, application Germany, Jan. 16, 1965,  
F 44,984

U.S. Cl. 72-56

Int. Cl. B21d 26/12

4 Claims



An arrangement for forming sheet metal through the generation of a pressure wave within a fluid. The sheet metal to be formed is immersed in the fluid and spread over the mold against which it is to be formed. A pair of spark electrodes in the fluid are controlled through an auxiliary electronic circuit to generate a spark. When properly generated as a function of time, the spark gives rise to a pressure wave transmitted through the fluid and against the sheet metal. The action of the pressure wave against the surface of the sheet metal forces the latter to bear against the mold and thus become formed. A high voltage low energy source starts the spark across the spark gap between the electrodes. Once this spark has been started, a low voltage high energy source becomes discharged across the spark gap to generate the pressure wave. The high voltage low energy source starts the spark but cannot provide the energy required to generate the pressure wave. The low voltage high energy source is inadequate to start the spark, but is able to provide sufficient energy to propagate the pressure wave.

### 3,520,163 METHOD OF AND AN APPARATUS FOR BULGE FORMING

Ichizo Otsu, Takarazuka-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Nov. 24, 1967, Ser. No. 685,453  
Claims priority, application Japan, Dec. 8, 1966,  
41/81,151, 41/81,152; Dec. 22, 1966, 41/85,048,  
41/85,049; Mar. 20, 1967, 42/18,205, 42/18,206;  
Apr. 19, 1967, 42/25,543, 42/25,544

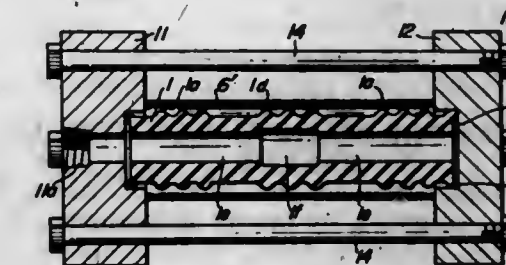
U.S. Cl. 72-59

Int. Cl. B21d 15/06

8 Claims

A method of and an apparatus for bulge forming of a thin tubular material are provided, wherein an elastic bulge forming punch of a tubular shape having an outer contour corresponding to a required contour of a formed

product is inserted into the tubular material and is hydraulically expanded by an internal pressure applied therein to exert working force on the tubular material, whereby



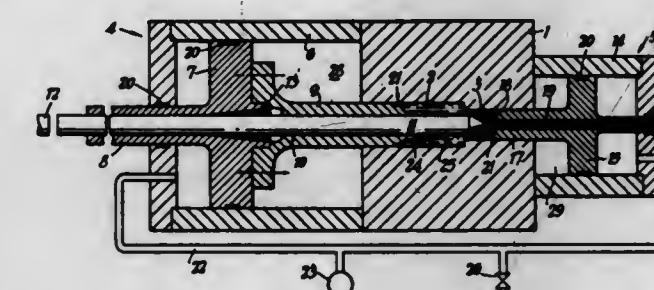
a conventional outer mould or die is excluded and the possibility of application of bulge forming is greatly increased in broadened fields.

### 3,520,164 HIGH PRESSURE EXTRUSION APPARATUS John Antony Pennell, Cumberland, and John Crawley, Durham County, England, assignors to Vickers Limited, London, England, a British company Filed Dec. 14, 1967, Ser. No. 690,657 Claims priority, application Great Britain, Dec. 16, 1966, 56,558/66

U.S. Cl. 72-60

Int. Cl. B21c 23/08

9 Claims



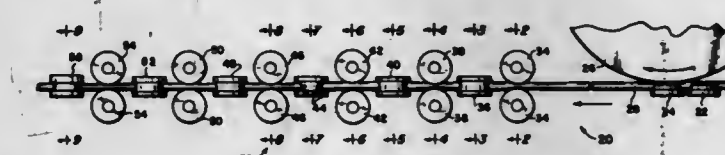
High pressure extrusion apparatus for hydrostatic or semi-hydrostatic operation incorporating a pressure vessel component having therein an extrusion chamber formed by an open-ended stepped bore therethrough, which step may be provided by a sleeve component fitted in the bore, and to hollow ram components projected into hydrostatic pressure medium in the extrusion chamber, one through each open bore end, a billet to be extruded being clamped in one ram component to project into the extrusion chamber into contact with an extrusion die carried on the inner tip of the other ram components and being extruded through the die and die carrying ram component by axial movement of at least two of said components relative to the other or others.

### 3,520,165 METHOD OF TREATING WELDED TUBING Richard J. Dodson, Evanston, Ill., assignor to Clayton Mark & Company, Evanston, Ill., a corporation of Delaware

Filed Oct. 27, 1967, Ser. No. 678,650  
Int. Cl. B21b 17/00

U.S. Cl. 72-64

8 Claims



Tubing having a butt welded seam is distorted and worked by finishing rolls on the tube mill in order to open up otherwise undetectable faults and defects in the

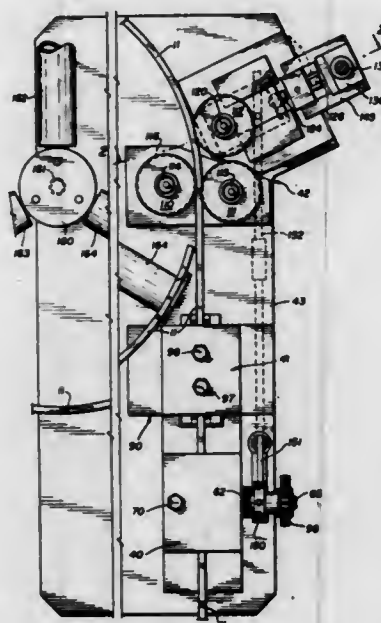


weld. Sequential pairs of rolls compress the tubing into oval shapes in which the major diameter alternately intersects the seam and is transverse to the seam. Other rolls abruptly twist the tubing to apply a shear stress to the entire extent of the weld.

### 3,520,166 APPARATUS FOR MAKING A CENTRIFUGAL BASKET

Clarence R. Steele, Denver, and Norval F. Allen, Wheatridge, Colo., assignors, by mesne assignments, to CF&I Engineers, Inc., Denver, Colo., a corporation of Colorado  
Original application Apr. 15, 1964, Ser. No. 359,979.  
Divided and this application Feb. 3, 1967, Ser. No. 613,898

U.S. Cl. 72—175 Int. Cl. B21d 5/14

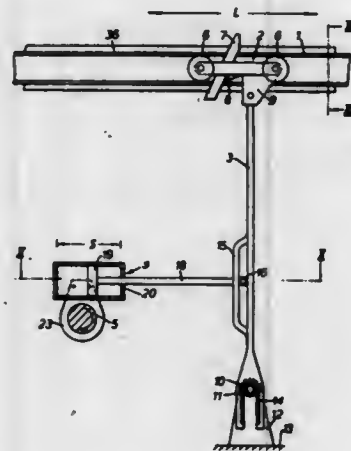


Apparatus for forming centrifugal basket walls wherein a flattened wire is formed into a continuously spiraling conical shape by an arrangement of rollers.

### 3,520,167 TRANSFER APPARATUS

Ewan Christian Hewitt, Sheffield, England, assignor to Davy and United Engineering Company Limited, Sheffield, England  
Filed July 21, 1967, Ser. No. 655,181

U.S. Cl. 72—252 Int. Cl. B21b 39/20



The disclosure relates to transfer apparatus particularly suitable for moving elongate products of a rolling mill to or from a bed which has the facility of displacing the

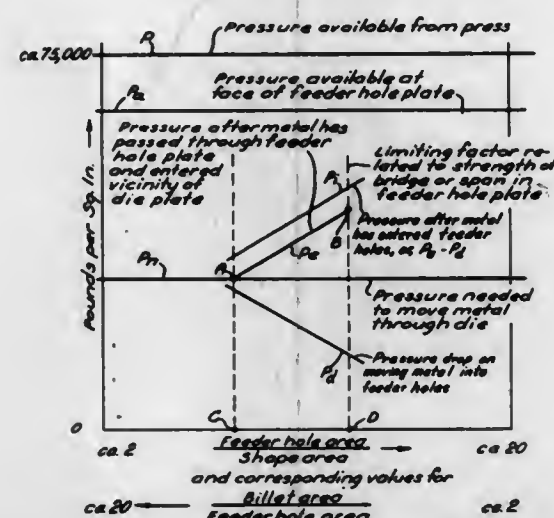
products by successively differing amounts. The transfer apparatus has displaceable "ducking dog" means which are reciprocable and engageable in turn with the products and the displacement of the ducking dog is brought about by at least one constant stroke double-acting piston and cylinder device. The piston of the device is connected by links to the ducking dogs and the cylinder of the device is displaceable relative to the ducking dogs in order to adjust the extent of their displacement.

### 3,520,168 FEEDERHOLE DIE

Karl F. Braeuninger, Ferguson, Mo., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Aug. 1, 1966, Ser. No. 569,211

U.S. Cl. 72—269 Int. Cl. B21c 25/04



A greatly improved porthole die consisting of a feeder-hole plate and a complementary die plate, intended for extrusion of a pre-selected alloy provided in the form of a billet of pre-selected cross-sectional area to be extruded into a shape of pre-selected cross-sectional area is provided if the ratio of the pre-selected cross-sectional area of the billet to the total summed-up cross-sectional areas of all the feederholes is a value in the range along the line C-D of the graph in FIG. 1 of the drawing, provided further, that the feederhole plate has a thickness not substantially greater than needed to withstand extrusion pressures that are sufficient to cause the pre-selected alloy to move through and exit from the porthole die. The unusually thin feederhole plates used according to the invention provide for the extrusion of substantially greater amounts of metal per unit time at substantially lower temperatures and the die life is substantially greater than normally experienced heretofore.

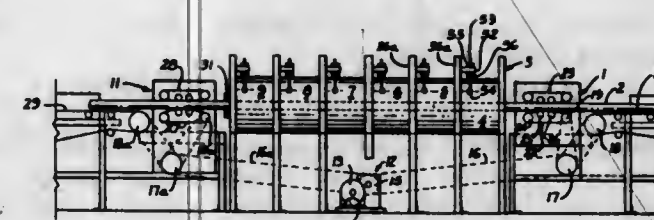
### 3,520,169 MACHINE FOR MANUFACTURING SLITTED FINNED TUBING FOR USE IN HEAT EXCHANGERS

Addison Y. Gunter and Thomas E. Owen, both of P.O. Box 36100, Houston, Tex. 77036  
Original application Oct. 20, 1964, Ser. No. 405,143.  
Divided and this application Aug. 25, 1967, Ser. No. 663,309

U.S. Cl. 72—324 Int. Cl. B21d 43/28

A machine for manufacturing slitted finned tubing comprises a saw assembly made up of a plurality of rotary saws arranged in a circular pattern, and a means for passing finned tubing axially through the assembly at a selected linear speed. The saws are disposed in laterally

spaced apart planes which are parallel to the axis of the tubing and are rotated at a selected speed. Means are



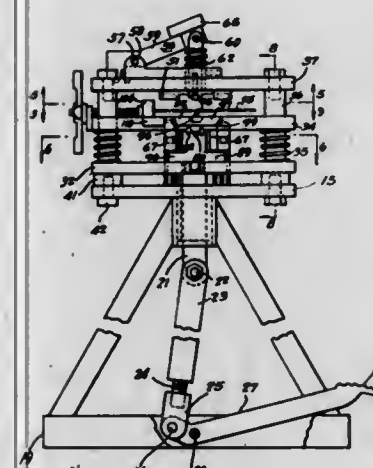
provided for adjusting at least one of the saw speed and linear speed of the tubing to maintain a ratio between.

### 3,520,170 LOUVER OR VANE RAIL PUNCHING OR STAMPING MACHINE

O. C. Wilson, Jr., Shreveport, La., assignor of one-half to Dwight M. Brown, Taylor W. O'Hearn, and Dwight M. Brown, Jr., all of Caddo Parish, La.

Filed Jan. 26, 1967, Ser. No. 612,007  
Int. Cl. B21d 22/00, 31/02, 37/04, 37/06

U.S. Cl. 72—325



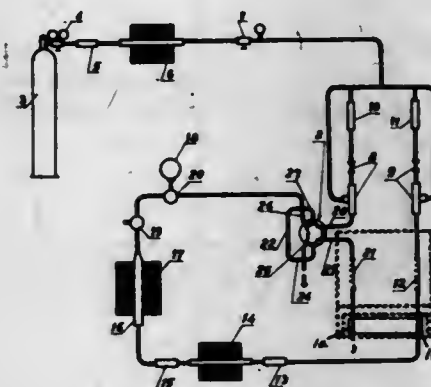
A machine for simultaneously stamping or punching slotted buttons in sheet metal, as used for attaching air-deflecting vanes or "vane rails" in air duct turns and attaching louver blades to louvers, the device consisting of a support containing a frame structure comprising a horizontally-adjustable sheet metal-receiving work table with a horizontal top plate fixedly-mounted above the work table and provided with an adjustable vertical spindle carrying a bar having a pair of female dies facing downwardly, with means for locking the bar in adjusted rotated position. Another horizontal plate is provided beneath the work table and below this plate is another vertically-movable plate carrying a shouldered member supporting a plurality of vertically-movable dies slidably engaging through apertures provided in the horizontal plate thereabove and being in registry with the female dies. Treadle-operated means consisting of a vertically-movable plunger reciprocates the upstanding male dies vertically to co-act with the female dies. The upwardly-movable member driving the male dies upwardly also carries a guide punch element which indents the sheet metal workpiece. An upstanding guide pin is engageable in the indentation in the next punching and stamping operation to correctly position the workpiece. The dies are formed to create upwardly-stamped buttons and the dies have means to shear the buttons diametrically so as to form slots therein. The dies are adjustable to vary the angle of the slots across the buttons.

### 3,520,171 METHOD AND DEVICE FOR THE ANALYSIS OF HYDROGEN IN STEELS

Giovanni Amata, Naples, and Sergio Maneschi and Nereo Vantini, Rome, Italy, assignors to Centro Sperimentale Metallurgico S.p.A., Rome, Italy

Filed June 7, 1968, Ser. No. 735,467  
Claims priority, application Italy, June 12, 1967, 7,071/67

U.S. Cl. 73—23.1 Int. Cl. G01n 3/08



Method and device for the analysis of hydrogen in steels which comprise heat extraction of said hydrogen in a carrier gas and successive gas-chromatographic definition thereof, wherein the carrier gas is constantly fed from a single source and, through two conduits in parallel, is divided in two fractions, the first of which flows towards the measuring side of a katharometer, while the second flows towards the reference side of same and is then used for extracting the gases from the test tube; such an analysis is performed in four successive steps, that is respectively: a washing step, during which the second fraction of carrier gas downstream of the reference side of the katharometer is conveyed for washing to an extraction chamber containing the test tube in series therewith to a sampling tube. a withdrawing step, during the heating of the test tube, wherein the second fraction of carrier gas, mixed with the gases removed from the test tube, is conveyed to fill a container with deformable walls; a sampling step, wherein the second fraction of carrier gas is discharged into the atmosphere downstream of the extraction chamber, and the contents of the container with deformable walls are conveyed to the sampling tube; a measuring step during which the sampling tube, containing the gas mixture to be analyzed at atmospheric pressure, is fed with pure carrier gas, consisting of the first fraction, while its outlet end feeds in turn to a chromatographic column in series with the measuring side of the katharometer.

### 3,520,172 AEROSOL SAMPLER

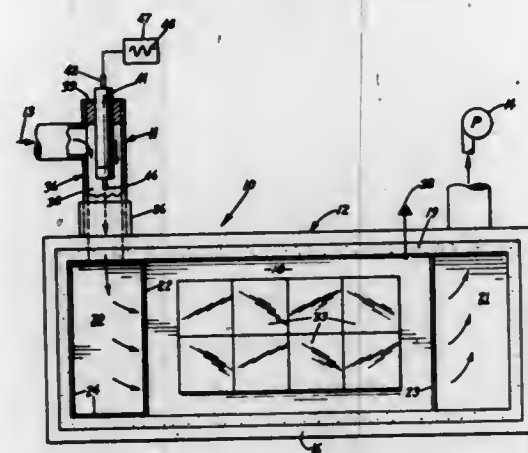
Benjamin Y. H. Liu and Kenneth T. Whitby, Minneapolis, Minn., assignors to The Regents of the University of Minnesota, Minneapolis, Minn., a corporation of Minnesota

Filed May 29, 1967, Ser. No. 641,896  
Int. Cl. G01n 31/00

A two stage electrostatic aerosol sampler having a charger and a separate precipitator for collecting micron and sub-micron sized aerosol particles on any flat collecting surface. The charger has a looped corona tungsten wire located in the aerosol passage leading to the precipitator. A DC biased alternating voltage is applied to the wire to provide pulses of positive ions to impart an electrical charge to the aerosol particles without precipitating the aerosol particles. The precipitator is a non-conductive



box having a removable cover forming a channel in which the charged aerosol particles flow under the influence of a suction pump. The collecting surface, as microscope slides, are located on the bottom of the channel over a plate on the bottom of the cover. A pulsed voltage is



applied to the plate. The voltage is of a magnitude so that the precipitating velocity of the aerosol particles is in a direction perpendicular to the direction of air flow through the channel whereby all of the particles are collected uniformly on the collecting surface.

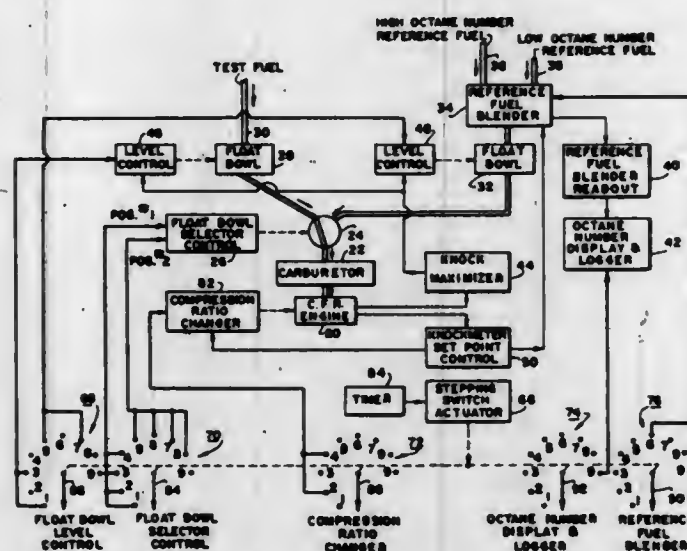
3,520,173

## AUTOMATED TEST APPARATUS

Walter C. Hadley, West Redding, Conn., assignor to Mobil Oil Corporation, a corporation of New York  
Continuation of application Ser. No. 295,745, July 17, 1963. This application May 2, 1967, Ser. No. 635,624  
Int. Cl. G01 23/22; G01n 33/22

U.S. Cl. 73—35

4 Claims



Automated system for determining the octane number of a test gasoline which comprises powering a standard test engine with the gasoline. The compression ratio of the engine is adjusted to obtain a standard, knock intensity and the fuel-air ratio of the gasoline is adjusted to maximize knock intensity. A reference blend comprising two gasolines of known octane is then fed to the engine and the proportions of the two gasolines and the fuel-air ratio of the blend are automatically varied until the knock intensity conforms to the standard. The octane number of the test gasoline is also determined by powering the engine with reference gasolines of known octane at fuel-air ratios that maximize knock intensity until two reference gasolines are selected whose knock intensities bracket that of the test gasoline.

3,520,174  
GAUGING DISTANCE BETWEEN TWO SURFACES

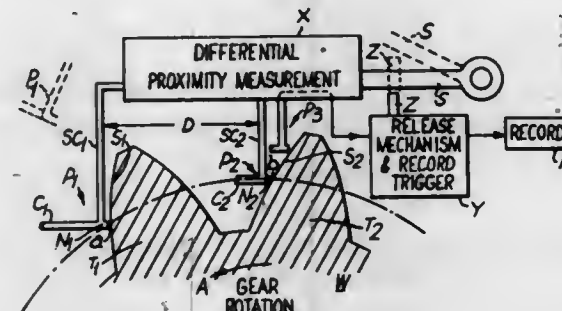
Royds Sharp, Busby, Glasgow, and Malcolm Bath, Phillip Smith, James Shelley Rafferty, and Alastair Inglis, East Kilbride, Scotland, assignors to National Research Development Corporation, London, England, a corporation of Great Britain

Filed Dec. 1, 1967, Ser. No. 687,231

Int. Cl. G01b 13/12

U.S. Cl. 73—37.8

15 Claims



Method and apparatus for measuring the chord distance between similar points on similar flanks of two teeth of a gear wheel using two pneumatic proximity gauges mounted a fixed distance apart for movement into and out of the valleys between the teeth. The difference between the signals derived from the two gauges is gained and a sample and hold circuit samples the difference and records the difference as an indication of the discrepancy between the actual and the intended chord distance.

3,520,175

## GAUGING DISTANCE BETWEEN TWO SURFACES

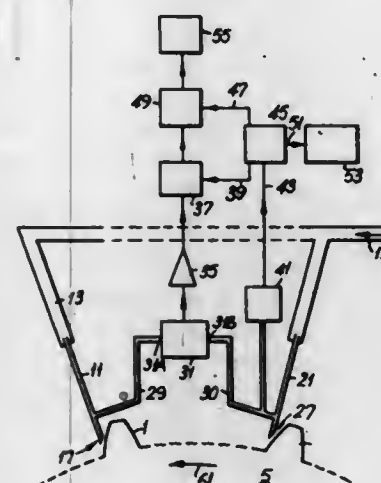
Royds Sharp and Malcolm Bath, Glasgow, Scotland, assignors to National Research Development Corporation, London, England, a corporation of Great Britain  
Filed Dec. 1, 1967, Ser. No. 687,381

Claims priority, application Great Britain, Dec. 2, 1966, 54,158/66

Int. Cl. G01b 13/12

U.S. Cl. 73—37.8

12 Claims



Method and apparatus for measuring the chord distance between similar points on similar flanks of two teeth of a gear wheel using two pneumatic proximity gauges mounted a fixed distance apart for movement into and out of the valleys between the teeth. The gauges provide pneumatic signals related to the respective distances between the gauges and the gear flanks. The pneumatic signals are applied to a differential pressure transducer which provides an electrical signal which, over an operating range,

is related to the difference between the distance between the sensed gear teeth flanks and the distance between the proximity gauges. Since the distance between the gauges is known, the output signal of the differential pressure transducer can be used to provide an error indication.

3,520,176

## SYSTEM FOR DETECTION OF LEAKS IN VESSELS

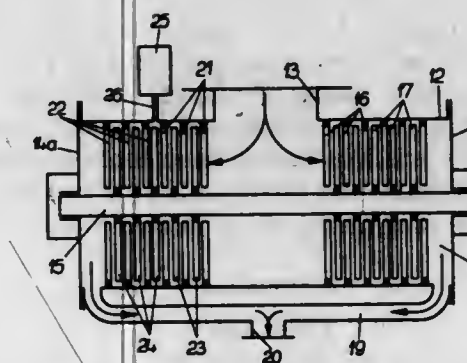
Willi Becker, Ehringshausen Kreis Wetzlar, Germany, assignor to Arthur Pfeiffer Hochvakuumtechnik GmbH, Wetzlar, Germany, a corporation of Germany  
Filed Apr. 8, 1968, Ser. No. 719,408

Claims priority, application Germany, Apr. 12, 1967, P 41,872

Int. Cl. G01m 3/20

U.S. Cl. 73—40.7

6 Claims



A system for the detection of leaks in vessels by means of a test gas penetrating through the leaks into the vessel and being indicated by means of a mass spectrometer being evacuated by at least one pump, the mass spectrometer being connected with the inlet side of a molecular pump building up a small pressure ratio for the test gas and a large pressure ratio for air and other gases which are heavier than the test gas.

3,520,177

## APPARATUS FOR TESTING AND CLASSIFYING CIGARETTES OR THE LIKE

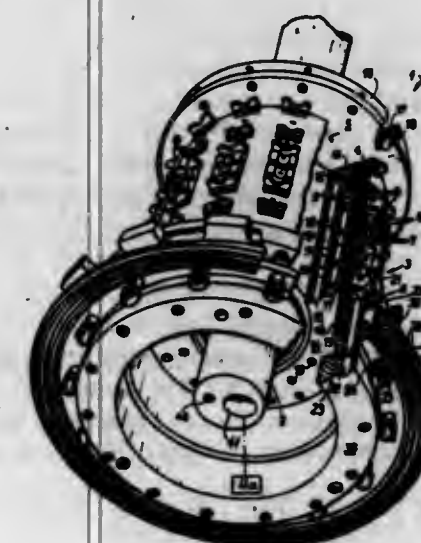
Bob Heltmann, Hamburg, Hans J. Grasse, Wentorf, Günter Schubert, Reinbek, and Fritz Bodner, Hamburg-Lohbrügge, Germany, assignors to Hauni-Werke Körber & Co. KG., Hamburg, Germany

Filed Jan. 17, 1968, Ser. No. 698,522  
Claims priority, application Great Britain, Feb. 10, 1967, 6,405/67

Int. Cl. G01m 3/04

U.S. Cl. 73—45.1

12 Claims



A rotary testing drum for cigarettes is provided with axially parallel flutes which receive cigarettes at a first

station and advance them past a testing station where the cigarettes are tested for the presence of defects, thereupon past an ejection station where a defective cigarette is expelled from its flute by compressed air, and finally past a transfer station at which the satisfactory cigarettes leave their respective flutes. The drum is provided with suction ports communicating with the flutes and with orifices adjacent to each flute. Satisfactory cigarettes are held by suction during travel past the ejecting station. The testing unit which tests cigarettes during travel past the testing station sends signals to an ejecting device which includes a stationary conduit for compressed air and a regulating valve in the conduit. The valve opens in response to a signal and the conduit then admits compressed air into orifices adjacent to that flute which accommodates a defective cigarette or directly into the ports in such flute to effect expulsion of defective cigarettes at the ejecting station. In order to facilitate expulsion of defective cigarettes by compressed air, suction ports in a flute which accommodates a defective cigarette can be automatically connected with the aforementioned conduit during travel past the ejecting station so that, when the conduit admits compressed air to a set of orifices, it also admits air to the corresponding suction ports to raise the pressure therein and to reduce the force with which the defective cigarette is held in its flute. The orifices adjacent to a flute for a defective article can be connected with the corresponding suction ports by way of a flow restriction passage or orifice provided in a control ring which regulates the evaluation of air from suction ports and the admission of air from the conduit into the orifices in response to rotation of the drum.

3,520,178

## METHOD AND APPARATUS FOR DETECTING A SPLIT CLOSURE CURL

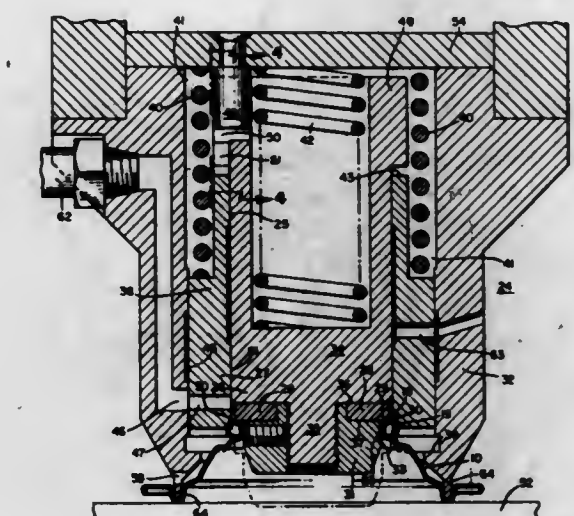
Jerry F. Scharf, Havertown, Pa., assignor to Crown Cork & Seal Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 31, 1968, Ser. No. 772,089

Int. Cl. G01m 3/04

U.S. Cl. 73—49.2

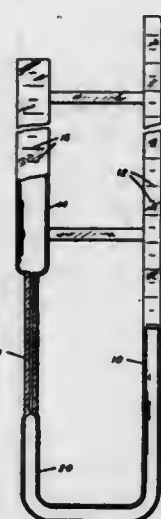
14 Claims



Detection of a split curl on an aerosol can end by engaging a round portion on the crest of the curl with an annular central sealing member and engaging the side of the curl with an annular peripheral sealing member; introducing fluid into a chamber defined by the curl, the central sealing member, and the peripheral sealing member in response to movement of the central sealing member and the peripheral sealing member; and sensing any leakage which may occur from that chamber through a split or fissure in the curl and an adjacent out-of-round portion.

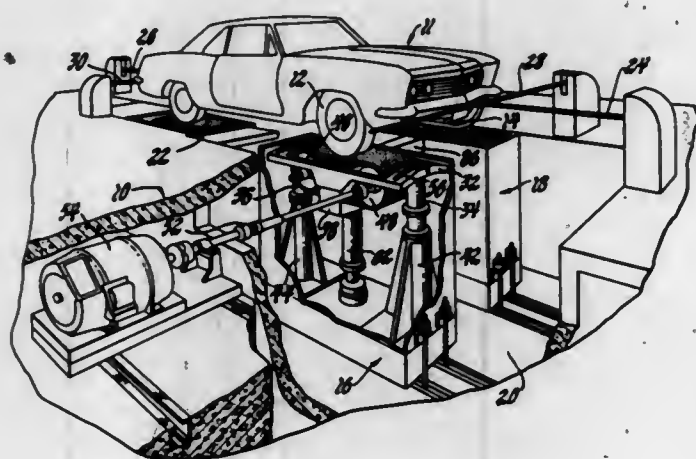


**3,520,179**  
**VARIABLE HEAD RHEOMETER FOR MEASURING NON-NEWTONIAN FLUIDS**  
 John C. Reed, 4323 E. 40th Place, Tulsa, Okla. 74135  
 Filed June 19, 1968, Ser. No. 738,285  
 Int. Cl. G01n 11/06  
 U.S. Cl. 73—55 1 Claim



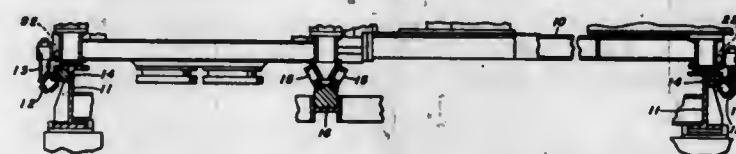
A rheometer or viscometer having a capillary flow tube between a recipient vessel and an efflux vessel measures accurately the viscosity of non-Newtonian fluids. The ability to measure and its accuracy is a function of the calibration spacings on the vessels.

**3,520,180**  
**ROAD SIMULATOR FACILITY**  
 Von D. Polhemus, Pontiac, Ming-Chih Yew, Utica, and Bernard H. Ris, Royal Oak, Mich., assignors to General Motors Corporation, a corporation of Delaware  
 Filed Nov. 8, 1967, Ser. No. 681,475  
 Int. Cl. G01m 7/00, 17/04  
 U.S. Cl. 73—71.7 6 Claims



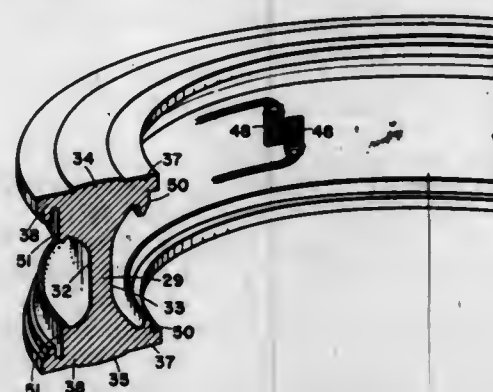
A road simulator for vehicle suspension system evaluation including, for each suspended wheel, a simulator unit comprising a pair of drums mounted on a spring-suspended frame and linked by a flat belt. A roller pad defining a flat wheel support surface contacts the belt mediate the drums and is resiliently connected to the frame. An hydraulic actuator is directly connected to the roller pad to permit vertical displacement inputs of varying frequency to be applied to the pad. Individual units may be interconnected to simulate road camber behavior.

**3,520,181**  
**CAMBER INDICATOR FOR CARRIAGE OF SLAB-CUTTING SAW**  
 Charles H. Bode, Jr., Upper St. Clair Township, Allegheny County, and Francis Gallucci, North Huntingdon Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of Delaware  
 Filed Mar. 18, 1968, Ser. No. 713,750  
 Int. Cl. G01e 5/00  
 U.S. Cl. 73—133 4 Claims



A carriage movable along fixed rails with a slab issuing from a rolling mill clamped thereto is provided with downwardly extending posts adjacent its corners. Rollers journaled on the posts engage the rails and lateral force on the carriage as a result of camber in the slab effects a slight deflection of the posts and adjacent frame portions. Load cells are disposed to have force applied thereto by such deflection and affect indicator means to show the operator the magnitude of the lateral force on the carriage.

**3,520,182**  
**LOAD CELLS**  
 George F. Kelk, Willowdale, Ontario, and Andrejs Zeltkalns, Don Mills, Ontario, Canada, assignors to George Kelk Limited, Don Mills, Ontario, Canada  
 Filed June 5, 1967, Ser. No. 643,648  
 Int. Cl. G01l 1/22  
 U.S. Cl. 73—141 8 Claims

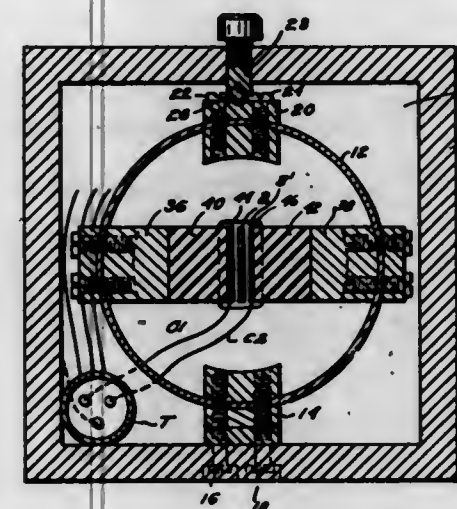


A load cell employed in rolling mills to measure the load to which certain machine parts are subject. The cell includes an annular column of non-mirror symmetry in vertical section having a sensing region and a load pad integrally joined to each end thereof. The inner and outer faces of the column carry compression strain gauges responsive to strains on the column. The column is structurally designed to provide effective decoupling of effects of differential mass translation under load to improve linearity and to reduce the effects of friction and hysteresis in cell output readings to a negligible order of magnitude.

**3,520,183**  
**APPARATUS FOR MEASURING CHANGES IN DISPLACEMENT IN A BODY**  
 Jan G. Krizik, Wellesley, Mass., assignor to Plas-Tech Equipment Corporation, Natick, Mass., a corporation of Massachusetts  
 Filed Oct. 12, 1967, Ser. No. 674,891  
 Int. Cl. G01l 1/14  
 U.S. Cl. 73—141 5 Claims

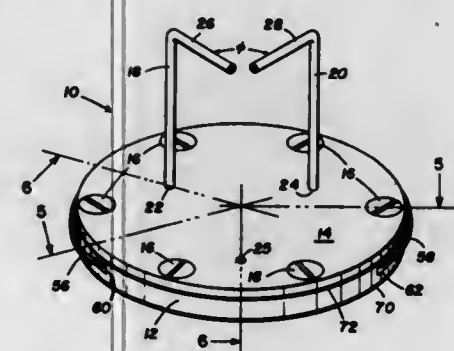
A cantilever beam member of some desired cross section is supported in a multisection clamping apparatus. One clamping section rigidly secures an end of the beam in a

position such that an unsupported span portion may be displaced when subjected to load forces. A second clamping section located adjacent an opposite end of the beam carries capacitor plates mounted in spaced relation at either side of said opposite beam end and a third clamping section may be moved into and out of clamping relationship with the beam at an intermediate point to vary its



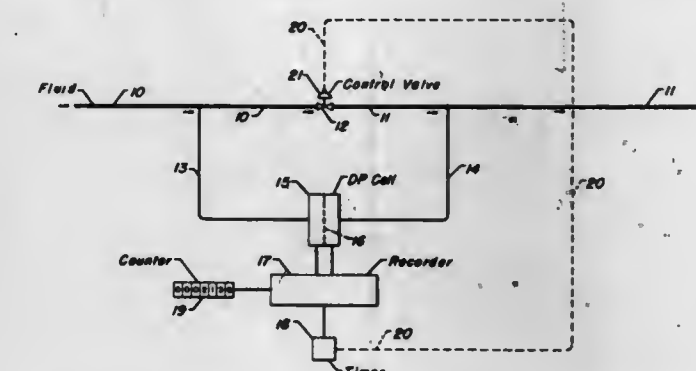
span and hence its stiffness. The capacitor plates are also provided with means for varying their setting relative to the beam so that when the setting is decreased the capacitance is increased and transducer sensitivity to relatively small displacements is increased. The beam may be quickly replaced by beams of greater or lesser thickness to increase or decrease load capacity and resonance frequency.

**3,520,184**  
**DIRECTIONAL PRESSURE PROBE**  
 Watson H. Tanner, Hurst, and Robert M. Wohlfeld, Dallas, Tex., assignors to Bell Aerospace Corporation, Hurst, Tex., a corporation of Delaware  
 Filed Nov. 21, 1968, Ser. No. 777,669  
 Int. Cl. G01p 5/00  
 U.S. Cl. 73—182 12 Claims



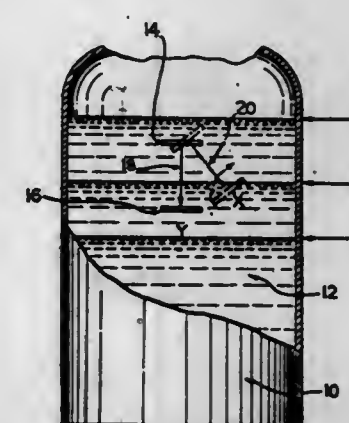
The disclosure relates to a directional pressure probe for use on aircraft or the like which includes a cylindrical plate having a pair of bays open to one surface thereof. A bore is provided through the plate, with channels communicating with the bays and the bore. A cover plate covers the surface of the cylindrical plate and includes three apertures which extend into communication with the bays and the bore. A pair of Pitot tubes extend outwardly from the two apertures which communicate with the bays, each of the Pitot tubes terminating in a generally right-angled bend portion which extends at an angle toward the other tube. Pressure sensitive transducers are disposed in each bay to provide indications of the difference between static pressure sensed through the bore and the channels and directional pressures sensed through the Pitot tubes.

**3,520,185**  
**FLOW METERING SYSTEM**  
 Norman H. Scott, Villa Park, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
 Filed Nov. 21, 1967, Ser. No. 684,691  
 Int. Cl. G01f 3/20  
 U.S. Cl. 73—269 1 Claim



Flow metering system particularly adaptable for measuring relatively small flow rates which utilizes a differential pressure cell, a timing device, and a control valve for obtaining displacement versus time data which is then correlated with flow rate. The displacement is obtained by the deflection of the flexible diaphragm in the differential pressure cell during a relatively short period of time when flow is stopped in the primary conduit by closing the control valve.

**3,520,186**  
**ULTRASONIC FLUID INTERFACE SENSING**  
 George Leslie Adams, Bay Shore, and Irwin S. Landow, East Meadow, N.Y., assignors to National Sonics Corporation, Farmingdale, N.Y., a corporation of New York  
 Continuation-in-part of application Ser. No. 565,854, July 18, 1966. This application Mar. 11, 1968, Ser. No. 712,168  
 Int. Cl. G01f 23/28  
 U.S. Cl. 73—290 16 Claims



Ultrasonic systems for fluid testing such as the sensing of liquid-fluid interfaces and especially liquid level sensing in, e.g., storage tanks, bilges and the like, employing a high frequency transducer assembly having transmitting and receiving means (generally enclosed in a sound conductive, e.g., metallic housing of specially adapted cantilever construction minimizing "cross-talk" including a selected "window" thickness of an integral number of half wave-lengths), associated with means responsive to signals received above and selected minimum response level, the systems being characterized by a binary response provided by signal attenuation to a value less than said response level in one of said liquid and said fluid forming said interface.



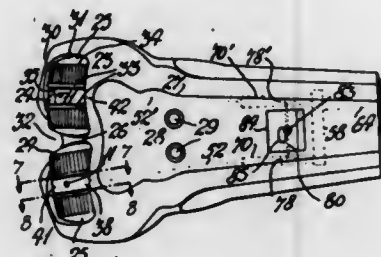
### 3,520,187 SKIN TEMPERATURE REGISTERING ELECTRONIC THERMOMETERS

Andrew R. Petersen, Toronto, Ontario, Canada, assignor to Canadian Memorial Chiropractic College, Toronto, Ontario, Canada

Filed Aug. 17, 1967, Ser. No. 661,433  
Int. Cl. G01k 7/22

U.S. Cl. 73—342

10 Claims



Device for analysis of skin temperature variations upon the length of the human spine and on either side of the paravertebral centerline for diagnostic purposes. Two thermistors are mounted separately, each in association with each of a pair of adjacent rollers. The rollers are driven by a motor through a gear train, clutch assemblies, cables and bevel gears. Each thermistor is mounted on a surface flanked by the two rollers. Two dial meters read out temperature as detected by the thermistors.

### 3,520,188 BATHYTHERMOGRAPH DEVICE

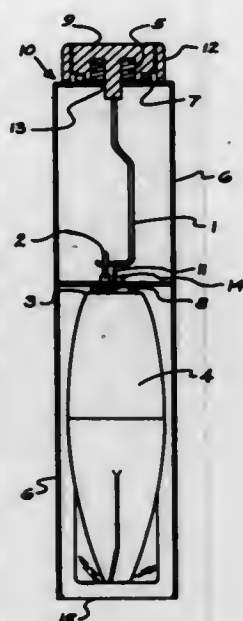
Richard W. Bixby, Little Compton, R.I., assignor to Buzzards Corp., Marion, Mass., a corporation of Massachusetts

Continuation-in-part of application Ser. No. 591,616, Nov. 2, 1966. This application Feb. 7, 1968, Ser. No. 706,745

Int. Cl. G01k 7/02

U.S. Cl. 73—344

7 Claims



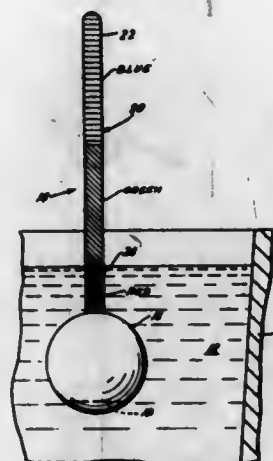
A bathythermograph probe adapted to be released from a submerged vessel, such as a submarine, includes a chamber having a positive buoyancy affixed to the probe by a pressure responsive mechanical latch, so that the probe is unlatched from the chamber at the depth of the vessel, and is released from the chamber at a lesser depth for descent in the water.

### 3,520,189 FLOATABLE THERMOMETER

Seymour Mann, 940 Park Ave., New York, N.Y. 10028  
Filed June 24, 1968, Ser. No. 739,441  
Int. Cl. G01k 5/32, 11/04

U.S. Cl. 73—368

11 Claims



A floatable thermometer adapted to be partially submerged in a liquid whose temperature is to be indicated. The thermometer includes fluid which expands and contracts during temperature changes. An enclosure means encloses the fluid for automatically expanding and contracting in response to expansion and contraction of the fluid. This enclosure means has a predetermined maximum cross-sectional area, and an elongated indicator which has a cross-sectional area substantially smaller than this maximum cross-sectional area of the enclosure means is fixed to and projects upwardly from the latter. A weight means is located in the enclosure means, and the total weight of the weight means, enclosure means, fluid and indicator is such that when the thermometer is in a liquid the enclosure means will be submerged beneath but adjacent the surface of the liquid with the indicator projecting upwardly beyond the surface of the liquid. During temperature changes the thermometer will rise and fall so that the extent to which the indicator extends above the surface of the liquid will be indicative of the temperature.

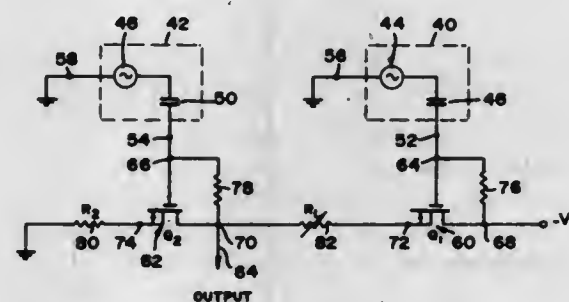
### 3,520,190

#### DIFFERENCE CIRCUIT

T. O. Paine, Deputy Administrator of the National Aeronautics and Space Administration, with respect to an invention of John R. Morris, Los Angeles, Calif.  
Filed May 21, 1968, Ser. No. 730,703  
Int. Cl. G01v 7/00

U.S. Cl. 73—382

8 Claims



A circuit for providing an output signal proportional to the difference between two low-level voltage input signals. The circuit comprises two field effect transistors, each having its gate connected to one of two voltage input sources. The source-drain paths of the two field effect transistors are connected in series, with the output signal

being provided at the junction of the two paths. The difference circuit finds particular use in conjunction with a device which measures the strength of a gravitational field by spinning a rotor having at least two arms. Strain gauges measure bending of the arms, and the circuit amplifies the low-level strain gauge outputs and provides a signal proportional to their difference.

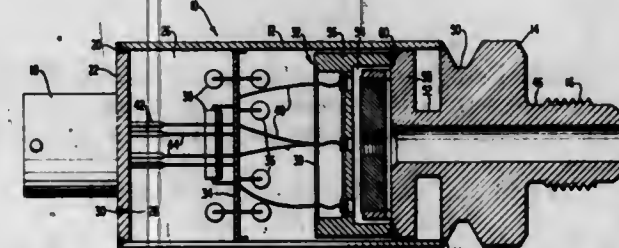
### 3,520,191 STRAIN GAGE PRESSURE TRANSDUCER

Hsai-Si Pien, East Amherst, N.Y., assignor to Kistler Instrument Corporation, Clarence, N.Y., a corporation of Delaware

Filed Aug. 22, 1968, Ser. No. 754,594  
Int. Cl. G01l 9/04

U.S. Cl. 73—398

16 Claims



Disclosed is a pressure transducer for sensing pressure in all types of fluids, both stationary and moving. The transducer includes a diaphragm with an integral thickened section forming a force sensing beam. The beam is slotted at its ends and center to form weakened force concentration sections to which are bonded strain gages electrically connected to form a Wheatstone bridge. Clamping couples at the ends of the beam are reduced by attaching the diaphragm to a support ring having different internal diameters on opposite sides of the diaphragm. One side of the diaphragm faces a sealed reference pressure chamber and the other side of the diaphragm is exposed to the pressure fluid.

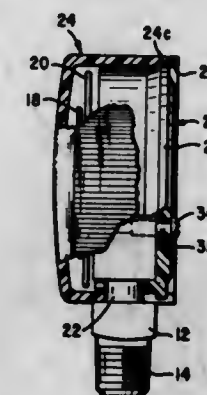
### 3,520,192 PRESSURE GAUGE CASING WITH TELESCOPING ELEMENTS

Graham M. Condle, Marshalltown, Iowa, assignor to Marshalltown Manufacturing, Inc., Marshalltown, Iowa

Filed Nov. 25, 1968, Ser. No. 778,606  
Int. Cl. G01l 7/04

U.S. Cl. 73—416

4 Claims



A separable transparent instrument casing of two telescoping cup-shaped elements held together relative to each other by an annular detent, and provided with rounded cutouts in their cup rims which embrace an undercut cylindrical portion of the main square stem of a pressure gauge element, one of the elements being affixed to the gauge stem whereby a transparent casing for the pressure gauge element is provided which is separable should a rupture occur in the pressure system to prevent explosive conditions.

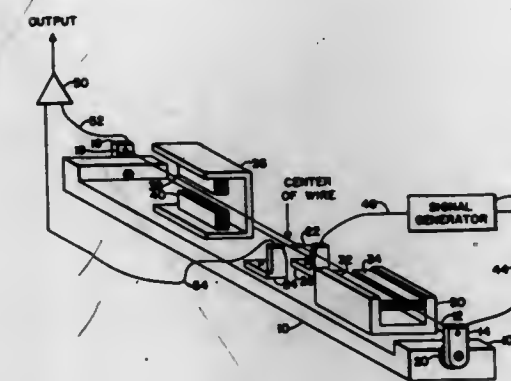
### 3,520,193 VIBRATING WIRE GYROSCOPE

Robert H. Grangroth, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Aug. 29, 1966, Ser. No. 575,723  
Int. Cl. G01p 15/00

U.S. Cl. 73—505

4 Claims



A vibrating wire gyroscope in which a flexible electrical connection near the center of the wire serves to permit vibration to pass from one portion of the wire to the other while electrically isolating the drive signal in the first portion from the output signal in the other portion and suppressing unwanted transverse vibrations.

### 3,520,194 CALIBRATION METHOD AND APPARATUS FOR A PHYSIOLOGIC EVAPORATIVE WATER LOSS MEASUREMENT SYSTEM

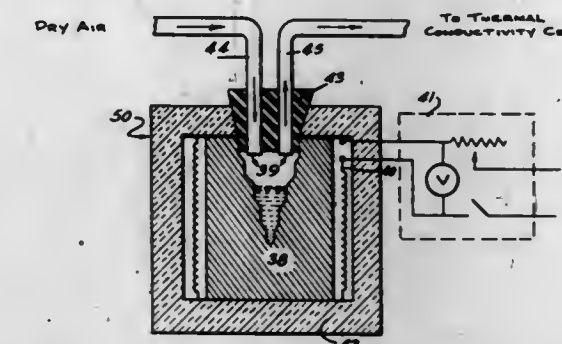
Thomas Adams, East Lansing, Mich., assignor to the United States of America as represented by the Secretary of the Army and/or the Administrator of the Federal Aviation Agency

Original application Oct. 22, 1964, Ser. No. 405,879.  
Divided and this application Mar. 14, 1967, Ser. No. 623,146

Int. Cl. G01d 18/00

U.S. Cl. 73—1

1 Claim



The disclosure describes a method of measuring physiologic evaporative water loss by measuring the change in thermal conductivity of a gas passed over a specific portion of the body surface. An apparatus used to measure the water loss is described together with a method of calibrating said apparatus wherein constant rates of evaporation at preselected temperatures are measured.

### 3,520,195 SOLID STATE ANGULAR VELOCITY SENSING DEVICE

Stephen W. Tehon, Clay, N.Y., assignor to General Electric Company, a corporation of New York

Filed Oct. 11, 1965, Ser. No. 494,601  
Int. Cl. G01p 15/00

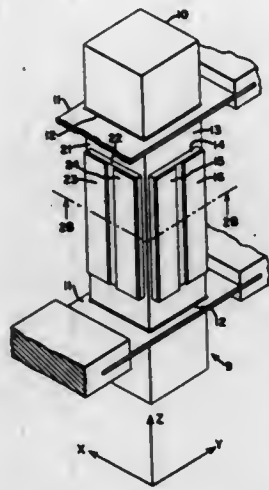
U.S. Cl. 73—505

23 Claims

A solid state device for sensing angular velocity exhibiting long lifetime, high sensitivity to rotational motion, and compensation of spurious effects for reducing output

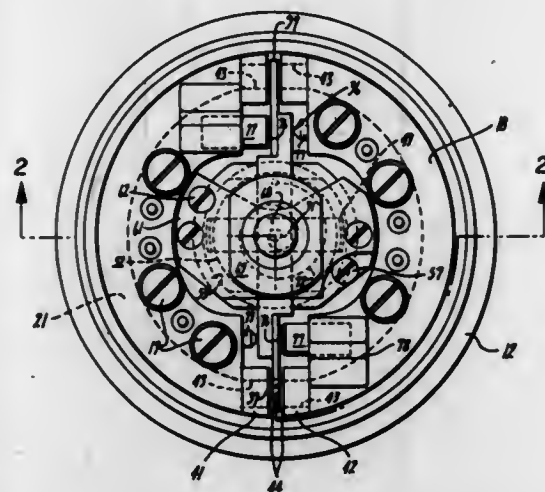


error. The device comprises a vibratory rod having coupled thereto first and second orthogonally arranged transducer means. Said first transducer is energized to produce vibrations of said rod in a first transverse direction, and



said second transducer develops a voltage in response to Coriolis force induced vibrations in a second transverse direction which are produced by rotational motion of said rod about its longitudinal axis.

**3,520,196**  
**FLUID ROTOR ANGULAR ACCELEROMETER**  
Harold D. Morris, Orinda, and Joseph T. Buckingham, Concord, Calif., assignors to Systron-Donner Corporation, Concord, Calif., a corporation of California  
Filed Mar. 3, 1966, Ser. No. 531,457  
Int. Cl. G01p 15/08  
U.S. Cl. 73-516 7 Claims

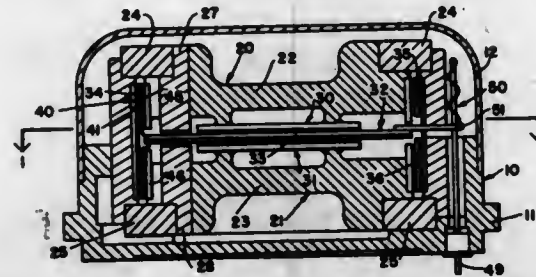


Fluid rotor angular accelerometer having a pivotally mounted paddle supported about its pivot axis so that there is substantially no constraint about its pivot axis in the absence of a restoring force supplied by electrical means which senses the position of the paddle.

**3,520,197**  
**DYNAMIC SUPPORT ACCELEROMETER**  
Leonard C. Blanding, Theodore R. Carino, and Lyle F. Warnock, Jr., Grand Rapids, Mich., assignors to Lear Siegler, Inc.  
Filed May 16, 1966, Ser. No. 560,936  
Int. Cl. G01p 15/08  
U.S. Cl. 73-516 13 Claims

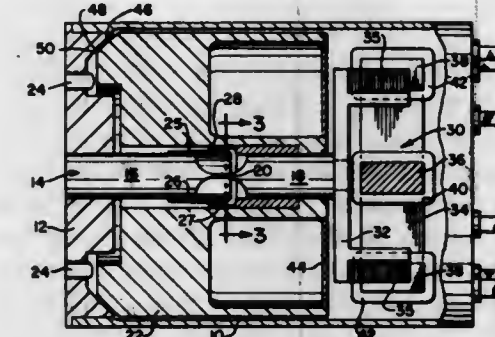
This invention relates to accelerometers wherein the proof mass is supported on a film of compressed gas. The gas film support is generated by vibrating piezoceramic benders which compress air or other gas between the

support and the proof mass. This gas bearing markedly reduces the friction between the proof mass and the sup-



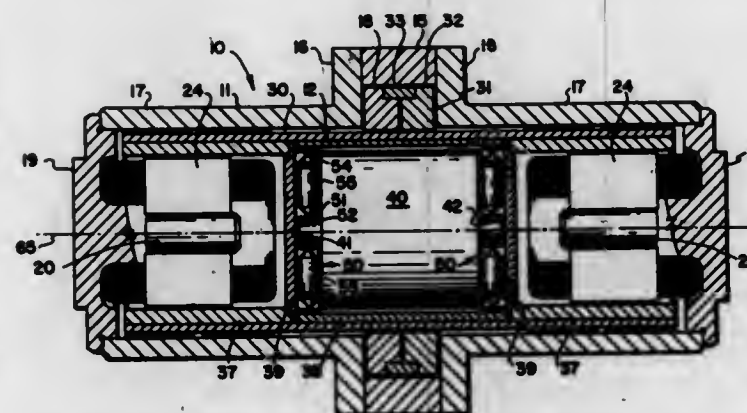
port allowing the proof mass to uniformly respond to external acceleration.

**3,520,198**  
**ACCELEROMETER**  
Elliott J. Siff, Bridgeport, and Irving Schaffer, Fairfield, Conn., assignors, by mesne assignments, to Varo Inertial Products, Inc., Garland, Tex., a corporation of Texas  
Filed Jan. 3, 1966, Ser. No. 518,291  
Int. Cl. G01p 15/08  
U.S. Cl. 73-517 8 Claims



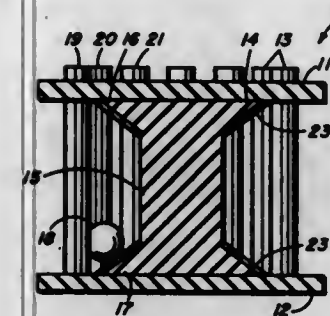
An accelerometer comprising a support member, a shaft cantilevered from the support member and having a single flexure axis intermediate its ends, an inertial mass supported on the free end of the shaft, and signal means for indicating movement of the free end of the shaft.

**3,520,199**  
**ACCELEROMETER**  
Roland Pittman, Caledonia, Mich., assignor, by mesne assignments, to Northrop Corporation, Palos Verdes, Calif., a corporation of California  
Filed June 28, 1966, Ser. No. 561,127  
Int. Cl. G01p 15/08  
U.S. Cl. 73-517 2 Claims



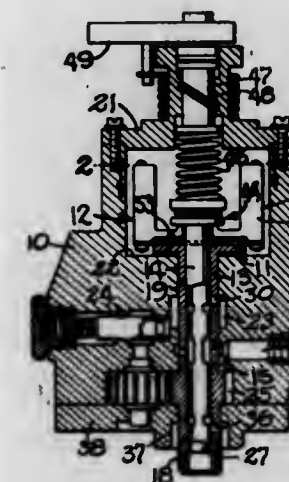
A gyroscopic acceleration-responsive device in which piezoelectric electric sensors support the proof mass of the gyroscope through pivotal mountings in an enclosing structure. The sensors are orthogonally arranged and so poled as to provide output signals only in response to forces acting radially upon the structure.

**3,520,200**  
**MOVEMENT RESPONSIVE APPARATUS**  
James L. Rodgers, Tempe, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois  
Filed Oct. 3, 1967, Ser. No. 672,503  
Int. Cl. G01p 15/02  
U.S. Cl. 73-517 19 Claims



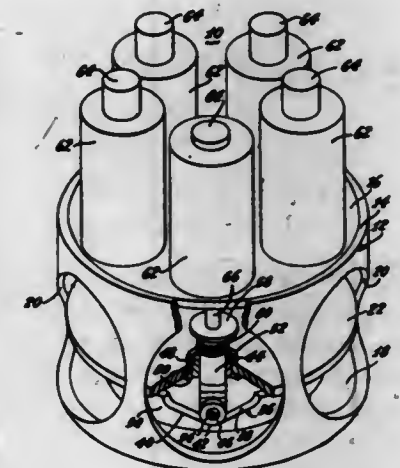
A cylindrical assembly with plural conductor rods spaced apart around the periphery and an insulator center core having outwardly flared portions adjacent the axial ends of the assembly. A conductive sphere is disposed between the rods and the center core. Upon movement, the ball moves from between two rods to between another two rods. The flared ends limit the axial travel of the sphere such that the position between the rods is always the same irrespective of the position of the assembly. Detector circuits are provided that require the ball to actuate the circuit and then upon further movement to additional rods the movement is indicated. A two-step operation is provided, that is, the sphere must move from resting between one set of rods (condition) to between two different sets of rods (actuate).

**3,520,201**  
**SPEED SENSOR WITH LEAF SPRING SUPPORTED FLYWEIGHTS**  
George E. Parker, Rockford, Ill., assignor to Woodward Governor Company, Rockford, Ill., a corporation of Illinois  
Original application Jan. 12, 1968, Ser. No. 697,506, now Patent No. 3,469,397, dated Sept. 30, 1969. Divided and this application Feb. 12, 1968, Ser. No. 704,672  
Int. Cl. G01p 3/20; G05d 13/14  
U.S. Cl. 73-546 5 Claims



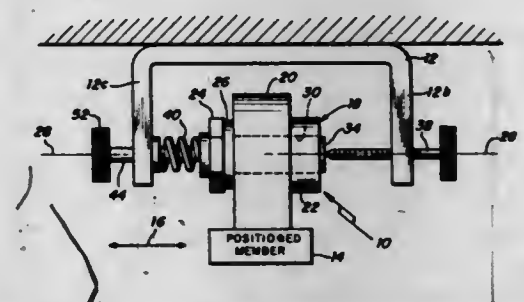
Upstanding flyweights of a speed sensor are fixed to the outer ends of oppositely projecting arms of a flat leaf spring of cross-shape extending across the flat top of a rotary ball-head with the other arms of the cross secured to the ball-head. As the flyweights swing outwardly with a speed increase, the first arms bow upwardly between the center anchor and edges extending across the outer ends of these arms which define abutment type fulcrums spaced close to the flyweights and permitting further outward swinging of the flyweights as the speed increases.

**3,520,202**  
**MULTIPOSITION ACTUATOR**  
James F. Hudson, Manhattan Beach, and Tai Y. Lee, Los Angeles, Calif., assignors to Transco Products, Inc., Venice, Calif., a corporation of California  
Filed June 28, 1968, Ser. No. 741,135  
Int. Cl. F16h 21/02  
U.S. Cl. 74-89 25 Claims



The present invention relates to a multiposition actuator such as a rotary actuator, including a camming member having a plurality of camming surfaces and with each camming surface including sloping sides leading to a dwell area. A plurality of plungers are individually located adjacent each one of the camming surfaces and with the plungers each including a front portion for engagement with the sloping sides of the camming surfaces. The plungers are arranged in a predetermined array. Each plunger has an individual actuator means operatively coupled to the plunger and upon the actuation of individual ones of the actuating means, the plungers are actuated so that the end portion of the plunger engages the sloping side to move the camming member until the end portion of the plunger is located in the dwell area. One embodiment of the invention has the camming surfaces located in a cylindrical member and the other embodiment has the camming surfaces located in a plate member.

**3,520,203**  
**POSITIONING DEVICE**  
Edward Grant Hill, Santa Susana, Calif., assignor, by mesne assignments, to EG&G, Inc., Bedford, Mass., a corporation of Massachusetts  
Filed Nov. 15, 1968, Ser. No. 776,075  
Int. Cl. F16h 25/02; G02b 7/02  
U.S. Cl. 74-89.15 9 Claims



The precise adjustment of the position of a member, such as a mirror or lens in an optical system, is accomplished by connecting the member, through suitable means, to a body of deformable and incompressible elastic material. A relatively small diameter piston or rod is then inserted into the body of elastic material so as to deform the body and alter at least one dimension thereof by minute amounts. The induced minute changes in the elastic, deformable body serve to change the position of the member.



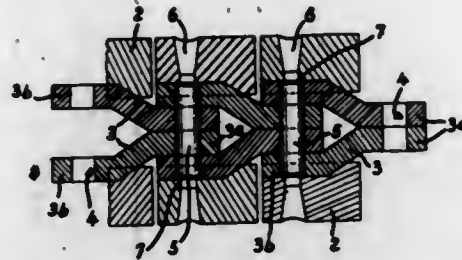
3,520,204

**LINK BELT FOR MECHANICAL TRANSMISSION**  
Jean-Henri Dufour, Villeurbanne, France, assignor to  
Ste. Ame P.I.V., Villeurbanne, France  
Filed Oct. 29, 1968, Ser. No. 771,418  
Claims priority, application France, Oct. 31, 1967,  
49,275

Int. Cl. F16g 1/24

U.S. Cl. 74-236

1 Claim



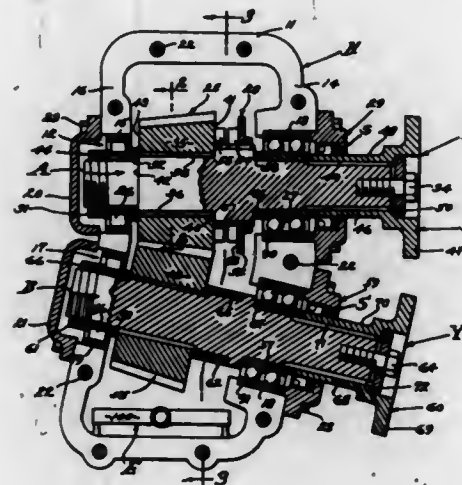
A link belt is made of a central armature constituted for each link by S-shaped metallic blades positioned symmetrically one against the other in such a way that two of their ends be juxtaposed and that the other two ends be parallel and spaced apart to receive between them the extremities of the armature of the next link. Cheeks of elastic material are secured to the sides of each armature, each cheek being provided with a tapered bore for permitting the insertion of a shaft for pivotally joining the links. The bores are disposed with their smaller diameter ends adjacent the armature to provide an interfering step for preventing the shaft from undesired removal.

3,520,205

**IN AND OUT TRANSMISSION**  
Henry T. Halibrand, 6469 Nancy St.,  
Los Angeles, Calif. 90045  
Filed Oct. 16, 1968, Ser. No. 768,029  
Int. Cl. F16h 57/00, 1/14, 57/02

U.S. Cl. 74-405

18 Claims



A marine transmission or the like wherein a propeller shaft is engaged and disengaged from a constantly revolving drive shaft, and providing an angle drive with or without speed change to increase or decrease the relative speed of the propeller shaft, and wherein the in and out feature is effective to completely disconnect the gear drive while permitting free rotation of the constantly revolving drive shaft; the gearing being comprised of a pair of constant meshed gears, one of which is fixed to the propeller shaft and the other of which is free to revolve on the drive shaft, and there being clutch means carried on said drive shaft and disengageably connecting the said other gear and drive shaft, there being a manual control for effecting the in and out of gear action, and with bearings associated with the two shafts respectively to absorb axial thrusts directly into the transmission case and to advantageously utilize radial thrust bearings for efficient antifriction capabilities of the transmission as a whole.

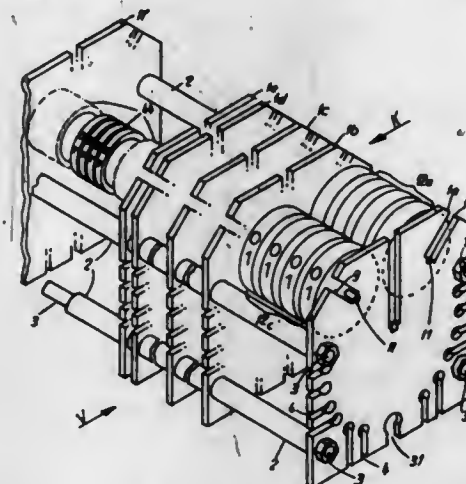
3,520,206

**OPERATING MECHANISM FOR INDICATING WHEELS AND TYPE WHEELS IN PRICE COMPUTING WEIGHING MACHINES**  
Armin Wirth, Zurich, Switzerland, assignor to Wirth, Gallo & Co., Zurich, Switzerland  
Filed Oct. 8, 1968, Ser. No. 765,882  
Claims priority, application Switzerland, Apr. 23, 1968,  
6,215/68

Int. Cl. F16h 1/12; G06

U.S. Cl. 74-421

15 Claims



An operating mechanism for indicating wheels and type wheels in price computing weighing machines. The mechanism is more compact and requires less driving power due to the fact that the intermediate gears which drive indicating wheels and type wheels have a thickness between  $\frac{1}{150}$  and  $\frac{1}{200}$  of their diameter.

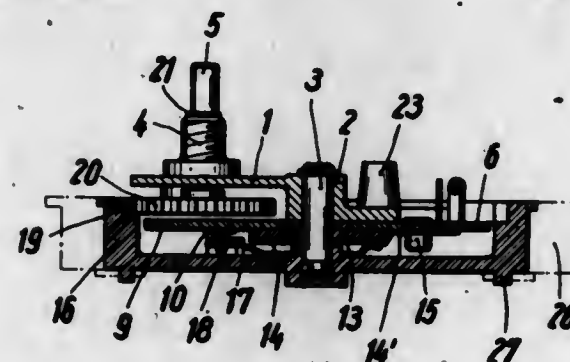
3,520,207

**ROTARY RESISTANCE WITH REDUCTION GEAR**  
Josef Köhler, Bad Neustadt an der Saale, Germany, assignor to Preh Electro-Feinmechanische Werke, Bad Neustadt an der Saale, Germany  
Filed Dec. 5, 1968, Ser. No. 781,483  
Claims priority, application Germany, Dec. 8, 1967,  
1,665,400

Int. Cl. F16h; H01c 13/00

U.S. Cl. 74-433

3 Claims



Rotary resistance with reduction gear having a wiper secured to a cup-shaped rotor embracing the stationary parts of the resistor and having the inner margin of the rotor provided with a ring gear, the latter being engaged by a stationary pinion arranged within the rotor. The outer surface of the peripheral wall of the cup-shaped rotor being formed as/or carrying a ring serving as a pulley for a scale cable.

3,520,208

**TRANSMISSION CONTROL**  
Dennis A. Davis, Rochester, Charles E. Kinkade, Warren, and Harold L. Sharp, Farmington, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Nov. 1, 1968, Ser. No. 772,573  
Int. Cl. G05g 7/00

U.S. Cl. 74-473

6 Claims

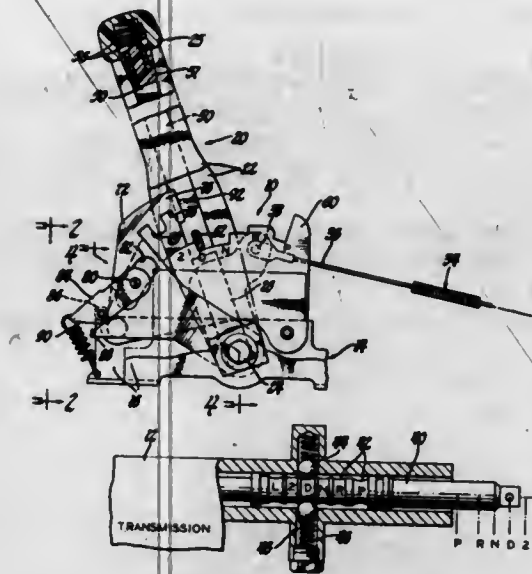
A control for an automatic transmission in which stop shoulders on a fixed plate are engageable by a selector

3,520,210

**VARIABLE RATIO STEER LINKAGE**  
Stanley C. Tarrant, Brighton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Nov. 1, 1968, Ser. No. 772,574  
Int. Cl. B62d 1/12

U.S. Cl. 74-496

6 Claims



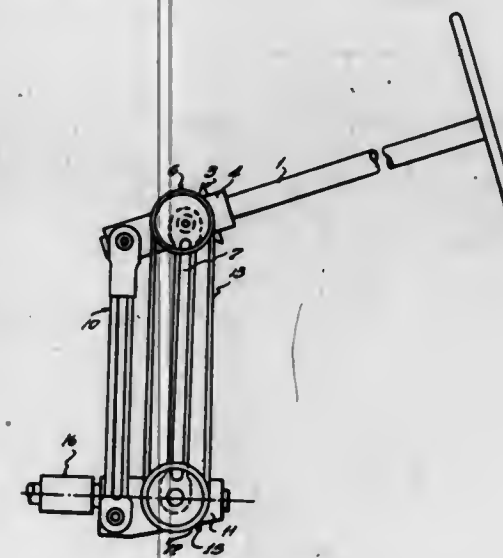
The indexing plate operates to positively limit movement of the selector lever to different positions so that the transmission can be manually up shifted and down shifted through all forward drive speed ratios including a second speed ratio.

3,520,209

**STEERING COLUMN FOR VEHICLES**  
Jorge Guatta Cescone, Ibero 5030,  
Buenos Aires, Argentina  
Filed May 29, 1968, Ser. No. 733,057  
Claims priority, application Argentina, June 6, 1967,  
207,778  
Int. Cl. B62d 1/18

U.S. Cl. 74-493

12 Claims



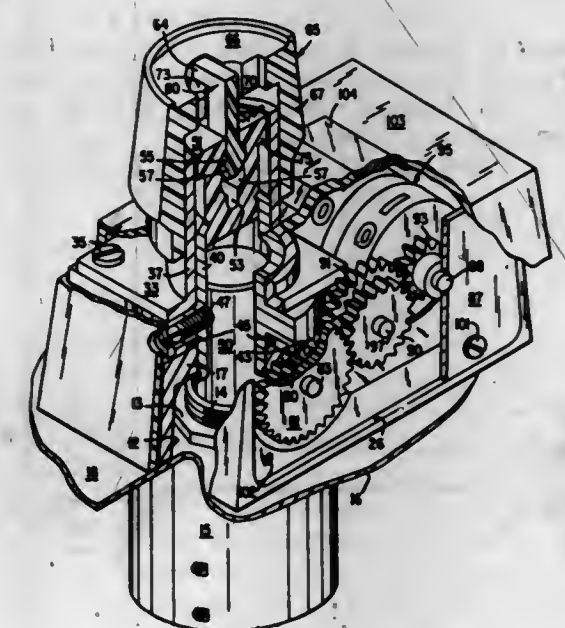
A steering column is split into an upper part or column proper and a lower part or bar. Between these two parts is placed a mechanism comprising at least two connecting links pivoted to a first plate and to a second plate. The first plate is rotatively connected to the steering column and the second plate is connected to the bar. The plates and the connecting links form a deformable polygon that rotates around the longitudinal axis of the bar. The bar and the column are also connected by a mechanism for transmitting the rotative movement of the steering wheel to a shaft coupled to the steering gearbox of the vehicle.

3,520,211

**MECHANISM FOR ROTATABLY ADJUSTING A SHAFT**  
Richard W. Mowery, Downey, Calif., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware  
Filed Sept. 30, 1968, Ser. No. 763,875  
Int. Cl. G05g 5/22

U.S. Cl. 74-531

4 Claims



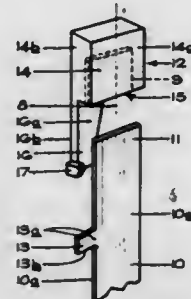
Mechanism for rotatably adjusting a shaft, such as a potentiometer shaft, and locking the shaft in adjusted position. A body is provided with a cylindrical bore in



which is mounted a cylindrical coupling connected at its inner end to the shaft. The outer end of the coupling is bifurcated. An actuator is positioned in the outer bifurcated end of the coupling and is operable upon inward movement to spread the leg portions of the bifurcated end into engagement with the bore to lock the shaft in adjusted position. A rotation indicator may be mounted in the body and connected to the coupling through a gear train. The body is provided with a removable side plate to permit gears in the gear train to be conveniently interchanged, or other gears substituted, to vary the ratio between the coupling and the position indicator.

### 3,520,212 CONTROL KNOB

Philip H. Evans, Wollaston, England, assignor to BSR Limited, Warley, England, a British company  
Filed Nov. 5, 1968, Ser. No. 773,557  
Claims priority, application Great Britain, Nov. 8, 1967, 50,706/67  
Int. Cl. F16d 1/10; G05g 1/02  
U.S. Cl. 74-543



A control knob assembly comprising a control knob and a member upon which the control knob is to be provided. The control knob is made of an inherently resilient plastics material and has a socket to receive part of the member upon which the knob is to be fitted, the knob has an arm the free end of which has a lug which snap inter-engages with a lug provided on said part of the member thereby securing the knob to the member. More than one arm may be provided on the knob and a corresponding number of lugs on the member.

### 3,520,213 DIFFERENTIAL DRIVE AXLE

Gilbert K. Hause, Bloomfield Hills, and Clifford C. Wrigley, Grosse Pointe Woods, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Oct. 31, 1968, Ser. No. 772,104  
Int. Cl. F16h 1/42  
U.S. Cl. 74-714

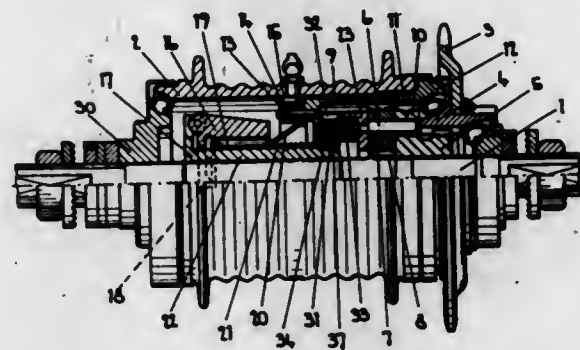


In preferred embodiments, differential drive axles each having a pair of angularly disposed differential gears carried within a rotatable case and formed integrally with outwardly extending flexed drive axles. The flexed axles

are supported at their outer ends by bearing members which fix the positions of the outer ends on rotational axes common with one another and with the differential case. Both single and double row outer bearings are disclosed which created different flexure conditions and resultant load conditions in the respective axle shafts.

### 3,520,214 MULTIPLE SPEED HUB WITH CENTRIFUGAL SHIFTING MECHANISM

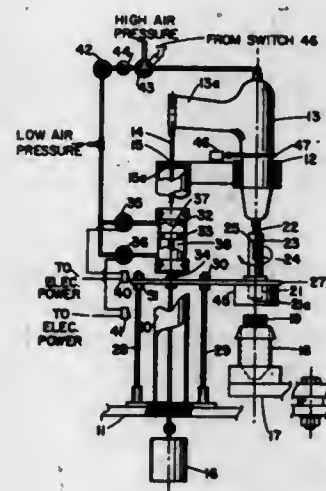
Hans Joachim Schwerdhöfer, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs AG, Schweinfurt (Main), Germany  
Continuation-in-part of application Ser. No. 761,262, Sept. 20, 1968. This application Feb. 20, 1969, Ser. No. 801,128  
Claims priority, application Germany, Mar. 1, 1968, 1,680,591  
Int. Cl. F16h 3/44, 3/74  
U.S. Cl. 74-752



A bicycle hub including a dual-speed planetary-gear transmission is shifted between its two transmission ratios by a centrifugally operated mechanism whose flyweight is coupled to the planet carrier and the ring gear of the planetary-gear transmission by epicyclic differential gearing in such a manner that the weight rotates faster than either transmission element.

### 3,520,215 TORQUING MACHINE

Dominick C. Lucenti, Fallsington, and Claude W. Hearn, Bristol, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware  
Filed Apr. 10, 1968, Ser. No. 720,122  
Int. Cl. B25b; B23q 5/00  
U.S. Cl. 81-52.4

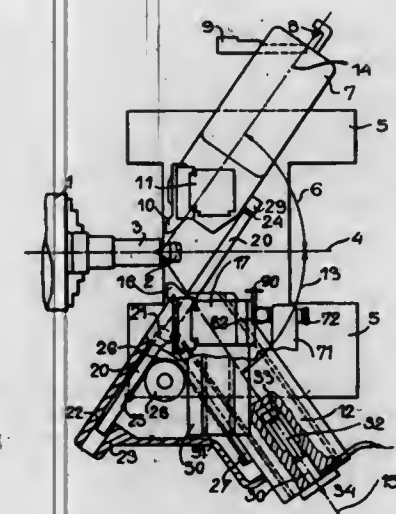


A machine for tightening a threaded member with respect to a mated part wherein a weight is lifted by a pull

exerted by a torque arm. This machine makes it possible to obtain accurate and predictably reproducible results on a mass production basis in a semi-automatic manner.

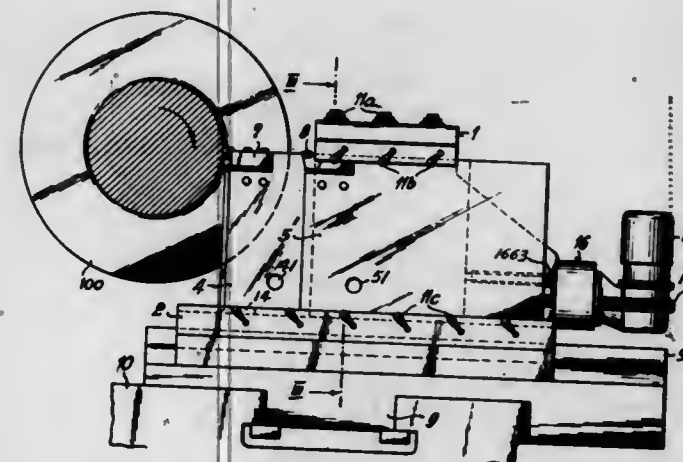
### 3,520,216 COPYING LATHE

Jules Louis Jeanneret, 13-21 Rue Henri Gelin, 79 Niort, France  
Filed July 8, 1968, Ser. No. 743,250  
Claims priority, application France, July 12, 1967, 114,094  
Int. Cl. B23b 3/28  
U.S. Cl. 82-14



Copying lathe carrying two tool carrying slides capable of being simultaneously or selectively operated for the copying of a contour in a mass-production operation. The selective or simultaneous operation of the slides being performed by a transmission means connecting the slides and a releasing means for releasing one of the slides from its working position.

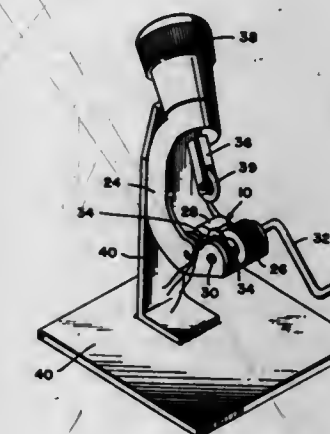
TOOL MOUNT FOR TURNING LATHES  
Wilhelm Engelbrecht, Dortmund-Kirchborde, Germany, assignor to Hoesch Maschinenfabrik Deutschland AG, Dortmund, Germany  
Filed Mar. 20, 1967, Ser. No. 624,285  
Claims priority, application Germany, July 9, 1966, H 59,905  
Int. Cl. B23b 21/00  
U.S. Cl. 82-24



A tool mount for use in heavy-duty turning lathes wherein one or more tool blocks rest on an extension of the support and can reciprocate toward or away from the

axis of the revolving workpiece. Each tool block is in full surface-to-surface contact with the extension, also in the fully extended position of the corresponding turning tool, so that the bed which carries the tool block support can take up all cutting forces.

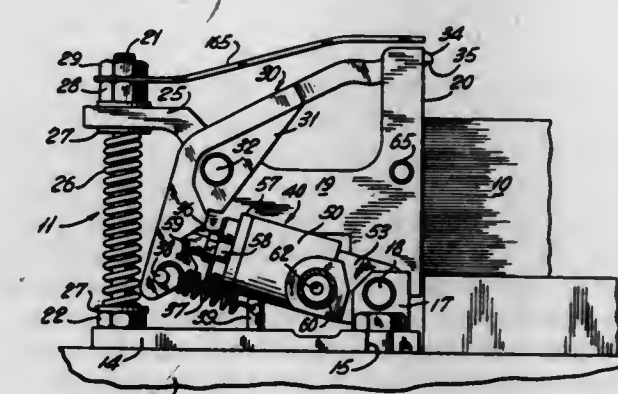
3,520,218  
TRANSISTOR CAP REMOVER  
Richard A. Tolkmitt, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Apr. 10, 1968, Ser. No. 720,135  
Int. Cl. B23b 3/04, 5/14  
U.S. Cl. 82-92



Method and apparatus for severing the side wall of a transistor can to expose its contained electronic component, such as a semiconductor chip, without producing cuttings from the can wall which could contaminate or otherwise injure the component.

### 3,520,219 CLAMP

Ernest H. Treff, Port Washington, N.Y., assignor to F. L. Smithe Machine Company, Inc., New York, N.Y., a corporation of New York  
Continuation of application Ser. No. 468,836, July 1, 1965. This application Dec. 18, 1967, Ser. No. 696,955  
Int. Cl. B26d 7/02, 7/16  
U.S. Cl. 83-453



An improved clamp is provided for holding a stack of sheets that are to have a plurality of sections cut therefrom. Means are provided for holding the top of the stack at the edge thereof and a resilient abutment, cooperating with the top holding means, engages one side of the stack. The cooperation of the two holding means permits slight movement of the "waste" material and also assures that the entire stack will be returned to its original, aligned position subsequent to each cut.



3,520,220

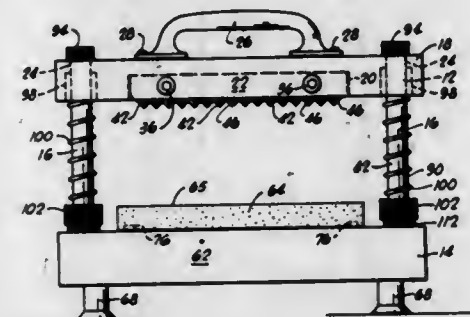
## SLITTING MACHINE

Eric O. Acker, 4436 NW. 59th St.,  
Oklahoma City, Okla. 73112Continuation-in-part of application Ser. No. 518,140,  
Jan. 3, 1966. This application Dec. 18, 1967, Ser.  
No. 691,559

Int. Cl. B26d 5/10; B26f 1/18

U.S. Cl. 83—529

7 Claims



Apparatus for slitting thin material, particularly skin in preparation for skin-grafting operations, the apparatus consisting of a base member formed of resilient material and having a smooth surface for receiving the thin material, and then a slitting component carrying a plurality of rows of cutting teeth and being movably affixed to said base member such that it can be brought into contact therewith to place plural rows of slits in the thin material.

3,520,221

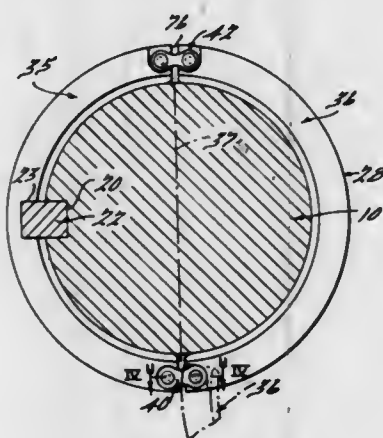
SPACER FOR ROTARY SLITTING KNIVES  
AND THE LIKEWilbur C. Thomas, 8 Clinton Lane,  
Dearborn, Mich. 48120

Filed Sept. 11, 1967, Ser. No. 666,901

Int. Cl. B26d 1/24

U.S. Cl. 83—664

1 Claim



A spacer for the disc knives of rotary slitting machines is formed in two complementary semi-cylindrical sections hinged together on a line parallel to the axis to form an openable ring for installation on and removal from the arbor from one side and without threading along the arbor, the hinging means comprising one or more arms connected to the sections by a double pintle assembly having two pintle axes, one in each section, the hinging means being rigid with respect to one of the sections so that all hinging movement occurs about one of the pintle axes and the sections cannot close in a nonconcentric relation.

When closed the sections are held together by U-type fasteners inserted from the side and which are retained by being blocked by adjacent knife or spacer elements after assembly.

3,520,222

## COMPOSITE FASTENING DEVICE

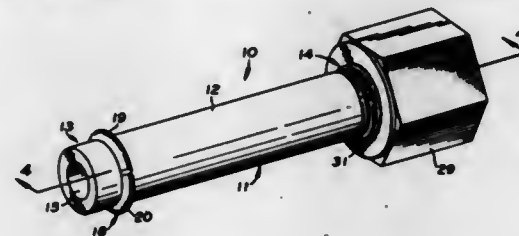
Eugene W. Placek, Parma, Ohio, assignor to Allied  
Industries, Inc., Akron, Ohio, a corporation of  
Ohio

Filed Dec. 30, 1968, Ser. No. 787,705

Int. Cl. F16b 19/00, 33/02, 35/00

U.S. Cl. 85—1

1 Claim



A composite fastening device having enhanced strength when in shear load and comprising a shank having a head end with an annular groove therein, a retaining ring acting as a head and matingly engaging said groove; a thread end on said shank having a helical groove, said groove securing a rotatable nut.

3,520,223

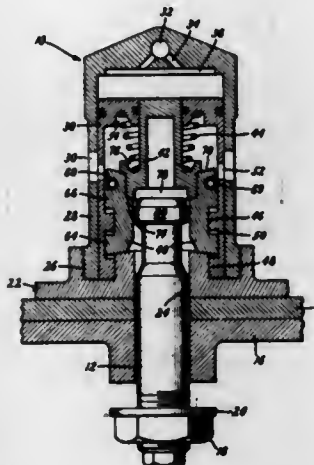
QUICK RELEASE DEVICE WITH AUTOMATIC  
RESETJames L. Lilly, Wayne, Pa., assignor to General Electric  
Company, a corporation of New York

Filed Sept. 3, 1968, Ser. No. 757,008

Int. Cl. F16b 21/10

U.S. Cl. 85—7

8 Claims



A quick release fluid actuated fastening device adaptable to be reset quickly and without the need of reassembly.

3,520,224

## RETAINING PIN

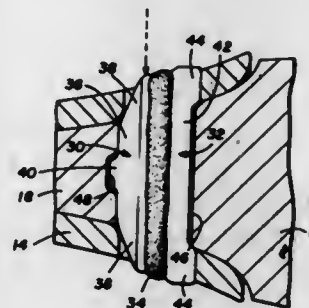
Ruston C. Hensley and Elbert J. Lucas, Dallas, Tex.,  
assignors to Hensley Equipment Company, Inc., Dallas,  
Tex., a corporation of Texas

Filed Feb. 12, 1969, Ser. No. 798,656

Int. Cl. F16b 19/00

U.S. Cl. 85—8.3

10 Claims



A retaining pin for securing digging teeth to the adapters of earth moving machines. The pin is comprised of

a sandwich of two steel members and a rubber member positioned between the steel members. The pin is symmetrical and can therefore be inserted or removed from either the top or the bottom of a digging tooth. The pin can, however, be inserted and removed only by hammering solely on a particular one of the steel members. This prevents accidental displacement of the pin.

3,520,225

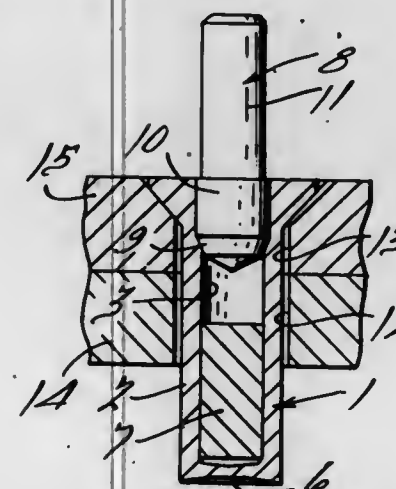
## HYDRAULIC DRIVE PIN RIVET

Charles W. Baugh, St. Clair Shores, Mich., assignor to  
Huck Manufacturing CompanyContinuation of application Ser. No. 704,831, Feb. 12,  
1968. This application Aug. 4, 1969, Ser. No. 849,263

Int. Cl. F16b 13/04

U.S. Cl. 85—65

6 Claims



A blind drive pin rivet of the type in which the blind side is bulbed through the action of a fluid medium and in which means are provided to relieve excessive pressure so that the blind side is properly formed without disrupting the strength of the fastener and also with the pin so constructed that the fluid means cannot leak past the pin and the pin may be applied with satisfactory and relatively low force.

3,520,226

## GUN BLAST DIFFUSER

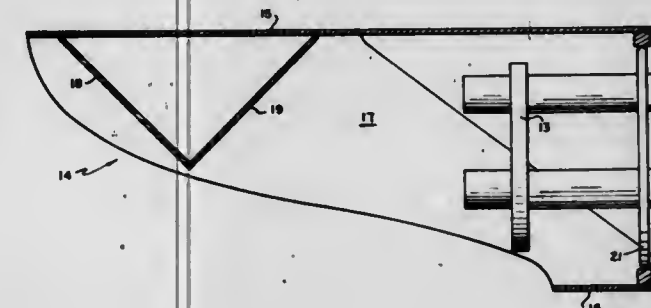
Robert H. Meadows, Edmundson, and Ronald E. Volker,  
St. Charles County, Mo., assignors, by mesne assign-  
ments, to the United States of America as represented  
by the Secretary of the Navy

Filed July 12, 1968, Ser. No. 744,469

Int. Cl. F41f 17/12

U.S. Cl. 89—14

1 Claim



An apparatus for diffusing and directing the energy from a gun blast including a shroud surrounding one or more gun barrels with said shroud being a resonant

chamber for rebounding energy from a first gun blast at an angle against energy of a succeeding gun blast whereby the energy of the succeeding gun blast is diffused and deflected.

3,520,227

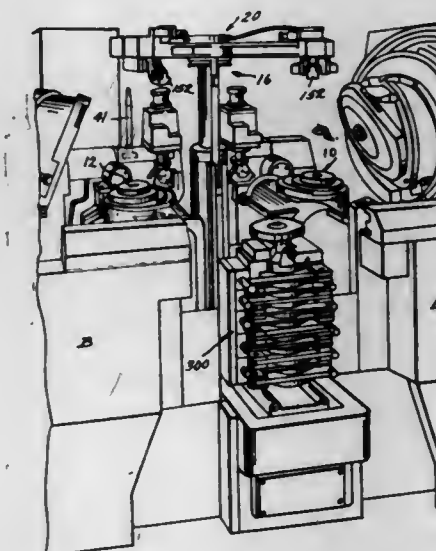
CHECKING MEANS FOR DETERMINING STOCK  
DIVISION AND SEATING OF A GEAR PIECE IN  
A BEVEL GEAR MAKING MACHINEErnst J. Hunkeler, Fairport, and Richard S. Buxton,  
Rochester, N.Y., assignors to The Gleason Works,  
Rochester, N.Y., a corporation of New York

Filed Oct. 1, 1968, Ser. No. 764,215

Int. Cl. B23f 1/00

U.S. Cl. 90—1

7 Claims



A work loader and transfer device for handling and moving gear blanks and gear pieces from one station to another in a gear cutting apparatus is disclosed. The work loader and transfer device is constructed to operate between at least two cutting or working positions of a machine and includes means for being lifted and lowered as well as rotated back and forth about a vertical axis of rotation. Work holding devices are positioned on the ends of arms associated with the work loader and transfer device, and more than one type of work holding device may be associated with a single work loader and transfer means. Each work holding device includes a centering cup means for contacting a gear piece and for centering the same relative to the work loader and transfer device, and jaw members are provided for effecting a tight grip of the workpiece. Means may be provided for rotating or indexing the workpiece relative to the loader and transfer device so that the workpiece is properly oriented for a cutting operation. A control system is provided for checking and controlling a sequence of operations of a machine, and the control system may be combined with the work loader and transfer device to effect its sequential operations. The control system includes means for taking air read-outs of various functions of a machine to detect a failure of any given function in a sequence, and the control system includes means for shutting down automatic operation of a machine if such a failure occurs. In addition, a checking device is provided on a bevel gear cutting machine to determine proper stock division and seating of a workpiece after it has been transferred to a work station. The checking device may be included in the control system so that improper positioning of a workpiece will result in a shutdown of handling operations for a gear cutting machine. Also, a method for handling work blanks and workpieces between two or more stations of gear cutting apparatus is described.



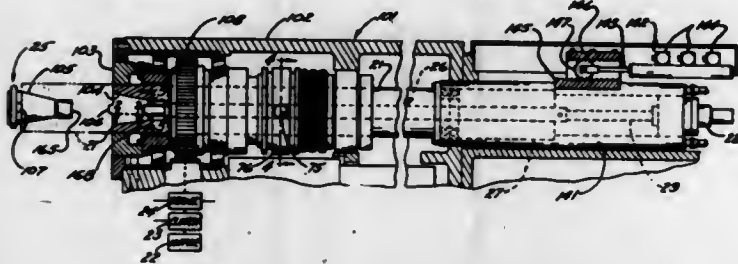
**3,520,228**  
**SPINDLE ORIENTING AND DRAWBOLT**  
**MAJUNCTION SENSING MACHINE TOOL**  
**CONTROL SYSTEM**

Jack A. Wohlfell, Fond du Lac, Wis., assignor to Gidding & Lewis, Inc., Fond du Lac, Wis., a corporation of Wisconsin

Filed Apr. 10, 1967, Ser. No. 629,585  
 Int. Cl. B23c 1/06

U.S. Cl. 90—11

22 Claims



A machine tool control system with control circuits for arresting rotation of a machine tool spindle in a fixed rotary orientation position where a drawbolt used to secure worktools in the spindle is rotatable relative to the spindle to release one worktool and grip another and control circuit for sensing any failure of the drawbolt to properly rotate relative to the spindle. The same rotary position transducer provides signals representing (1) drawbolt rotary position, and, when the spindle is rotating, (2) spindle rotary position and (3) spindle rotary speed, and such signals are utilized in the control circuits both to delay actuation of the spindle arresting mechanism until the spindle arrives at the orientation position below a predetermined creep speed and to sense any failure of the drawbolt to rotate properly relative to the spindle.

**3,520,229**  
**HYDRAULIC APPARATUS**

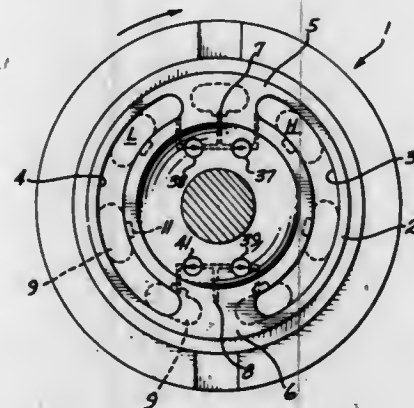
Victor R. Sliam, Winchcombe, Cheltenham, and John Rankin, Shurdington, Cheltenham, England, assignors to Dowty Technical Developments Limited, Cheltenham, England, a British company

Filed July 2, 1965, Ser. No. 469,211  
 Claims priority, application Great Britain, July 3, 1964, 27,481/64

Int. Cl. F04b 1/20

U.S. Cl. 91—6.5

7 Claims



A reversible pump or motor including a rotary cylinder block, cylinders in the block which are parallel to or inclined to the rotation axis, pistons in the cylinders reciprocating during rotation of the block by means external to the block such for example as a swash plate, a valve on which the block is arranged to rotate, a surface of the valve being in rotary contact with a surface of the block, a pair of main ports having supply and return functions in the valve surface, cylinder ports in the block surface each arranged to pass alternately over the main ports

during rotation of the block of the valve, bridges in the valve surface spacing apart the adjacent ends of the main ports, an auxiliary valve port in the valve surface, an auxiliary cylinder port opening into the block surface from each cylinder port, and a connection from the auxiliary valve port to a pressure zone, the ports being arranged so that each auxiliary cylinder port during block rotation connects to the auxiliary valve port during the period when the associated cylinder port is closed by a bridge.

**3,520,230**  
**HYDRAULICALLY OPERATED**  
**SERVOMECHANISMS**

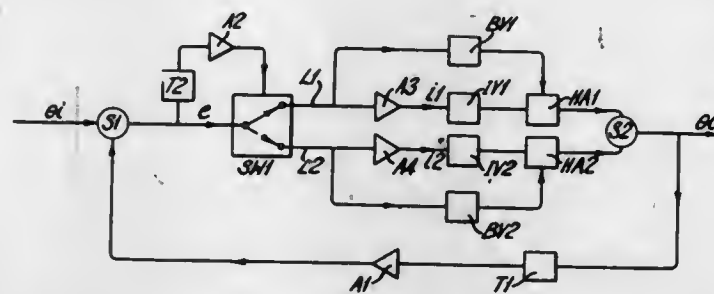
George Orloff, Newbury, England, assignor to Molins Machine Company Limited, Deptford, London, England, a corporation of Great Britain

Filed Sept. 13, 1968, Ser. No. 759,609  
 Claims priority, application Great Britain, Sept. 15, 1967, 42,274/67

Int. Cl. F15b 18/00; F01b 21/00

U.S. Cl. 91—413

2 Claims



A servomechanism having two hydraulic actuators of different effective areas so that fluid at the same pressure applied to the actuator of smaller effective area will produce a higher velocity of movement than when applied to the other actuator, but with lower hydraulic stiffness. The smaller actuator is used when the servo error is large, and the larger actuator is used when the error is small, the other actuator in each case being by-passed.

**3,520,231**  
**HYDRAULIC SUPPLY SYSTEMS WITH FLOW**  
**RATE-LIMITING CONTROL**

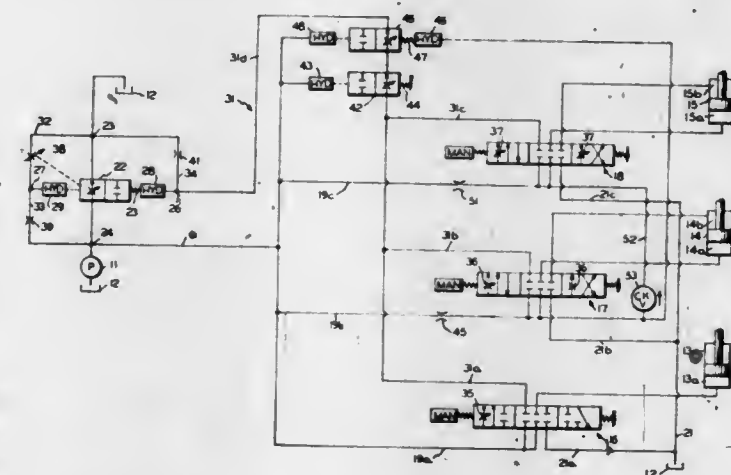
Roland L. Genz, Waukesha, Wis., assignor to General Signal Corporation, a corporation of New York

Filed Oct. 23, 1968, Ser. No. 769,858

Int. Cl. F15b 11/16

U.S. Cl. 91—414

7 Claims



Supply systems for hydraulically actuated loads which employ closed center distributing valves, and a separate fluid delivery control device which is positioned by a servo control that responds to actuation of the distributing valves. The fluid delivery control device is a by-pass

valve in cases where the supply pump is of the fixed delivery type, and is the pump delivery control element in cases where a variable delivery pump is used. The servo control includes a hydraulic self-balancing Wheatstone bridge having command orifices in one of its legs whose flow areas are varied in response to actuation of the distributing valves. Auxiliary mechanism, which operates through the servo control, serves to limit the rate of supply to at least one of the distributing valves. This mechanism comprises a reference orifice in the supply connection of that valve, and a variable auxiliary orifice which is connected in the same leg of the bridge as the command orifices and is controlled in accordance with the pressure differential across the reference orifice. The supply rate to at least one other distributing valve may be limited to a higher value by delivering oil to it through the first reference orifice and a parallel-connected second orifice, and by providing means for blocking flow to the first valve through the second reference orifice.

**3,520,232**  
**RADIAL PISTON PUMP AND MOTOR DEVICE**

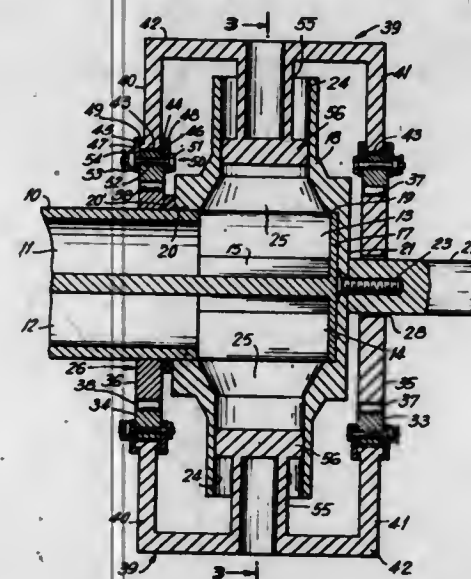
Jaromir Tobias, Box 141, R.D. 2, Rhinebeck, N.Y. 12572

Filed Aug. 12, 1968, Ser. No. 751,801

Int. Cl. F04b 1/10, 9/04, 49/00

U.S. Cl. 91—495

7 Claims



A radial piston pump or motor including a pintle shaft, a cylinder block rotatable about the pintle shaft, and a reaction ring chassis shiftable transversely of the pintle shaft, a ring assembly rotatably mounted on the chassis, and a series of piston-reaction ring segments carried by said ring assembly to be movable relative to each other and the ring assembly, said segments including piston members extending radially into the bores of the block, the piston members including parti-spherical piston heads to permit a relative tilting of the pistons within the bores.

**3,520,233**  
**LOW FRICTION RADIAL PISTON PUMP**  
**OR MOTOR**

Jaromir Tobias, Box 141, R.D. 2, Rhinebeck, N.Y. 12572

Continuation-in-part of application Ser. No. 751,801, Aug. 12, 1968. This application Jan. 30, 1969, Ser. No. 795,325

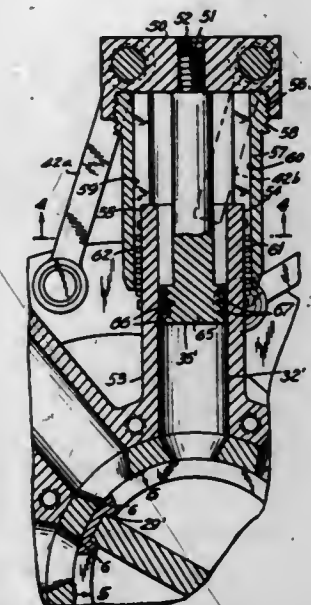
Int. Cl. F04b 1/10, 9/00, 35/00

U.S. Cl. 91—495

1 Claim

A radial piston pump or motor including a cylinder block rotatable about a pintle shaft, a reaction ring assembly rotatable about an axis parallel to and displaced from the axis of said pintle shaft, pistons reciprocable in

the bores of said cylinders and link means comprising at least one pair of parallelogram links connecting the pistons to the reaction ring, for transmitting forces between said assembly and pistons. The connection between the link means and piston is effected along a line perpen-



dicular to the piston axis, the assembly thus being characterized by a force transmission between pistons and reaction ring which precludes the application to the pistons of forces which tend to cock or tilt the pistons relative to the cylinder bores.

**3,520,234**  
**PISTONS**

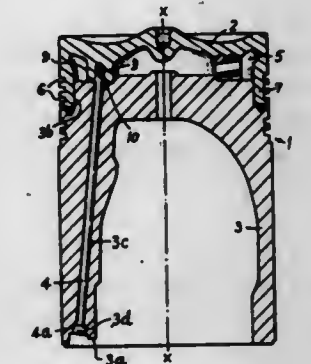
Harold T. Hill and Douglas A. Law, Lymington, England, assignors to Wellworthy Limited, Lymington, Hampshire, England, a British company

Filed Sept. 13, 1968, Ser. No. 759,737  
 Claims priority, application Great Britain, Sept. 28, 1967, 44,304/67

Int. Cl. F16j 1/64

U.S. Cl. 92—220

8 Claims



This invention relates to a two-piece piston construction wherein the piston crown is secured to the piston body by means of bolts extending through the body into the underside of the crown and the bolts are inclined with respect to the longitudinal axis of the piston.

**3,520,235**  
**COLLAPSIBLE ROAD MARKER**  
 Jack Palazzolo, 5—35 50th Ave. 11101, and Thomas Fama, 23—02 28th Ave. 11102, both of Long Island City, N.Y.

Filed Mar. 12, 1969, Ser. No. 806,393

Int. Cl. E01c 23/16

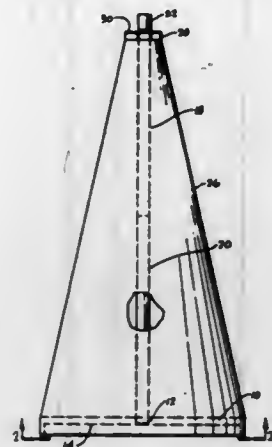
U.S. Cl. 94—1.5

4 Claims

A collapsible road marker adapted to be stored in the trunk of a vehicle when not in use. It can be readily assembled into the shape of a vertical truncated penta-



hedron brightly colored and luminous when illuminated in the dark which is disposed adjacent the vehicle, when



broken down to warn other motorists and prevent accidents.

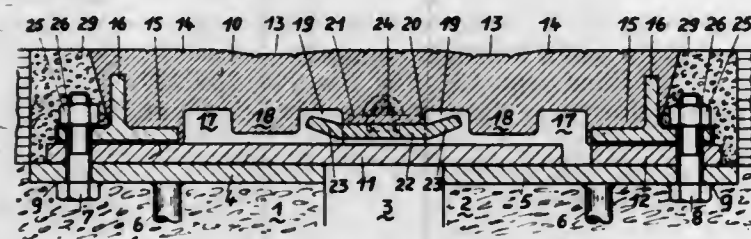
3,520,236

# MEANS FOR COVERING AND RENDERING WATERPROOF EXPANSION JOINTS FOR ROAD BRIDGES AND OTHER CIVIL ENGINEERING CONSTRUCTIONS

Etienne Sequaris, 4 Rue Tivoli, Andrimont, Belgium  
Filed Feb. 26, 1968, Ser. No. 708,082  
Claims priority, application Belgium, Mar. 3, 1967, 41,268; Dec. 1, 1967, 41,548  
Int. Cl. E01c 11/10

U.S. Cl. 94—18

5 Claims



Means for covering and rendering waterproof an expansion joint for a bridge or other construction where sections made of metal or other material are interrupted at intervals to lend a strip of rubber or other elastomer a certain lateral flexibility. Metal sheets are positioned within depressions in the strip to engage protuberances in the strip and thereby to cancel the tendency of the strip to rise. By the strip acquiring lateral flexibility being prevented from rising, undesirable upward bulging is avoided.

3,520,237

# ROTARY SOCKET FOR MULTIPLE FLASHBULB HOLDERS

Dieter Engelsmann and Franz Landbrecht, Unterhaching, Munich, and Siegfried Zobel, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

Filed Jan. 13, 1967, Ser. No. 609,128

Claims priority, application Germany, Jan. 14, 1966, A 51,317

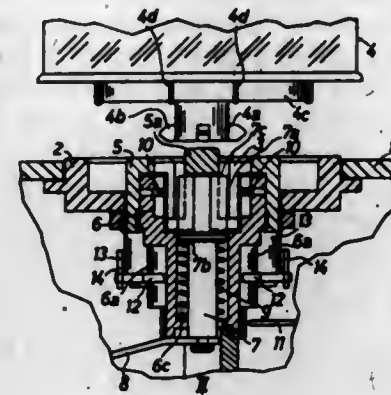
Int. Cl. G03b 19/00

U.S. Cl. 95—11

10 Claims

A camera having a stationary bearing element, a rotary socket for receiving a multiple flashbulb holder mounted in the bearing, and a motion transmitting member for adjusting the shutter speed of the camera. The motion transmitting member is mounted substantially within the coupling portion of the rotary socket and is biased in a vertical direction by a spring contained within the rotary

socket. The motion transmitting member is moved downwardly against the bias of the spring in response to insertion of a flashbulb holder into the socket to adjust the shutter speed for a flash exposure. The spring biased



parts of the socket are arranged in such a way that the friction between the rotary socket and the bearing element is not affected by the insertion of a flashbulb holder into the socket.

3,520,238

# APPARATUS AND METHOD FOR PROTECTING A PHOTOGRAPHIC DEVICE

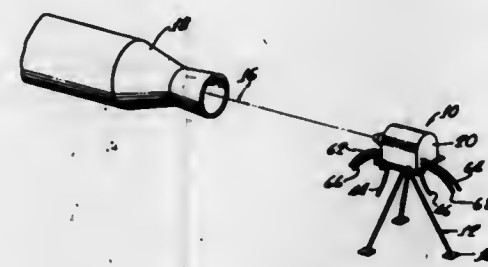
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Richard L. Bailey and William C. Tibbitts, both of Lancaster, Calif.

Filed Dec. 13, 1967, Ser. No. 690,163

Int. Cl. G03b 17/02

U.S. Cl. 95—11

9 Claims



A camera to photograph a rocket engine nozzle in operation is positioned within a rugged enclosure cooled by water and pressurized by inert nitrogen to prevent particles from entering the enclosure. A viewing duct in the wall of the enclosure aligned with the camera lens is formed with a protective window at its inner end and a reduced diameter viewing port at its outer end. High pressure gas injected into the duct exhausts through the port as a high pressure jet which deflects the engine exhaust and prevents it from entering the duct and damaging the window of the camera.

3,520,239

# PHOTOGRAPHIC SHUTTER WITH AN ELECTRONIC TIMING DEVICE

Waldemar T. Rentschler, Calmbach, Black Forest, Germany, assignor to Prontor-Werk Alfred Gauthier, G.m.b.H., Calmbach, Black Forest, Germany, a German corporation

Filed Oct. 10, 1966, Ser. No. 585,695

Claims priority, application Germany, Oct. 28, 1965, P 37,984

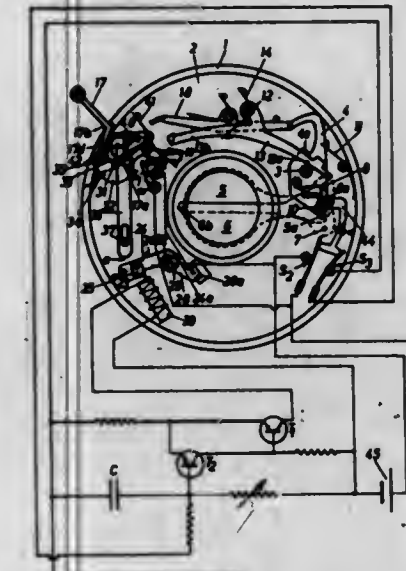
Int. Cl. G03b 9/00

U.S. Cl. 95—53

4 Claims

A photographic shutter with an electronic timing device is provided having at least one pivotally mounted shutter blade and a detent for holding the shutter in the open position. The electronic timing device sets the exposure time and has an electro-magnet for engaging the

detent, the detent being engageable by the electro-magnet for holding the shutter in the open position for the duration of the exposure. The shutter blade is engageable di-



rectly by the detent at a point spaced from the pivotal point of the shutter blade to hold the shutter blade in the open position.

3,520,240

# CAMERA SHUTTER

Lucien Antoine Regis Bouchetal de la Roche, Lyon, France (Lieudit Meginant, 69 Tassin-la-Demi-Lune, France)

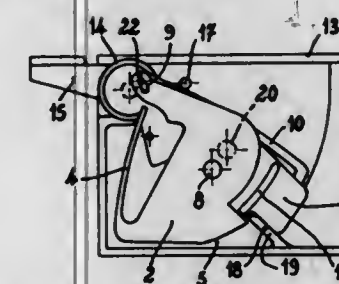
Filed Nov. 9, 1967, Ser. No. 681,797

Claims priority, application France, Jan. 17, 1967, 48,168

Int. Cl. G03b 9/26

U.S. Cl. 95—60

5 Claims



A camera shutter assembly is constituted by a shutter of molded plastic material with which an actuating spring in the shape of a spring strip is integral, and a counter-shutter. The counter-shutter is pivotally mounted on a casing of the camera and molded integrally with a return spring strip and with an extension adapted to be used as a releasing key. The two spring strips are secured to the shutter and the counter-shutter, respectively, at locations opposite to the respective pivots of the latter. The counter-shutter has an eccentric pin thereon which is received in an elongated slot in the shutter. The shutter is moved when the key is actuated to release a notch surface from a fixed abutment on the casing. Whereupon the shutter undergoes movement under the action of its blade to open and close the lens aperture.

3,520,241

# PISTOL GRIP MOVIE CAMERA

Dale R. Caldwell, Evanston, Ill., assignor to Argus Incorporated, Chicago, Ill., a corporation of Delaware

Filed July 27, 1967, Ser. No. 656,563

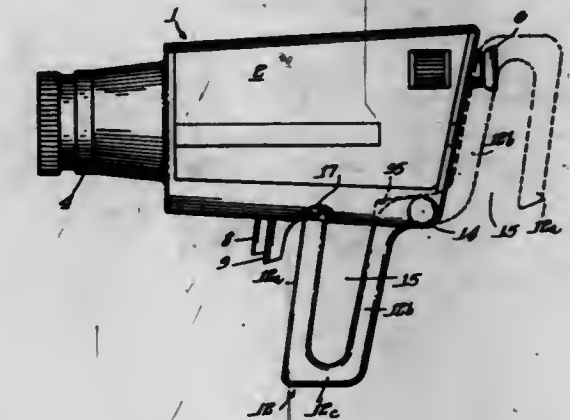
Int. Cl. G03b 17/56

U.S. Cl. 95—86

9 Claims

A movie camera is provided having a U-shaped pistol grip handle pivotally mounted from an inoperative position where it projects rearwardly from the rear of the

camera housing to an operative position extending transversely downwardly from the housing. In the inoperative position of the pistol grip handle, the operator can pass his fingers between the arms of the U-shaped handle for carrying the same or for inserting the same into a holster-like casing. When the camera is in the casing, the pistol



grip handle projects from the top of the casing so that it can be readily grasped to remove the camera therefrom. The pistol grip handle automatically is locked in position when it is moved into its operative or inoperative position. The pistol grip handle is released from either of these positions so it can be pivoted into the other position by depression of a lock release member.

3,520,242

# COATED PAPER PRODUCTS

George Kemp, Beaconsfield, and Michael Robin Widdicks and Charles Neil Henderson, High Wycombe, England, assignors to Wiggins Teape Research & Development Limited, London, England, a British company

Filed Sept. 23, 1965, Ser. No. 489,651

Claims priority, application Great Britain, Nov. 18, 1964, 47,043/64

Int. Cl. G03c 1/54, 1/86

U.S. Cl. 96—75

12 Claims

A subbing layer to render a polyolefin-coated substrate adherent to, for example, photographic emulsion, printing inks and adhesives, which layer comprises an aqueous silica sol, a non-polymeric acid and a polymeric film-forming material including polyvinyl alcohol or carboxymethyl cellulose. The subbing layer is applied to the polyolefin as an aqueous composition, and is then dried and cured.

3,520,243

# VEHICLE BODY AIR VENT

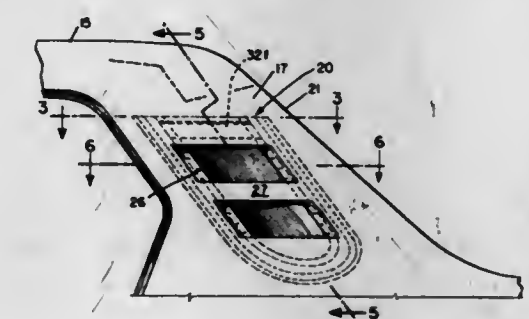
Henry W. Wessells III, Paoli, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 11, 1968, Ser. No. 783,086

Int. Cl. B60h 1/26

U.S. Cl. 98—2

6 Claims



This application discloses an air vent construction for automotive vehicles in which air outlets are provided on



each side of the body near the rear and toward the top in what is called the ear muff region and which includes baffle means to exclude the entry of water to the interior from the air outlet openings, together with means for draining out such water as may be entrapped by the baffle of the vent.

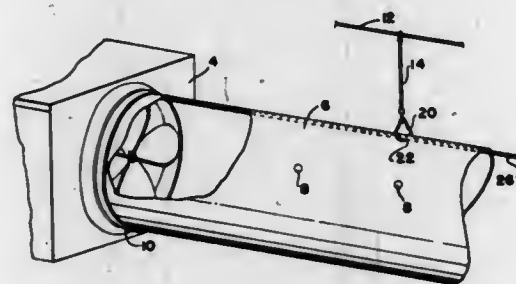
3,520,244

**SUSPENSION FOR CONVECTION TUBE**  
Floyd C. Gaines, Jr., Grapevine, Tex., assignor to Pan American Hydroponics, Inc., Grapevine, Tex., a corporation of Texas

Filed May 31, 1968, Ser. No. 733,402  
Int. Cl. F24f 7/00; F16l 3/00

U.S. Cl. 98—40

6 Claims



A suspension system for polyethylene convection tubes used in greenhouses and other buildings consisting of a wire support connected to a hanger hook for supporting a nylon or other type of cord which extends throughout the length of the polyethylene convection tube to distribute the forces upon the convection tube to prevent tearing thereof.

3,520,245

**RELIEF AND INTAKE AIR VENT FOR BUILDING ROOFS**

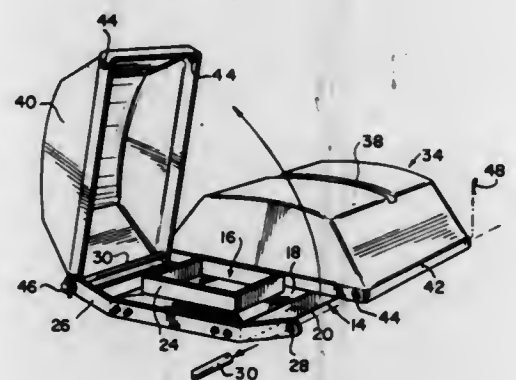
Phillip Painter, Indianapolis, Ind., assignor to Jenn-Air Corporation, Indianapolis, Ind., a corporation of Indiana

Continuation of abandoned application Ser. No. 744,236, July 11, 1968. This application Aug. 19, 1969, Ser. No. 853,598

Int. Cl. F24f 7/02

U.S. Cl. 98—42

6 Claims



This disclosure is to a relief or intake air vent for use on buildings having a generally flat roof and wherein the vent is adapted to be positioned on a rectangularly shaped pre-constructed building curb which frames an opening in the roof. The relief vent includes a curb cap received directly on the pre-constructed building and has orifices therein for the passage of air. Concave-convex covers

are removably carried on and over the curb cap to protect the orifice openings from entry of rain or other weather elements.

3,520,246

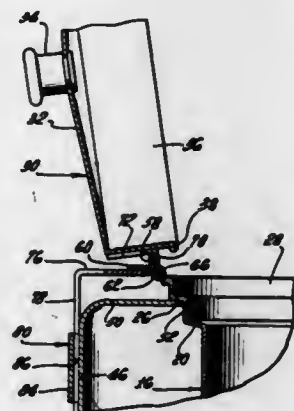
**COFFEE URN HINGE CONSTRUCTION**  
John P. Hester, Garden Grove, Calif., assignor to Margaret A. Curtis, North Hollywood, Calif.

Filed Oct. 10, 1968, Ser. No. 766,464

Int. Cl. A47j 31/00

U.S. Cl. 99—279

6 Claims



Hinge structure for pivotal mounting of a kettle lid on a restaurant type coffee brewing urn. One of two plates of the hinge structure is fastened to the kettle lid, while the other hinge plate has a vertical leg portion that is slidably engageable in a vertical slot formed by a bracket fastened to one of the vertical walls of the urn, whereby the lid is made self-adjusting, and is removable for cleaning and shipping.

3,520,247

**AUTOMATIC BYPASS HOT WATER FEED FOR COFFEE URN**

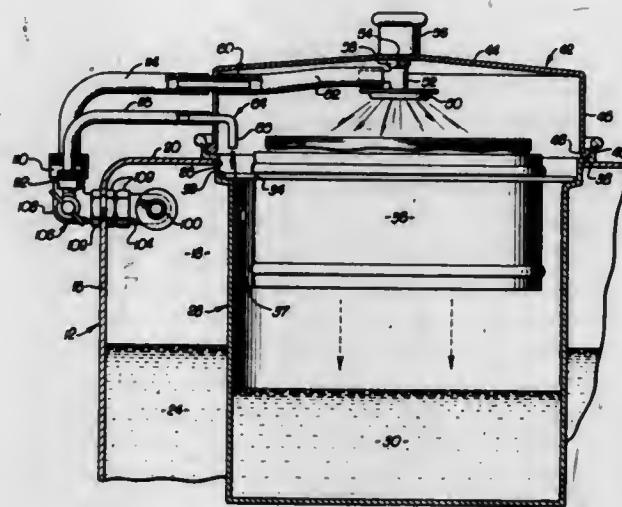
John P. Hester, Garden Grove, Calif., assignor to Margaret A. Curtis, North Hollywood, Calif.

Filed Oct. 11, 1968, Ser. No. 766,803

Int. Cl. A47j 31/04

U.S. Cl. 99—283

8 Claims



Apparatus for delivering hot water to a coffee brewing kettle in a restaurant type coffee urn. A pump provides hot water for a controlled interval of time from the reservoir formed by the urn shell through flexible conduit means to dispensing means supported inside the brew kettle lid. A portion of this hot water is dispensed from the central part of the lid through a bed of coffee grounds in the kettle, while the remainder of this hot water is dispensed from a peripheral part of the lid into the brew kettle, bypassing the bed of coffee grounds.

3,520,248

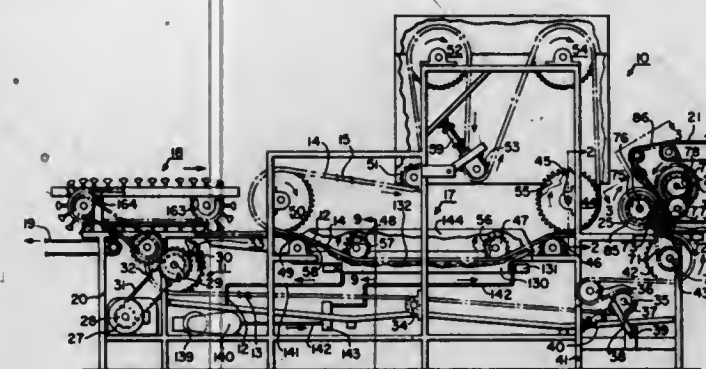
**CHIP FRYING MACHINE**  
Robert G. MacKendrick, Hamilton, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 30, 1968, Ser. No. 763,728

Int. Cl. A47j 37/12

U.S. Cl. 99—353

13 Claims



A machine for continuously and rapidly cutting sections of a predetermined shape from a dough sheet and frying those sections to provide a crisp, tasty chip-type product. The machine includes a high speed cutting device, a combined molder and carrier to shape the cut pieces and convey them through the fryer, and a transfer device for removing the fried chips from the carrier and conveying them away from the fryer for subsequent processing.

3,520,249

**BUN TOASTER WITH THE ALUMINUM FOIL PROTECTIVE SHEET IN FRONT OF THE HEATED PLATEN**

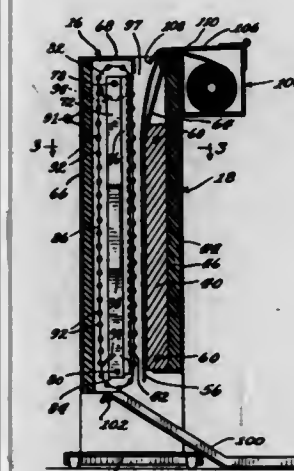
Dye O'Bryant Miller, Jr., Mount Prospect, Ill., assignor to Mid-Continental Products Co., a corporation of Illinois

Filed Dec. 11, 1968, Ser. No. 782,870

Int. Cl. A47j 37/08

U.S. Cl. 99—357

5 Claims



In order to prevent soiling of the heating platen of a bun toaster in which bun halves are conveyed past the heating platen while the halves are compressed between the platen and an endless conveyor, metal foil is placed between the platen and the bun halves so that the bun contacts the foil instead of the platen surface. A dispenser containing a roll of metal foil can be mounted at the top of the toaster and the foil can be allowed to remain attached to the roll until ready to be replaced by pulling a clean section of foil in front of the platen and severing the soiled section.

3,520,250

**ROLLER PRESS FOR COMPACTING FODDER**  
Joseph Molitoris, Wolfenbuttel, Germany, assignor to Fa. Gebrueder Welger, Wolfenbuttel, Germany

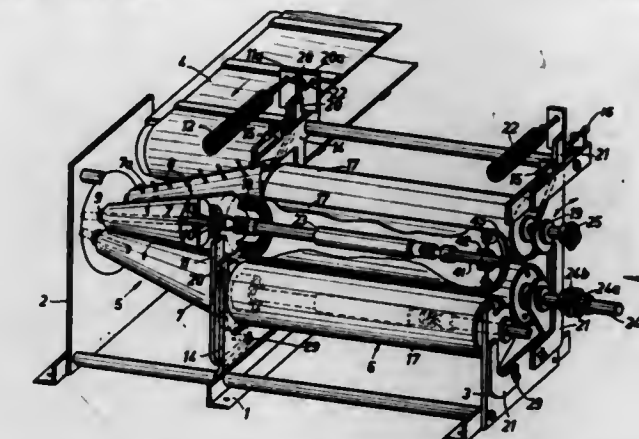
Filed Oct. 17, 1967, Ser. No. 675,807

Claims priority, application Germany, Oct. 27, 1966, W 42,682

Int. Cl. B65b 37/08

U.S. Cl. 100—89

7 Claims



Compressing and winding rollers define a compressing and winding space between them. Smoothing and consolidating rollers define a smoothing and consolidating space aligned with the compressing and winding space. Fodder is fed laterally into the compressing and winding space and proceeds longitudinally as a compacted strand through the two spaces. Certain of the rollers from both the above sets are laterally movably mounted to provide an ability to vary the cross-sectional size of the respective spaces. The movable rollers are spring-biased laterally inwardly to exert a pressure on fodder being compacted and to provide a resilient giving of the rollers. An entrainment catch on the mount of the movable compressing and winding rollers brings the movable smoothing and consolidating rollers with the movable compressing and winding rollers upon laterally outwards movement of the movable compressing and winding rollers, while the compressing and winding rollers can move freely laterally inwards, irrespective of the lateral position of the movable smoothing and consolidating rollers.

3,520,251

**SONIC DEHYDRATION OF PRECIPITATE**

Albert G. Bodine, 7877 Woodley Ave.,

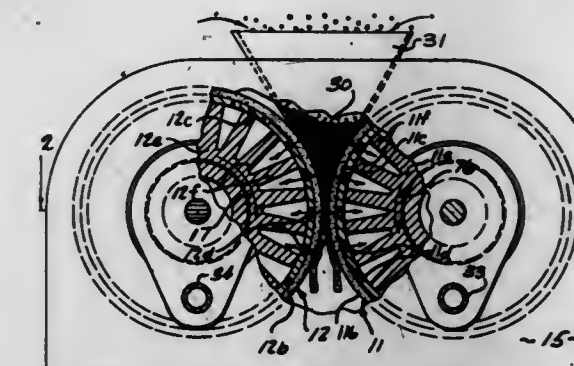
Van Nuys, Calif. 91406

Filed Feb. 10, 1967, Ser. No. 615,236

Int. Cl. B30b 9/24, 9/20

U.S. Cl. 100—118

11 Claims



Precipitate to be dehydrated is fed between a pair of members at least one of which is driven so as to squeeze the precipitate between the opposing surfaces of such members. Means are provided to simultaneously sonically vibrate at least one of the members elastically, preferably at a resonant frequency and with automatic adjustment to acoustic impedance, such sonic energy causing high sustained level sonic activation of the precipitate which causes the moisture particles trapped therein to migrate out of the precipitate.

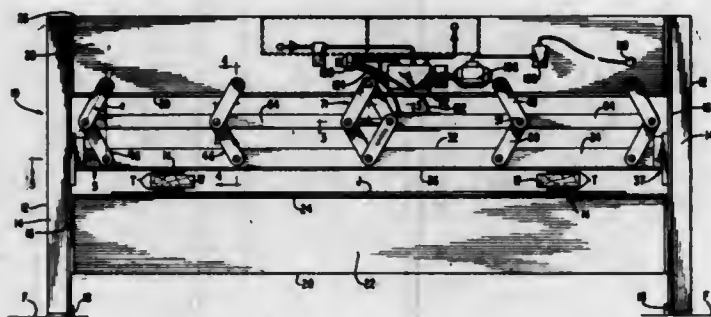


### 3,520,252 TOGGLE PRESS

John C. Jureit, Coral Gables, and Oscar Csakvary, Miami, Fla., assignors to Automated Building Components, Inc., Miami, Fla., a corporation of Florida  
Filed Oct. 13, 1967, Ser. No. 675,164  
Int. Cl. B30b 1/16

U.S. Cl. 100—272

10 Claims



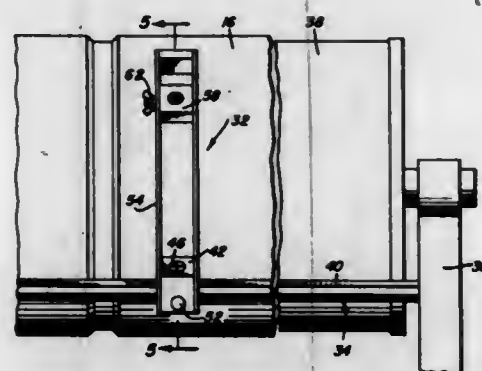
The toggle press comprises a pair of elongated press platens, the upper platen being mounted in guides on a frame for movement toward and away from the lower press platen. Pairs of longitudinally spaced toggle links suspend the movable platen from a fixed frame spaced above the upper press platen. The intermediate joints of the next adjacent spaced toggle links joining one end portion of the press platen to the frame lie to identical sides of straight lines intersecting the pivotal connections of the respective toggle links with the frame portion and the movable platen while the intermediate joints of the spaced, next adjacent toggle links joining the opposite end portion of the press platen to the frame lie to the opposite sides of straight lines intersecting the pivotal connections of the respective latter toggle links with the frame and the movable platen. Transfer bars interconnect the intermediate joints of the toggle links of each press end portion and a piston and cylinder arrangement drives the transfer bars horizontally toward and away from each other to reciprocate the movable press platen in the vertical direction.

### 3,520,253 PLATE ALIGNING MEANS FOR COLOR PRINTING PRESSES

Obie T. Head, Jr., 1961 Valley Ridge Drive SW., Atlanta, Ga. 30331  
Filed May 9, 1967, Ser. No. 637,241  
Int. Cl. B41f 5/06, 13/12

U.S. Cl. 101—181

3 Claims



The alignment of a plurality of color printing plates on the plate cylinders of a printing press by a preset aligning device transferred from one crossbar to another, after the device is set, and readings taken on a crossbar associated with the plate cylinder on which the first printing plates are mounted.

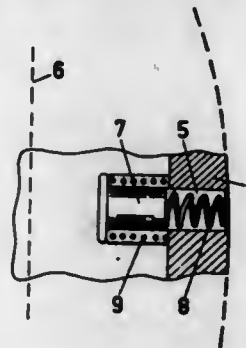
### 3,520,254 CENTRIFUGALLY CONTROLLED ELECTRICAL TIME FUSE FOR A SPIN STABILIZED PROJECTILE

Lars Bertil Aronsson, Eskilstuna, Sweden, assignor to Forsvarets Fabriksverk, Eskilstuna, Sweden, a Swedish Government agency under the Swedish Ministry of Defence

Filed Mar. 26, 1968, Ser. No. 716,070  
Int. Cl. F42c 11/06, 15/40, 19/06

U.S. Cl. 102—70.2

2 Claims



A centrifugally controlled electrical time fuse for a spin stabilized projectile. The projectile has an electrical firing circuit including a timing device having an inductance means in an oscillating circuit thereof. A movable tuning means for said inductance means is responsive to rotational movement of the projectile for varying the frequency of oscillation of the oscillating circuit. The projectile further has means for correlating the energy producing movement of said movable tuning means, which results from the application of centrifugal force thereto occurring as the projectile rotates, with the inductance means. This provides frequency variations of the oscillator circuit indicative of the cumulative number of revolutions of the projectile.

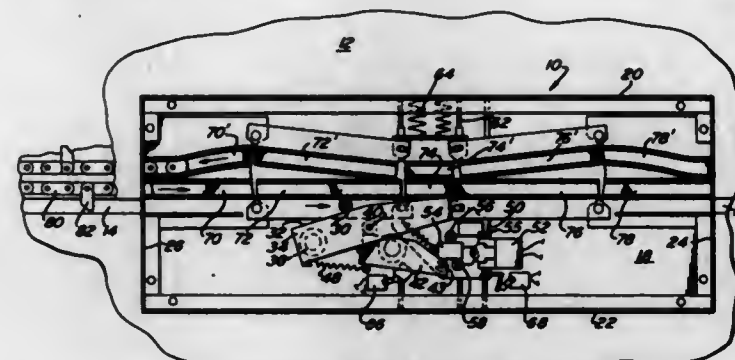
### 3,520,255 TOW LINE ACCUMULATOR

Paul R. Heffer, Easton, Pa., assignor to SI Handling Systems, Inc., Easton, Pa., a corporation of Pennsylvania

Filed Mar. 21, 1968, Ser. No. 715,081  
Int. Cl. B61b 13/00

U.S. Cl. 104—172

9 Claims



A tow line accumulator is provided having chain channels coupled to a transversely movable plate. Movement of the plate causes the chain pusher dogs to lose contact with the tow pin on a vehicle whereby the vehicle will come to a stop at the accumulator.

### 3,520,256 RAILROAD CAR WITH MOVABLE LOAD-REINFORCING MEANS

Jack E. Gutridge, Dyer, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693,405  
Int. Cl. B61d 3/06; B65j 1/22

U.S. Cl. 105—366

10 Claims

A railroad car having an open top and comprising a central container receiving well defined by end and side

walls, container support means located in the bottom of the well including a pair of end corner container supports and a central support, a movable re-inforcing bulkhead being selectively positionable at said central support and at one of the end supports, means for carrying the bulkhead on the side walls between the center and

material, each sheet forming a face of the pallet and having tabs, extending at right angles thereto, secured to the opposite sheet.

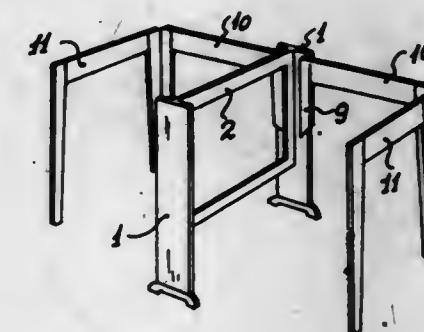
### 3,520,259 TABLES WITH COLLAPSIBLE TABLETOPS

Pascual José M. Oscoz Sanchez, Ibanez de Bilbao, 6 Bilbao, 1, Spain

Filed Dec. 22, 1967, Ser. No. 692,796  
Int. Cl. A47b 1/04

U.S. Cl. 108—79

2 Claims



end of the well and lock means on the side walls to lock the bulkhead at the center and at the end of the well stiffening the side walls torsionally and laterally when the well receives a pair of longitudinally extending tandem aligned container means supported at the ends and center of the well.

A table having a stationary frame composed of a pair of end panels connected by a fixed frame of less width than the panels. A leaf-supporting frame is attached by a vertical pivot to the inside face of one of the panels at one side of the fixed frame and a similar leaf-supporting frame is similarly pivoted to the said panel at the opposite side of the fixed frame. Each of the leaf-supporting panels has a pivotally attached leg-bearing frame, and the leaf-supporting and leg-bearing frames are capable of movement to a housed position between the panels when leaves attached to the fixed frame are swung downwardly, said leaves being supported by the leaf-supporting frames and by the leg-bearing frames when the leaf-supporting and leg-bearing frames are swung outwardly from the fixed frame and said panels and are disposed horizontally and rest upon said frames.

### 3,520,257 TELESCOPIC CAR COVERS

Robert E. James, Parma Heights, Ohio, assignor to The Shunk Manufacturing Company, Inc., Bucyrus, Ohio, a corporation of Ohio

Filed Mar. 15, 1967, Ser. No. 623,452

Int. Cl. B61d 39/00

U.S. Cl. 105—377

13 Claims



A telescoping hood structure for a railroad car in which the hood structure comprises a plurality of sections capable of being telescoped relative to each other. The sections have wheels and are mounted upon tracks for movement lengthwise of the car, and means are disclosed for locking the endmost section and for preventing any section from moving lengthwise when the endmost sections are so locked.

### 3,520,260 METHODS AND APPARATUS FOR PROCESSING WEB-LIKE MATERIALS

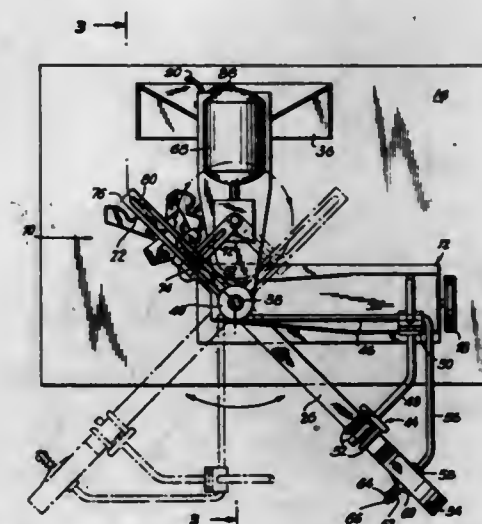
Jordan J. Levin, Woodmere, Edward F. Semlitz, Westbury, and Martin Zinamon, Bellmore, N.Y., assignors to Standwear Pleating Corporation, a corporation of New York

Filed Mar. 6, 1968, Ser. No. 711,131

Int. Cl. D05c 7/08

U.S. Cl. 112—102

25 Claims



### 3,520,258 PALLET

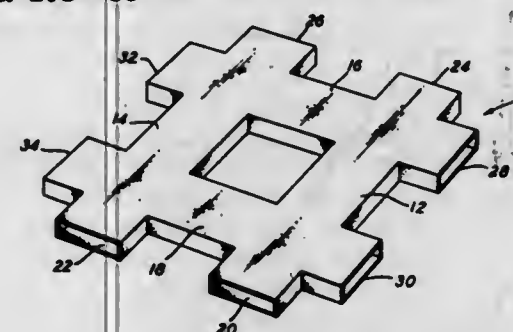
Philip B. Shepherd, Middlesex, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Dec. 8, 1967, Ser. No. 689,039

Int. Cl. B65d 19/32

U.S. Cl. 108—58

4 Claims



A pallet, each side of which is capable of receiving the forks of a lift truck, is made from two single sheets of

Changing the relative angle during feeding of a web-like material to a processing location to enable processing thereof along a generally wave-form like pattern.

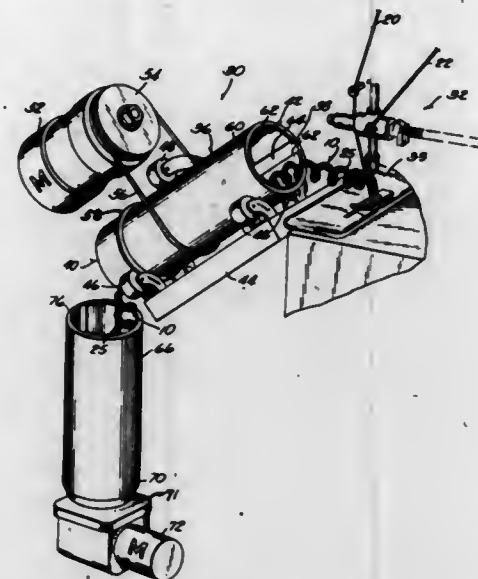


**3,520,261**  
**HAT TRIM MACHINE**  
 Allen D. Everitt, 2729 E. Bellevue Place,  
 Milwaukee, Wis. 53211  
 Filed Dec. 30, 1968, Ser. No. 787,690  
 Int. Cl. D05b 33/00

U.S. Cl. 112-121.29

15 Claims

A first open ended cylindrical tube is rotatably mounted in an inclined position to receive an article in strip form



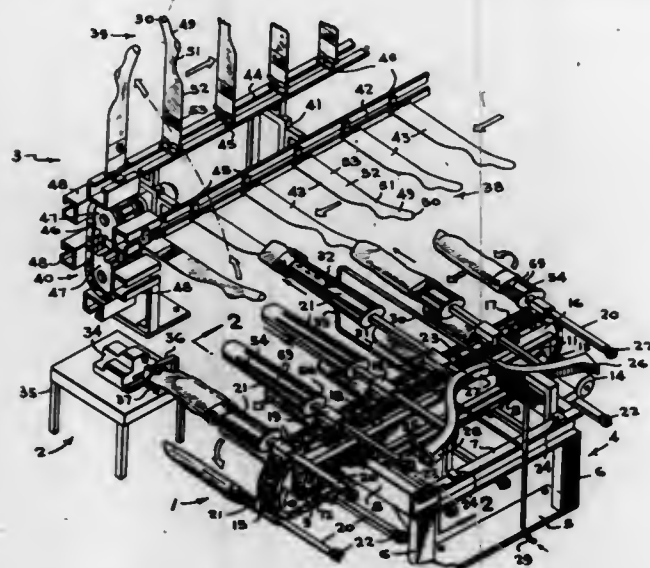
from a stitching machine. Decorative yarn is stitched with an elastic pillar in a strip having purls or loops projecting essentially from one side of the pillar only. The strip passes from the stitching machine into the inclined rotating tube which includes a friction surface. The friction surface acts upon the strip, imparting a uniform helical twist to the strip such that the purls or loops appear to project radially from the longitudinal axis of the strip. A second rotating tube is located below the first tube and receives the helical strip from the first tube.

**3,520,262**  
**METHOD AND APPARATUS FOR CLOSING STOCKING TOES AND PUTTING STOCKINGS ON BOARDING FORMS FOR PROCESSING**  
 James Chadborn Bolles and Robert M. Matthews, Charlotte, N.C., assignors to Chadborn Gotham, Inc., Charlotte, N.C., a corporation of North Carolina

Filed Aug. 23, 1967, Ser. No. 662,638  
 Int. Cl. D05f 81/00; D06c 5/00

U.S. Cl. 112-121.29

13 Claims



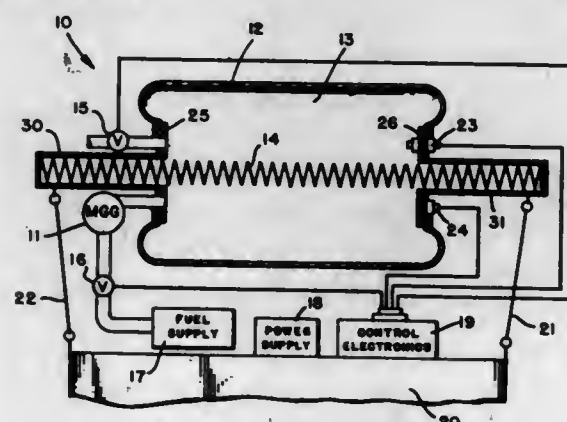
A method and apparatus for closing stocking toes and putting stocking on boarding forms for processing to eliminate manual transfer of stockings from forms on

which they are drawn prior to toe closing to boarding forms wherein the stockings can be drawn directly onto boarding forms with the toe portions overhanging the form end for toe closing and drawn fully on the form for further processing, or, the stockings are put on the forms having a recess in the end for toe closing and, after toe closing, the forms and stockings are brought into end-to-end alignment with boarding forms and the two forms moved relatively to insert the toe end of the boarding form into the recess of the toe-closing form to evert the stocking and draw the closed toe onto the toe end of the boarding form. The remainder of the stocking is then blown from the toe-closing form onto the boarding form to complete eversion of the stocking and transfer from one form to the other.

**3,520,263**  
**CONSTANT DEPTH BUOYANCY SYSTEM**  
 Robert D. Berry and Jay Witcher, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy  
 Filed Sept. 16, 1968, Ser. No. 760,042  
 Int. Cl. B63g 8/14

U.S. Cl. 114-16

1 Claim

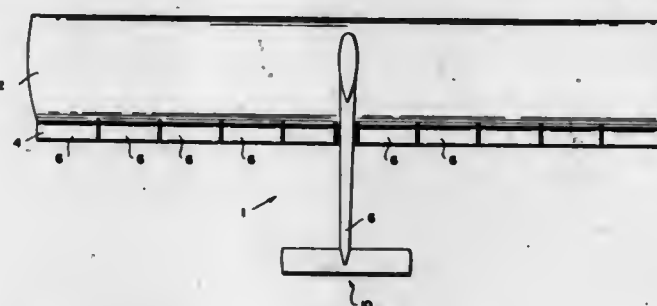


A constant depth control system for an ocean vehicle is provided which maintains a constant depth by adjusting the displacement of a rubber gas bag to achieve neutral buoyancy when a feed back pressure equals a reference pressure. The displacement of the gas bag is related to the differential pressure between the gas inside the bag and the water outside the bag. Rate feed back is electronically controlled so that when a design depth (sea pressure) is approached, bag displacement is automatically adjusted to reduce the velocity of the system. The system may be adjusted to be neutrally buoyant and at zero velocity at the precise time that a preset reference sea pressure is reached.

**3,520,264**  
**HYDROFOIL CARGO SHIP**  
 Paul A. Scherer, Marietta, Bell Station Road, Glenn Dale, Md. 20769  
 Filed Oct. 16, 1967, Ser. No. 679,959  
 Int. Cl. B63b 1/28; B63g 8/18

U.S. Cl. 114-66.5

10 Claims



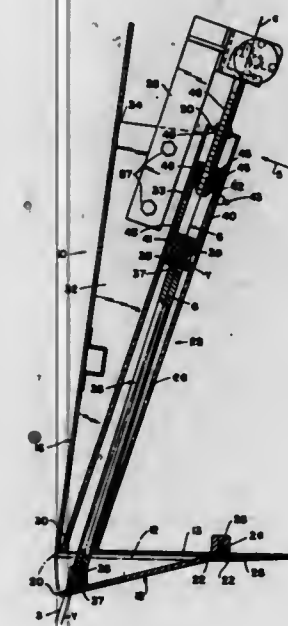
A hydrofoil ship having a large cargo-carrying hydrofoil for subsurface operation, and having a long strut for

supporting a bridge and crew spaces, a symmetrical flap and a fuselage and an empennage are described herein.

**3,520,265**  
**CONTROL MEANS FOR STABILIZING WATERCRAFT**  
 William M. Sanford, Edenton, N.C., assignor to Chris-Craft Industries, Inc., Pompano Beach, Fla., a corporation of Delaware  
 Filed Feb. 12, 1968, Ser. No. 704,888  
 Int. Cl. B63b 1/18

U.S. Cl. 114-66.5

6 Claims



Control means are disclosed for stabilizing watercraft, in the form of a pair of adjustably operated flaps, elevators or like planing members disposed at the hull bottom directly forward of the stern transom and somewhat outboard of the respective dual rudders of the boat. There is an individual motor-driven actuator mechanism of improved design for each planing member.

Each such mechanism comprises a vertically elongated actuator or connecting rod pivotally connected at its lower end to a planing flap or elevator, which is itself pivoted on a transverse axis on the hull bottom; and a lengthwise operation of the rod in one direction or another produces an adjusting swing of the plane from an inoperative position substantially flush with the hull to an outwardly extended operative position at a desired planing angle, or vice versa. In the interest of safety and stability the angle of adjusting swing is quite limited.

The connecting rod extends upwardly through an elongated tubular protective housing, which housing is rigidly secured to the transom of the craft, as by a welded bracket structure in an installation in which the hull is of steel or aluminum. This bracket also serves to mount a reversibly motorized, reduced-speed drive unit as a prime mover; and upward and downward adjusting movement of the connecting rod are derived through the agency of a screw rotated by the speed reducer and threadably engaging a nylon nut.

A driving connection from the nut to the actuator rod is effected through the agency of a tubular aluminum piston member or sleeve slidable in an upper extension of the protective housing referred to above, to the top of which sleeve the actuator nut is mounted; and the sleeve affords a seal between itself and the housing extension, also acting in the manner of a piston or plunger, to the lower end of which the actuator or connecting rod has a pivotal, clevis-type connection.

**3,520,266**  
**DETACHABLE LONGITUDINAL BULKHEAD FOR SHIPS**  
 Nils Schummer and Gert Pernaux, Warnemunde, Germany, assignors to VEB Warnowwerft Warnemunde, Warnemunde, Germany  
 Filed Sept. 16, 1968, Ser. No. 762,263  
 Int. Cl. B63b 25/08

U.S. Cl. 114-75

7 Claims

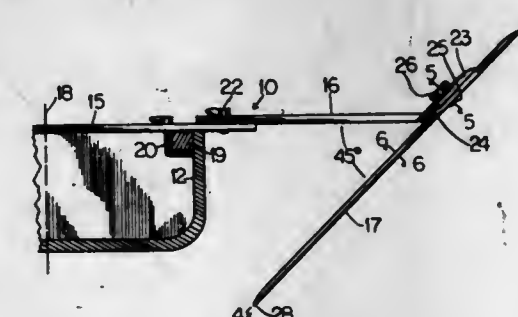


A detachable longitudinal bulkhead for bulk goods especially grain, for use in ships and made of a flexible material, in which the lower marginal portion has a non-linear contour, such as polygonal or arcuate, and in which the bottom supports are provided only at the lowermost points of the non-linear lower marginal portion, for connection with a ship, and in which at least parts of the marginal portions, and/or vertical bands, and/or supports are made of a material having a high degree of elasticity, such as rubber or polyamide.

**3,520,267**  
**HYDROFOIL STABILIZER FOR BOAT HULL**  
 Bruce E. Clark, 115 McGavock Pike, Nashville, Tenn. 37214  
 Filed Aug. 29, 1968, Ser. No. 756,184  
 Int. Cl. B63b 1/26, 39/06

U.S. Cl. 114-126

6 Claims



A hydrofoil stabilizer for a boat hull including a laterally projecting arm pivotally mounted to the boat hull for horizontal adjustment, and a leeboard pivotally mounted upon the arm for swinging movement in a plane converging toward the longitudinal center plane of the boat hull below the hull.

**3,520,268**  
**BALLISTICS EMBEDMENT ANCHORS**  
 Bernal L. Bower, 2972 Pemba Drive, Costa Mesa, Calif. 92626  
 Filed June 22, 1967, Ser. No. 654,301  
 Int. Cl. B63b 21/28

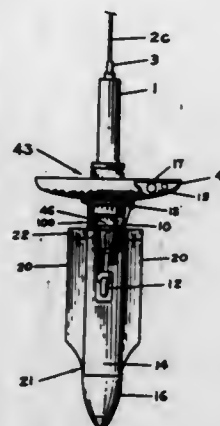
U.S. Cl. 114-206

32 Claims

An embedment anchor utilizing a combination of ballistics, inertial, and jetting driving means for providing deep penetration into a body of material from which location the anchor, although being a relatively light weight mechanism, is capable of resisting large vertical or horizontal, intermittent or continuous strains from any direction over a long duty life. A large portion of the propellant gases under internal ballistics pressures is retained in the anchor following its separation from the reactor,



and the thermodynamic energy remaining to these gases is utilized to provide additional penetration into the body of material. Pressure staging is employed to adapt gas working pressure to the ability of the anchor structure to withstand stresses resulting from these internal ballistics pressures, making possible a considerable saving in weight. The anchor includes means for maintaining propulsion chamber pressure constant from short start to anchor and reactor separation thus greatly increasing anchor overall



efficiency over current design. Impulse of the shot is reacted by maintaining a large pressure differential across a portion of the reactor during the ballistics phase of penetration. The anchor reactor is utilized also for providing a protecting shroud and fair-lead for the mooring cable, and footing in the body of material against which the cable bears preventing large unit loads being placed directly on the material by the mooring cable. A novel working seal for stopping high temperature gas at ballistics pressures, and also having other ordnance application, is disclosed.

3,520,269

**ANCHOR ASSEMBLY**

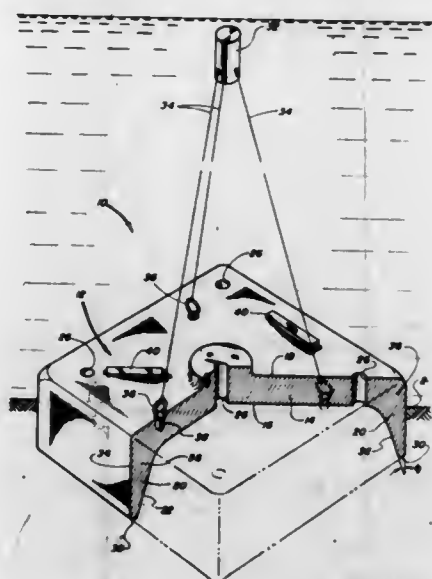
Keith S. Yett, Seattle, Wash., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 19, 1968, Ser. No. 753,372

Int. Cl. B63b 21/26

U.S. Cl. 114—206

2 Claims



An anchor assembly providing buoyant underwater oceanographic and acoustic instrumentation equipment with a fixed location and orientation, in the shape of a square, sharp-edged, inverted, cast iron cup having a plurality of carbon steel eye bolts secured thereto and a plurality of apertures passing therethrough to vent water trapped in the cup during deployment. The edge of the cup along the lip is sharp enough to penetrate the ocean bottom on contact such that the side walls of the cup become embedded in the bottom.

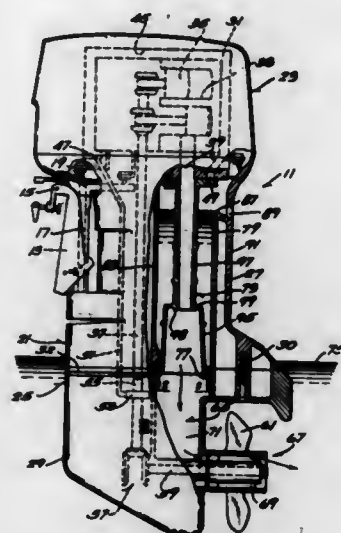
3,520,270  
**TUNED EXHAUST GAS SYSTEM FOR OUTBOARD MOTOR**  
George E. Miller, Zion, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed May 29, 1968, Ser. No. 733,159

Int. Cl. B63h 21/26

U.S. Cl. 115—17

13 Claims



The invention provides an exhaust gas passage extending in an outboard motor lower unit from an engine exhaust gas port to an exhaust gas discharge outlet located below the water level around the lower unit, and including an exhaust gas tube which extends through the lower unit driveshaft housing in spaced relation to the walls of said housing to prevent contact of exhaust gases with such outer walls and which is provided with an upper part and a lower part of greater transverse cross section than the transverse cross section of the upper part. Enlargement of the lower part of the exhaust gas tube in relation to the upper part serves to produce, in response to exhaust gas flow, negatively reflected pressure waves which arrive at the engine cylinder at about the time when the piston is at bottom dead center and thereby provide improved scavenging of the burnt combustion gases.

3,520,271

**SEA HORSE**

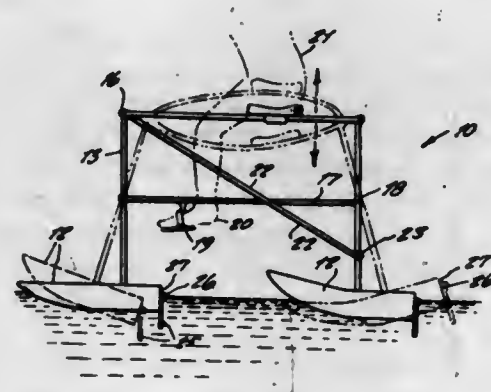
James R. Harvey, 320 Elliott Road, Monroeville, Pa. 15146

Filed Apr. 21, 1969, Ser. No. 817,774

Int. Cl. B63h 1/32

U.S. Cl. 115—28

4 Claims



An aquatic toy ride for permitting a person to travel upon the surface of water, the device comprising a flexing frame mounted upon a plurality of pontoons, and wherein in a bouncing motion of a person will flex the frame thus causing the pontoons to be intermittently forwardly advanced for travel upon the water surface.

3,520,272  
**ANGLE DRIVE BOAT PROPULSION UNIT WITH SHAFT SUPPORTED PROPELLER ASSEMBLY**

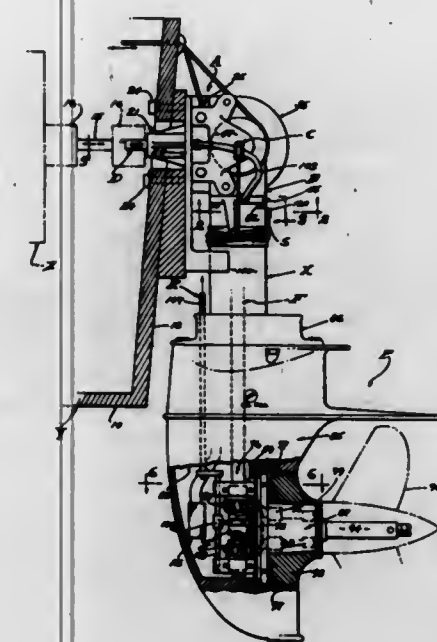
Floyd P. Ellzey, 2301 Marshallfield Lane, Redondo Beach, Calif. 90278

Filed May 13, 1968, Ser. No. 728,383

Int. Cl. B63h 5/06, 25/42

U.S. Cl. 115—35

4 Claims U.S. Cl. 116—114.5



A safety device in an inboard-outboard drive for boats wherein the propeller assembly is steerable and normally supported solely by a vertically disposed driving shaft depending from an adaptor housing, there being a carrier that supports the propeller assembly from the driving shaft and that rotatably surrounds the said adaptor, provision being made in the form of securement means to hold this assembled relationship intact in the event that the driving shaft fails and/or separates and normally operating free and clear between the adaptor and carrier, and all of which ensures complete safety against accidental disassembly.

3,520,273

**FLARE SUPPORT AND RELEASE MEANS THEREFOR**

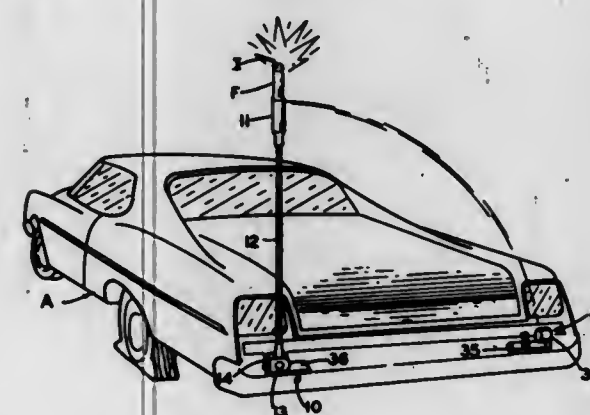
Theodore S. Daifotes, P.O. Box 641, Tuolumne, Calif. 95379

Filed Aug. 4, 1969, Ser. No. 847,242

Int. Cl. B60q

U.S. Cl. 116—28

5 Claims



Apparatus for receiving and holding an ignitable flare in a retracted condition on a vehicle by latch means releasable by igniting of the flare and for displaying the ignited flare a safe distance from and above the vehicle.

3,520,274

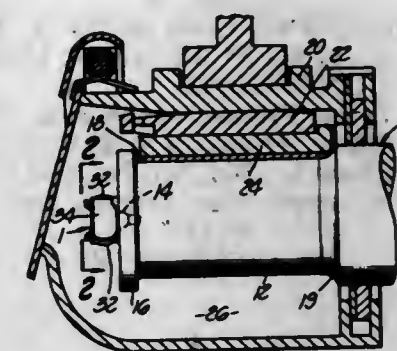
**HOTBOX ALARM**

Konrad F. Schreier, Jr., Los Angeles, and Norman L. McCracken, Lafayette, Calif., assignors to Farr Company, El Segundo, Calif., a corporation of California

Filed Nov. 24, 1967, Ser. No. 685,346

Int. Cl. B61k 9/04; G01k 1/02

10 Claims



An indicating device to warn of an overheating condition in a bearing which if allowed to continue would cause failure of a railway car axle or the like. The indicating device comprises a can containing a smoke producing chemical mounted on the end of the axle or rotating member. A large hole in the can axial to the rotating member is sealed with a cover attached by controlled melting point solder which releases the cover upon a rise in temperature to permit the emission of the can contents prior to journal failure. The centrifugal force of the rotating member and can causes the warning agent to remain in the can and to volatilize in a controlled manner within the can thus giving a continuous indication for a period of time rather than discharging in one quick burst.

3,520,275

**SMOKE SIGNAL BODY**

Heinz Gawlick, Furth, Günther Marondel, Erlangen, and Hellmut Bendler, Nuremberg, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany

Filed Feb. 12, 1968, Ser. No. 704,649

Claims priority, application Germany, Feb. 17, 1967, D 52,300

Int. Cl. G08b 5/40

U.S. Cl. 116—124

10 Claims

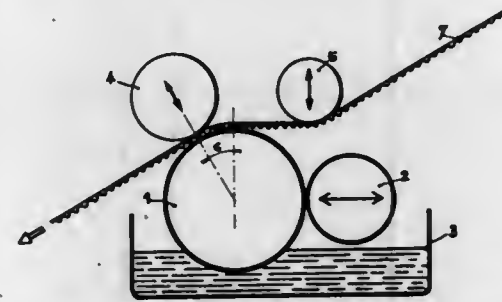


A smoke signal body having two or more readily breakable containers, for example of glass, disposed closely adjacent each other and containing a material that will produce smoke upon the access of air and/or moisture, or as the result of the intermixture of two or more components such as titanium tetrachloride, tin tetrachloride, or the like. A housing, preferably of plastic, protectively surrounds the containers and is provided with a plurality



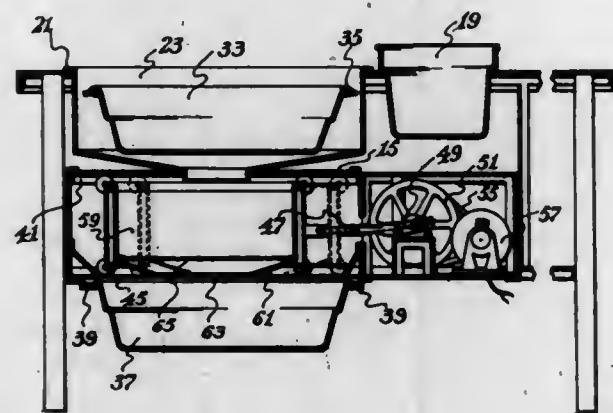
of apertures within the area of the containers for releasing the generated smoke. Propellant powder, with detonator, is provided for driving projectiles into respective ones of the containers to destroy them and release the smoke producing composition.

**3,520,276**  
**COATING MACHINE ENSURING A TRANSFER OF THE COATING SUBSTANCE UNDER CONTROLLED CONDITIONS**  
Louis Martin, Lyon, France, assignor to Martin, Saint-Priest, Rhone, France, a French company  
Filed June 8, 1966, Ser. No. 556,069  
Claims priority, application France, June 17, 1965, 46,122  
Int. Cl. B05c 1/04  
U.S. Cl. 118—8 1 Claim



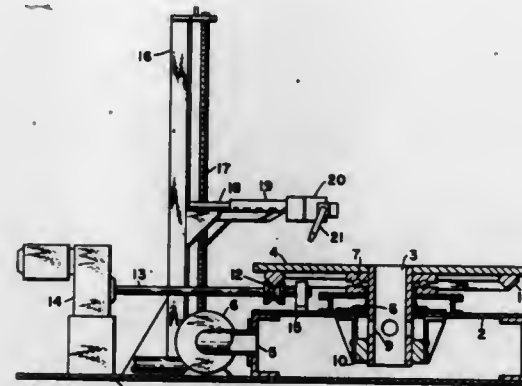
A glue-coating machine having a glue-applying cylinder on which the material to be coated is fed, a rotary doctor cylinder being operatively associated with the glue-applying cylinder with a narrow gap between the two cylinders which regulates the quantity of glue applied to the material, the glue being supplied to the glue-applying cylinder ahead of the doctor cylinder. The spacing between the axes of the two cylinders is automatically adjusted to thereby adjust the thickness of film of the coating substance in the gap between the cylinders. This is achieved by a first mechanism producing a signal related to the speed of progression of the material fed over the glue-applying cylinder, a second mechanism producing a second signal related to the spacing between the axes of the two cylinders and a device for receiving the signals produced by the first and second mechanisms and for combining the signals and controlling the spacing between the cylinders in accordance with the combined signals.

**3,520,277**  
**BREADER WITH FLOUR SIFTER**  
Jerry D. Gordon, 10749 E. 11th St., Tulsa, Okla. 74128  
Filed May 13, 1968, Ser. No. 728,563  
Int. Cl. B05c 11/00; B07b 1/32  
U.S. Cl. 118—23 9 Claims



To sift out the clods of flour that accumulate when wet pieces of food are breaded, the breading pan is inverted to dump the entire breading preparation into a sifter. In use, the breading pan rests in the sifter hopper.

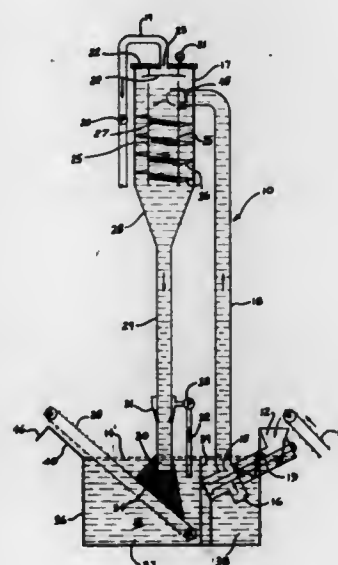
**3,520,278**  
**TURNTABLE APPARATUS FOR DUST AND FUME REMOVAL FROM A WORKPIECE**  
Elliott H. Blackwell, Warren, Mass., assignor to Warren Pumps, Inc., Warren, Mass., a corporation of Massachusetts  
Filed Jan. 15, 1968, Ser. No. 698,010  
Int. Cl. B05c 5/00  
U.S. Cl. 118—47 5 Claims



A turntable mechanism for removing airborne by-products that are produced during treatment of a workpiece that is positioned on the turntable, the mechanism comprising:

- (a) a centrally apertured turntable with a downwardly extending hollow spindle;
- (b) an antifriction bearing for supporting the weight of the turntable, spindle and workpiece and a bearing ring engaging the lower end of the spindle to give it lateral support;
- (c) means for rotating the turntable; and
- (d) means for adjustably and movably supporting a work-treating device above the turntable.

**3,520,279**  
**CONTINUOUS VACUUM IMPREGNATOR**  
Maurice W. Hoover, 3620 Merwin Road, Raleigh, N.C. 27606  
Filed Nov. 16, 1967, Ser. No. 683,624  
Int. Cl. B05c 3/10  
U.S. Cl. 118—50 12 Claims



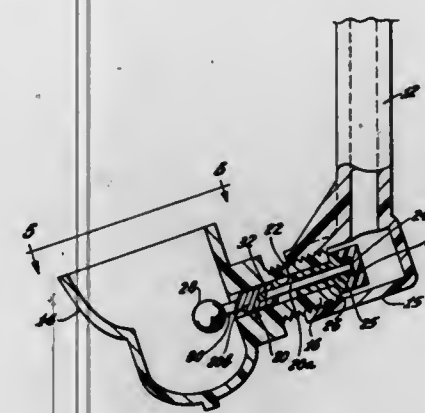
A vacuum chamber in a continuous flow, recirculating, impregnation system. A vortex is formed and maintained by means which deliver the liquid flow to the vacuum chamber in a tangential path, and a helically disposed baffle therein.

**3,520,280**  
**AUTOMATIC ANIMAL FEEDER**  
Andrew J. Floccini, Petaluma, Calif., assignor to Phillips Petroleum Company, a corporation of Delaware  
Filed May 15, 1968, Ser. No. 729,241  
Int. Cl. A01k 5/02  
U.S. Cl. 119—56 7 Claims



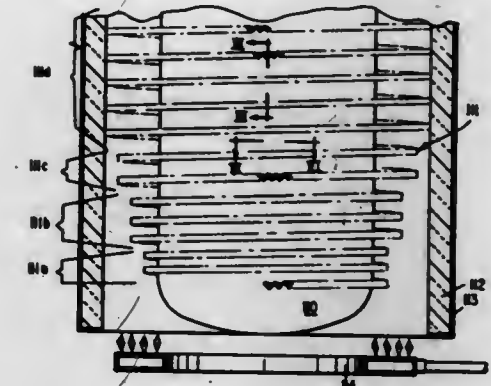
An automatic animal feeding apparatus in which a series of L-shaped paddles are pivotally mounted on an endless chain, with a feed supply located above the conveyor for gravity feed to the paddles. The amount of feed falling on the paddles is controlled by a series of individually movable slats which permit progressive access to the feed supply. As the paddles reach the discharge station they tilt downward and discharge the load of feed into a feeding trough. A feed level control plate is positioned so that the feed falls between it and the feed trough. When the feed reaches the desired level determined by the vertical placement of the plate, it will fill the space between the trough and plate causing the paddles to ride on the surface without discharging feed.

**3,520,281**  
**WATER SYSTEM FOR FOWLS**  
Warren H. Hart, Glendale, Calif., assignor to H. W. Hart Mfg. Co., Glendale, Calif., a corporation of California  
Filed May 28, 1968, Ser. No. 732,695  
Int. Cl. A01k 7/00  
U.S. Cl. 119—75 13 Claims



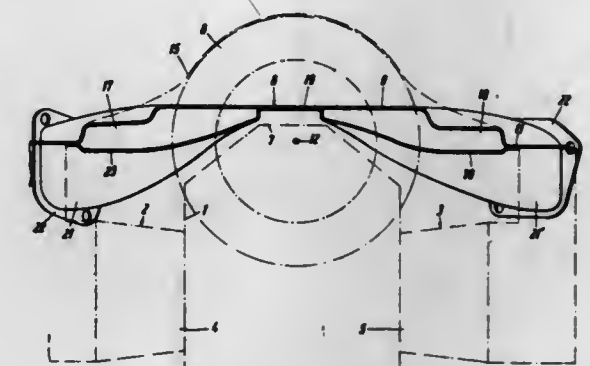
A low pressure plastic pipe to supply water for fowls has spaced outlet fittings carrying drinking cups and each fitting is joined to the supply pipe both by a cement sealant and by plastic-to-plastic fusion which is accomplished by sonic welding. Each cup has a valve member on a stem that carries a relatively large target to release water into the cup in response to a peck against the target. The stem is necked down adjacent the target so that retraction of the stem by a peck exposes the surrounding valve bore to a flushing action for removal of any food particles that may tend to jam the valve stem.

**3,520,282**  
**REFRIGERATION GENERATOR CONSTRUCTION**  
John T. Fisher, Indianapolis, Ind., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware  
Filed July 1, 1968, Ser. No. 741,697  
Int. Cl. F22b 37/06; F28f 13/14  
U.S. Cl. 122—367 3 Claims



A refrigeration system comprised of a generator, solution-cooled absorber, primary absorber, condenser, liquid-suction heat exchanger, and chiller, the generator having integrally associated therewith a plurality of axially spaced heat transfer surfaces of lesser radial extent adjacent the bottom of the generator than proximate the top thereof.

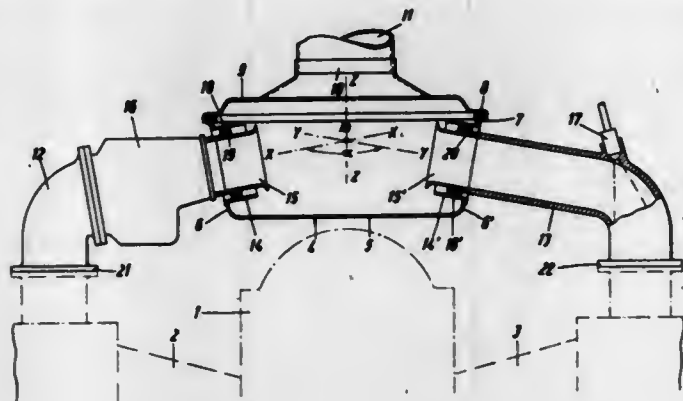
**3,520,283**  
**AIR-COOLED ENGINE COOLING AIR DISTRIBUTION HOUSING**  
Egon Forstner, Stuttgart-Nord, and Karl Ruoff, Kirchheim, Teck, Germany, assignors to Dr.-Ing. h.c.F. Porsche KG, Stuttgart-Zuffenhausen, Germany  
Filed June 3, 1968, Ser. No. 734,023  
Claims priority, application Germany, June 3, 1967, 1,576,737  
Int. Cl. F01p 1/02, 7/02; F02f 1/04  
U.S. Cl. 123—41.62 10 Claims



The distribution housing is mounted between the opposite rows of cylinders of an air-cooled engine to receive approximately the upper half of the output of an axial cooling air blower. The upper half of the housing is provided with a semicircular funnel portion directly connected with the housing of the blower and a bottom portion, and the line of connection between the portions being defined by engaging surfaces substantially horizontal and at the height of the blower axis. The housing is substantially V-shaped in plan view with oppositely disposed discharge conduits and is constructed of a polyamide synthetic material.

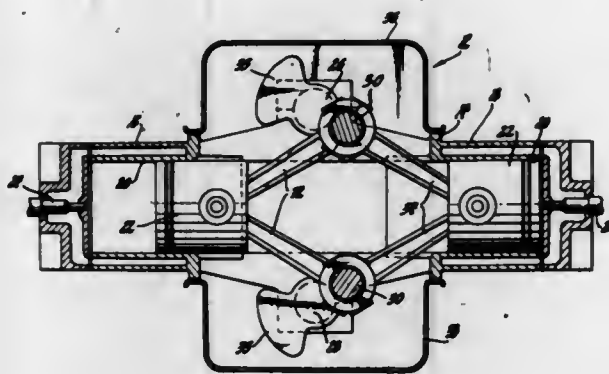


**3,520,284**  
**INTERNAL COMBUSTION ENGINE AIR INTAKE**  
 Karl Ruoff, Kirchheim, Teck, and Leopold Jantschke, Stuttgart-Bad Cannstatt, Germany, assignors to Firma Dr.-Ing. h.c.F. Porsche KG, Stuttgart-Zuffenhausen, Germany  
 Filed June 3, 1968, Ser. No. 734,164  
 Claims priority, application Germany, June 3, 1967, 1,576,402  
 Int. Cl. F02b 75/18, 75/22  
 U.S. Cl. 123—52 10 Claims



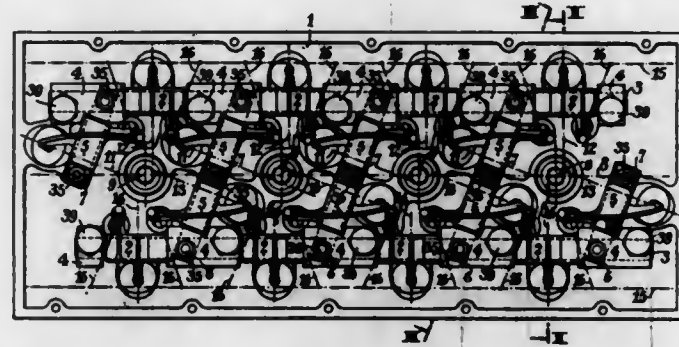
A synthetic distribution chamber is disposed above and between the oppositely positioned working cylinders of an internal combustion engine and is provided with tubular fittings telescopically receiving therein the tubular portions of the individual cylinder stub intake conduits, with resilient rings therebetween, to form the only support for the distribution chamber. The axes of the conduits intersect each other at an angle and intersect the axis of the inlet port for the distribution chamber.

**3,520,285**  
**RECIPROCATING PISTON ENGINE WITH RHOMBIC DRIVE AND EVEN POWER INTERVALS**  
 Louis T. Klauer, Jr., Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
 Filed Nov. 13, 1968, Ser. No. 775,467  
 Int. Cl. F02b 75/24  
 U.S. Cl. 123—56 14 Claims



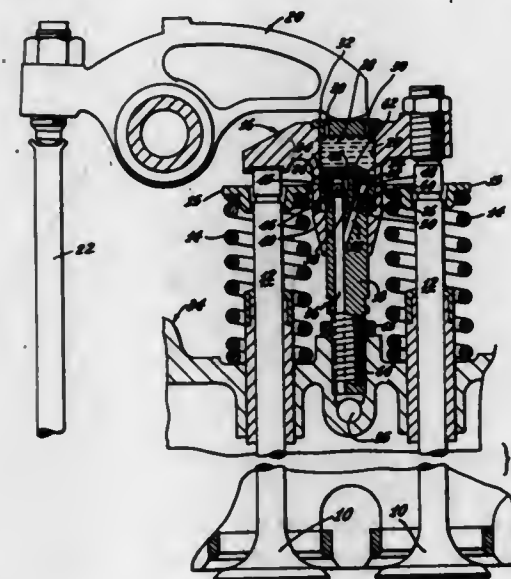
Several embodiments of reciprocating piston engines having an even number of cylinders arranged in two opposed banks, the pistons thereof being connected to two oppositely rotating crankshafts by rhombic drive means. The engines have a minimum of four cylinders with the various components arranged to provide relationships between the engine operating cycle, the total number of cylinders and the phase lag between the pistons of opposed cylinders such that equal intervals of crankshaft rotation are provided between sequentially spaced power strokes of the various engine cylinders.

**3,520,286**  
**VALVE GEAR DISPOSAL**  
 Raymond A. Ravenel, Sceaux, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French company  
 Filed July 15, 1968, Ser. No. 744,716  
 Claims priority, application France, July 20, 1967, 115,009  
 Int. Cl. F02b 75/20; F01l 1/18  
 U.S. Cl. 123—59 10 Claims



This valve gear disposal is designed for an internal combustion engine having in-line cylinders and a cylinder head formed with hemispherical or dome-shaped combustion chambers each equipped with four valves and comprising twin camshafts each adapted to operate the valves disposed on a same side of the longitudinal center line of the cylinder head by means of one push-rod and one rocker per valve. This valve gear comprises two sets of rockers operated by lateral camshafts, the first set of rockers being pivotally mounted on two longitudinal rocker shafts having their axes parallel to, and disposed on either side of, the longitudinal plane containing the cylinder axes, the other set of rockers being pivotally mounted on oblique transverse rocker shafts overlying, and disposed between each pair of adjacent cylinders, said transverse rocker shafts intersecting at least one of said longitudinal rocker shafts.

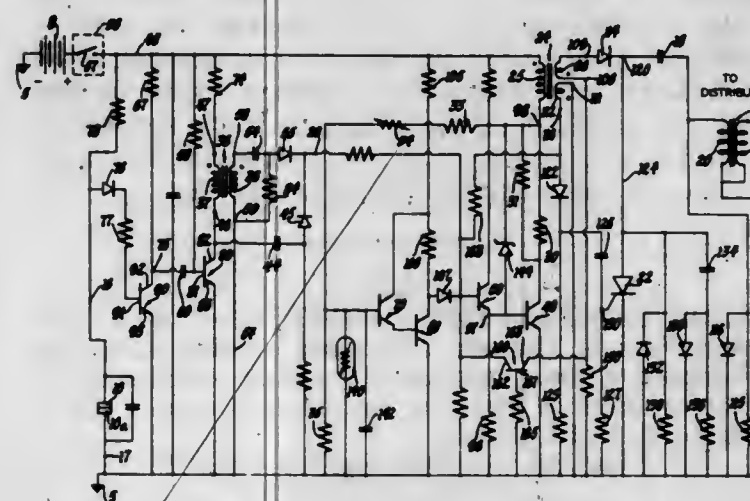
**3,520,287**  
**EXHAUST VALVE CONTROL FOR ENGINE BRAKING SYSTEM**  
 John R. Calvin, Palos Verdes Peninsula, Calif., assignor to White Motor Corporation, Cleveland, Ohio, a corporation of Ohio  
 Filed Aug. 9, 1968, Ser. No. 751,539  
 Int. Cl. F02d 13/04, 13/06  
 U.S. Cl. 123—97 10 Claims



Each cylinder of an internal combustion engine, using a four valve head, has a pair of exhaust valves operated in unison by reciprocation of a valve bridge that is slidingly mounted on a fixed guide post, the valve bridge being operated by a cam-actuated rocker arm in the usual man-

ner. The reciprocative bridge and the guide post cooperate to form a hydraulic chamber that expands when the valve bridge advances to open the two exhaust valves and contracts when the valve bridge retracts to permit the exhaust valves to be closed by the exhaust valve springs. To cause the engine to operate as a power-absorbing compressor for braking action, sufficient fluid is trapped in the various hydraulic chambers to prevent complete contraction of the chambers and thereby prevent complete closing of the various exhaust valves.

**3,520,288**  
**DUAL SPARK CAPACITOR DISCHARGE IGNITION SYSTEM**  
 Charles L. Dusenberry, Chesterfield, and James A. Boyer, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
 Filed Nov. 8, 1968, Ser. No. 774,282  
 Int. Cl. F02p 3/06  
 U.S. Cl. 123—148 7 Claims

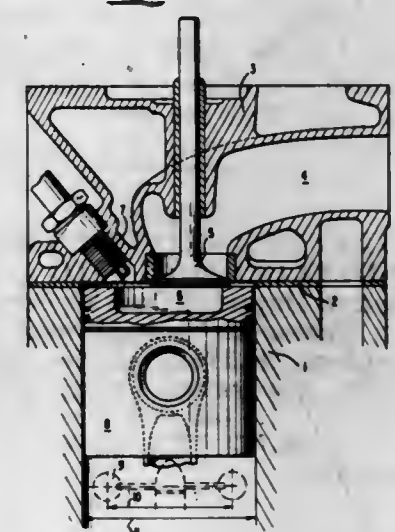


A capacitor discharge ignition system which produces two sparks per cylinder per compression stroke. The ignition signals are applied across a circuit which produces two like polarity signal pulses per ignition input signal. To produce the two like polarity signal pulses, the primary winding of a transformer is connected in series with the current carrying electrodes of a normally conducting transistor across a direct current potential source. The primary winding of the transformer is connected across the output circuitry thereof and the secondary winding of the transformer is also connected across the output circuitry thereof in a polarity relationship opposite that of the primary winding. A switching and timing circuit responsive to each input ignition signal extinguishes the transistor and maintains it non-conducting for a predetermined time delay which is less than the time between ignition signal pulses. The output of this circuit is applied to a connector circuit which produces the potential for charging the ignition capacitor. An output circuit which discharges the ignition capacitor through the primary winding of the ignition coil is coupled to the converter circuit.

**3,520,289**  
**COMBUSTION PROCESS FOR INTERNAL COMBUSTION ENGINES**  
 Heinrich Hoffmann, Stuttgart-Gerochruhe, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany  
 Continuation of application Ser. No. 511,456, Dec. 3, 1965. This application Mar. 21, 1968, Ser. No. 715,102  
 Claims priority, application Germany, Dec. 5, 1964, D 45,991; June 3, 1965, D 47,422  
 Int. Cl. F02b 43/00  
 U.S. Cl. 123—191 17 Claims

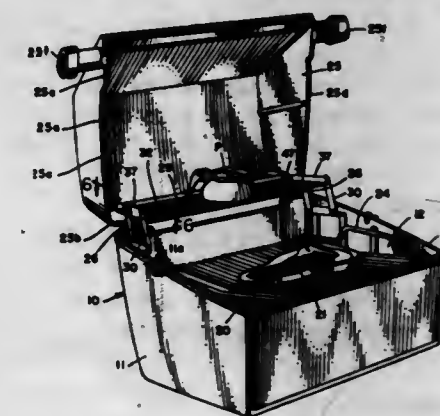
A combustion process for an internal combustion engine as well as an internal combustion engine for carrying out such process in which an eddying motion about

an axis extending in the cylinder longitudinal direction is imparted to the inflowing fuel-air mixture, and in which this eddying motion is displaced substantially completely into the piston combustion chamber during the top-dead-center position of the piston so that an eddying motion with predetermined velocity occurs about the longitudinal axis of symmetry of the piston combustion chamber when the piston is in the top-dead-center position; the eddying motion has preferably a circumferential velocity of 30



to 45 meters per second measured along a diameter corresponding to about 3/4 of the cylinder diameter during stationary inflow test into the empty cylinder under a pressure difference of 70 mm. Hg between the suction channel and the interior of the cylinder and with a fully opened inlet valve, while the ratio of circumferential velocity as measured along a diameter corresponding to about 3/4 the cylinder diameter to the axial flow velocity in the cylinder is between about 3 and 4.5 during the stationary inflow test.

**3,520,290**  
**GRATE-SUPPORTING BRACKET FOR OUTDOOR GRILL**  
 Melle E. Winters, Wichita, Kans., assignor to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas  
 Filed July 25, 1968, Ser. No. 747,662  
 Int. Cl. A47j 37/07; F24b 3/00  
 U.S. Cl. 126—25 7 Claims



A grate-supporting bracket for use with a covered outdoor grill is attached to the grill casing and grill cover and supports a warming grate or shelf. The bracket is pivotally secured to both the casing and the cover, and when the cover is closed the shelf is positioned over the heat source within the grill casing. As the cover is raised, the bracket swings the grate upwardly and away from



heat source to provide access to the main cooking grate. The bracket includes a grate-supporting channel which is pivotally secured to a pair of parallel spaced-apart support legs which are also pivotally secured to a generally horizontally extending base secured to the casing. A guide arm is pivotally secured to one of the support legs and also pivotally secured to the cover, and as the cover is raised or lowered the grate-supporting channel is also raised or lowered with respect to the base while being maintained in a generally horizontal position by the support legs. The guide arm carries a pin which is inserted through an attaching bracket on the cover, and a latch pivotally secured to the guide arm engages the pin and prevents its withdrawal from the bracket unless the latch is first pivoted away from the pin.

3,520,291

# INSTALLATION FOR CLOSING THE END OF A GAS CONDUIT OPENING INTO A CHIMNEY

Gerard Deynat, 8 Quai St. Cosme,

Chalon-sur-Saone, France

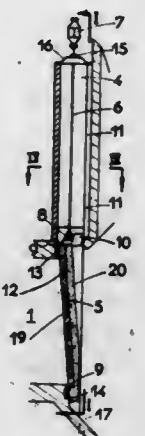
Filed Sept. 16, 1968, Ser. No. 759,836

Claims priority, application France, Feb. 20, 1968, 140,573

Int. Cl. F23I 13/06

U.S. Cl. 126-285

6 Claims



A device for closing a gas conduit comprising an inclined seat the lower part of which projects beyond the upper part, a register movable to engage the seat under the action of gravity and of a means which will urge the upper part of the register against the seat.

3,520,292

# UNITIZED NEEDLE AND HOLDER

Courtland H. Barr, Sr., Los Angeles, Courtland H. Barr, Jr., La Canada, and John W. Barr, Glendale, Calif., assignors, by mesne assignments, to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

Filed Nov. 30, 1966, Ser. No. 597,970

Int. Cl. A61m 1/00

U.S. Cl. 128-2

3 Claims

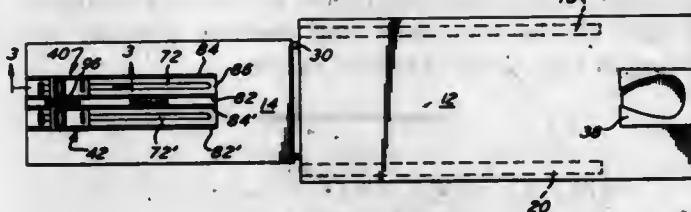


A blood pilot tube holder sealed at one end with a cannula support carrying a sharpened cannula inner end extending into the tube and sealed at the opposing end by a thin, slidable diaphragm which during use is slid down the holder with a blood pilot tube until it is pierced by the cannula point.

3,520,293  
ANTHROPOMETRIC APPARATUS  
Charles H. Atherholt, 1003 Lee Drive,  
Broomall, Pa. 19008  
Filed Apr. 12, 1967, Ser. No. 630,277  
Int. Cl. A61b 5/10

U.S. Cl. 128-2

10 Claims



An anthropometric apparatus, particularly for accurately measuring the length of the legs of a person or for detecting legs of unequal length. The apparatus includes first and second independently movable foot engaging members for applying force approximately one-half the weight of the person to each foot so that the leg measurements are made under conditions approximating those which exist when the person is standing. A scale on each member is provided with appropriate indicia for indicating the force applied to each foot. Additional indicia are provided for indicating the length of each leg.

3,520,294

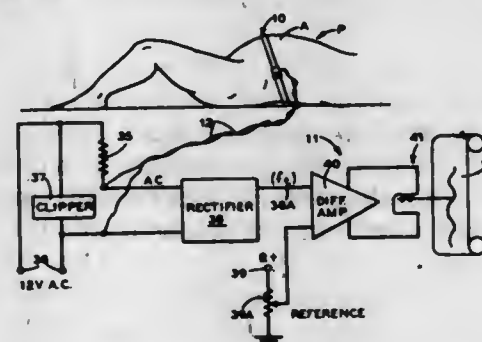
LABOR CONTRACTION MONITORING SYSTEM  
Jameso Fuzzell, Phoenix, Ariz., and Weldon R. Sittner,  
Westport, Conn., assignors, by mesne assignments, to  
Electro Medical System, Inc., Englewood, Colo., a  
corporation of Colorado

Filed Jan. 26, 1968, Ser. No. 700,805

Int. Cl. A61b 5/10

U.S. Cl. 128-2

3 Claims



A system for monitoring labor contractions preceding childbirth, including transducer means disposed in contact with the abdomen of the patient for sensing changes in abdominal circumference and translating such linear changes to voltage values in analog form indicative of the amplitude, duration and period of the contractions.

3,520,295

# CARDIAC R-WAVE DETECTOR WITH AUTOMATIC GAIN CONTROL

Paul R. Kelly, Hales Corners, Wis., assignor to General Electric Company, a corporation of New York

Filed Mar. 6, 1968, Ser. No. 710,910

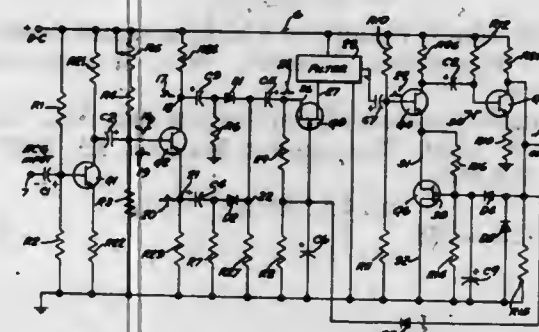
Int. Cl. A61b 5/04

U.S. Cl. 128-2.06

3 Claims

Negative or positive going electrocardiac wave forms within a wide amplitude range are caused to produce output pulses that are coincident with the R-wave peaks of the wave forms. This enables indicating heart rate and also carrying out certain cardiac diagnostic procedures using occurrence of the R-wave as a time reference point. The input wave form voltage complexes are all made positive by rectification. They are passed through a gain

control stage and to a filter whose band pass is about ten hertz, the largest frequency component of the R-wave. The waves are fed to a transistor whose gain is controlled with a field effect transistor in its emitter circuit. The pulse voltage from an output stage transistor



is fed back to control the impedance of the field effect transistor and, hence, the gain of the controlled transistor. Thus, only R-wave peaks are detected and they produce output pulses of a predetermined amplitude regardless of their initial amplitude or polarity.

3,520,296

# FULL BODY CONTRAST THERAPY BATH

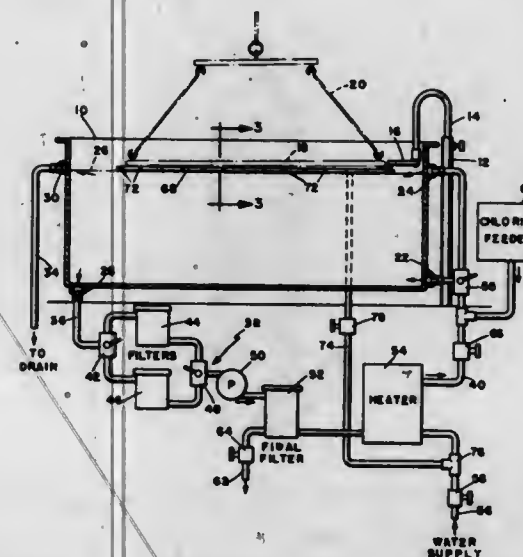
Edward T. Ostman and Helen M. Ostman, both of  
642 Lipizzan Way, El Cajon, Calif. 92020

Filed July 21, 1967, Ser. No. 655,031

Int. Cl. A61h 9/00

U.S. Cl. 128-66

6 Claims



A full body immersion hydro-therapy tank is provided with a thermal contrast spray capability incorporated with means for continuous circulation, filtration and temperature control of the water, all contamination being rapidly removed and the water maintained at a constant level, the full body spraying means spraying the patient with water at a temperature contrasting with that of the recirculated water and all spray being contained within the tank, and the spray being directed to stimulate the blood circulation through the body.

3,520,297

# IONTOPHORETIC TOOTHBRUSH

Arthur W. Bechtold, Boonton, N.J., assignor to  
Chemway Corporation

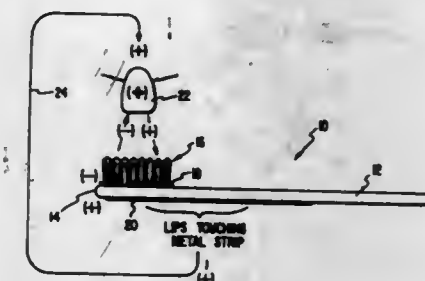
Filed Jan. 31, 1967, Ser. No. 612,934

Int. Cl. A61n 1/30

U.S. Cl. 128-172.1

12 Claims

A system including a brush, such as a toothbrush, having electrodes of different metals thereon which can be utilized



of the medicament, such as fluoride ions, into body tissues, e.g. tooth enamel, by iontophoresis.

3,520,298

# PERITONEAL DIALYSIS APPARATUS

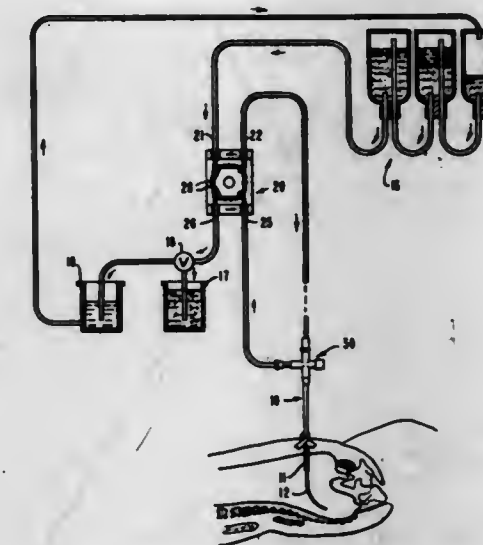
Kurt Lange, 11 E. 68th St., New York, N.Y. 10021

Filed Aug. 10, 1967, Ser. No. 659,656

Int. Cl. A61m 5/00

U.S. Cl. 128-213

4 Claims



An equal volume supply-withdrawal tubing arrangement supplies peritoneal dialysis fluid through the inner tube of a concentric catheter into the peritoneal cavity and from an outer tube, about one-third the length of the inner tube, within the patient; volume equalization may be by an equal volume supply-withdrawal pump; when the amount of fluid pumped into the peritoneal cavity and removed therefrom is equal, the difference in length of catheter tubes provides for efficient peritoneal dialysis with only a single wound for insertion.

3,520,299

# IMPLANT GUN ASSEMBLY

Jeremiah A. Lott, Westfield, and Samuel Tapper, Maplewood, N.J., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 26, 1967, Ser. No. 633,886

Int. Cl. A61m 5/00

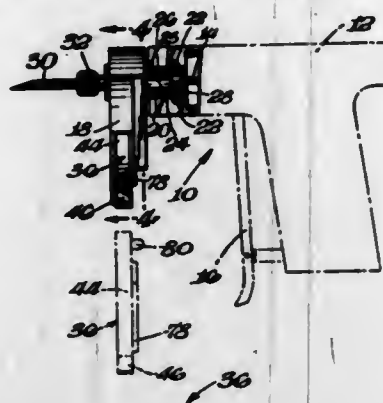
U.S. Cl. 128-217

10 Claims

A dispenser cartridge including a case and a magazine mounted within the case having spaced apertures for releasably supporting implant pellets. An activator element on the cartridge case releasably engages the magazine and an inclined surface on the element is adapted to be engaged by a reciprocable plunger whereby movement of the plunger against the inclined surface shifts the activator element to advance the magazine so that



successive magazine apertures are aligned with the reciprocating plunger. A detent on the cartridge case prevents

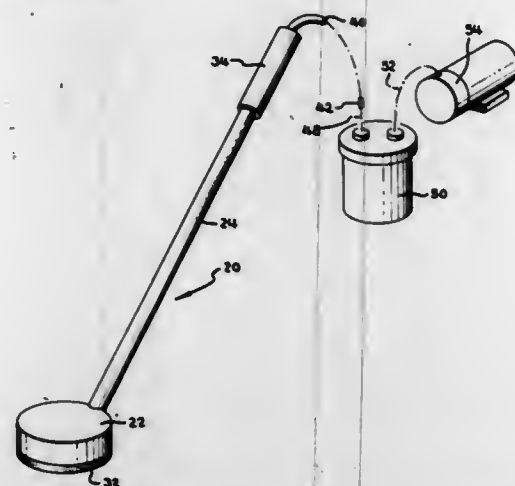


movement of the magazine in the direction opposite to its advancing direction.

**3,520,300**  
**SURGICAL SPONGE AND SUCTION DEVICE**  
Guiles Flower, Jr., Carlisle, Pa., assignor to AMP Incorporated, Harrisburg, Pa.  
Filed Mar. 15, 1967, Ser. No. 623,391  
Int. Cl. A61m 1/00

U.S. Cl. 128-276

2 Claims

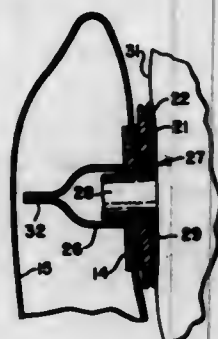


A device for used during a surgical procedure for removing blood and other liquid matter from a wound. The device is connected to a source of subatmospheric pressure thereby increasing the capacity and use period of the device.

**3,520,301**  
**STOMATIC APPLIANCE**  
Leonard Fenton, % 5156 Richmond Road, Beachwood, Ohio 44014  
Filed May 12, 1966, Ser. No. 549,591  
Int. Cl. A61f 5/44

U.S. Cl. 128-283

5 Claims



A device for facilitating the attachment of a drainage bag to the stoma of a patient. The device has a tubular portion and a radially extending rim portion adjacent one end of the tubular portion. The device is formed of a non-irritating material which is soft and pliable and which softens in use to form a jelly-like mass. The tubular por-

tion is proportioned to extend into the inlet opening of a drainage bag and surrounds the stoma and the rim portion is sealed against the body around the stoma.

**3,520,302**  
**TAMPON**  
John Leslie Jones, Pasadena, Calif., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware  
Continuation-in-part of application Ser. No. 350,193, Mar. 9, 1964. This application Feb. 13, 1967, Ser. No. 619,509

Int. Cl. A61f 13/20

U.S. Cl. 128-285

9 Claims

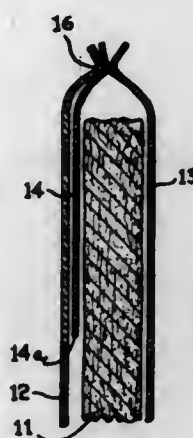


A one-piece regenerated cellulose sponge tampon having a withdrawal string coaxially disposed through the length of the tampon body and permanently bonded to the tampon along its length, with an end of the strip extending beyond one end of the tampon to provide handle means.

**3,520,303**  
**DISPOSABLE DIAPER**  
Dan D. Endres, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware  
Filed Mar. 22, 1968, Ser. No. 715,301  
Int. Cl. A61f 13/16

U.S. Cl. 128-287

9 Claims



A disposable diaper with an improved construction designed to reduce leakage.

Each end of the diaper is provided with a leak preventing barrier comprising a thin flexible film disposed between the fluid pervious cover sheet and the absorbent core. The barrier comprises a narrow strip of thin film affixed between the cover sheet and backing sheet along a transverse heat seal line at each end of the diaper. One end of the film extends a short distance into the interior portion of the diaper, lying over the ends of the absorbent core and under the cover. This construction also lends itself to high speed machine production.

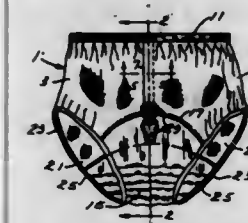
**3,520,304**  
**SANITARY GARMENT**  
Meral Kubali, Maplewood, and James A. Flowers, Shrewsbury, Mo., assignors to Beltz Corporation, St. Louis, Mo., a corporation of Missouri  
Filed May 9, 1968, Ser. No. 727,999  
Int. Cl. A61f 13/16

U.S. Cl. 128-288

6 Claims

A sanitary panty garment of the type worn with a sanitary napkin. The panty comprises a body section of fabric material and a crotch section of impervious material, the body section comprising a panel of material

extending generally from the center of the front of the body portion around one side of the body portion generally to the center of the back of the body portion and a panel of material extending generally from the center of the front of the body portion around the other side of the body portion generally to the center of the back of the body portion. The margins of the panels at the



center of the front and back of the body portion are folded over and lapped and secured together by double rows of stitching from the upper edges of the crotch section to the upper edges of the body portion where they are caught in a waistband. Thus, the lapped margins constitute relatively narrow reinforcing bands generally at the center of the front and at the center of the back of the body portion. A sanitary napkin clasp is attached to each of the bands toward its lower end on the inside of the body portion for attachment of a sanitary napkin.

**3,520,305**  
**MALE URINARY DEVICE**  
Ray D. Davis, 174 Pepper Drive, Los Altos, Calif. 94022  
Filed Apr. 24, 1967, Ser. No. 633,133  
Int. Cl. A61f 5/44

U.S. Cl. 128-295

6 Claims



A male urinary device having a pair of tubular members with a first member presenting a bowl and the second member presenting a sheath. The first member has an inclined end surface to which an end portion of the second member is bonded. The thickness of the end portion of the second member is greater than the thickness of the second member at a location disposed outwardly of the first member.

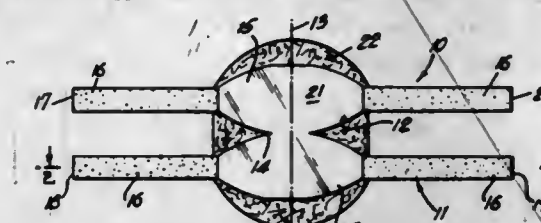
**3,520,306**  
**WOUND CLOSURE**  
Jack H. Gardner, Highland Park, and Thomas Swindlehurst, Jr., Metuchen, N.J., assignors to Johnson & Johnson, a corporation of New Jersey  
Filed Nov. 8, 1967, Ser. No. 681,464  
Int. Cl. A61l 15/01; A61b 17/04

U.S. Cl. 128-335

11 Claims

The present invention is directed to an improvement in wound closures of the adhesive type used to span an incision to hold the incision closed during healing without the necessity of stitching. The wound closure comprises a plurality of adhesive strips hingedly connected to each other by means of a film area adapted to cover

the entire length of the incision and form an occlusive covering during healing. An absorbent pad is placed

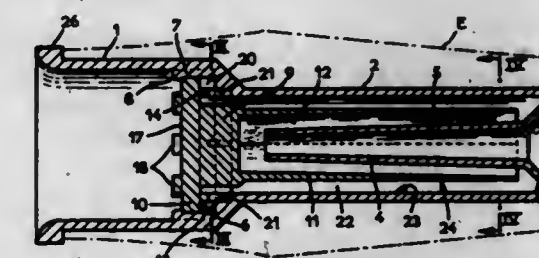


over the occlusive covering and extends beyond edges thereof to remove wound exudate.

**3,520,307**  
**SMOKE PURIFIER FOR CIGARETTE HOLDERS, PIPES AND OTHER SMOKING APPARATUS**  
Jacques Fizet, Sevrin, France, assignor to Defim S.A., rue Frederick Lemaitre, Paris, France, a French company  
Continuation-in-part of application Ser. No. 551,082, May 18, 1966. This application June 26, 1967, Ser. No. 648,573  
Claims priority, application France, Aug. 8, 1966, 72,466; Aug. 11, 1966, 72,838  
Int. Cl. A24f 7/04, 1/16

U.S. Cl. 131-187

1 Claim



A smoke treating device for cigarette-holders, pipes and other smoking apparatus comprising a first tubular member and a removable inner element fitted in said tubular member arranged to provide plural concentric ducts for reversing the flow of smoke through the device. One of the ducts comprises a tubular member having a polygonal section and a radially outwardly tapering inner wall, the planar faces of which are tangent to and contact a central circular sectioned tubular duct to provide smoke channels therebetween. The first tubular member has a cylindrical socket having an annular shoulder at its inner end and radially inwardly directed ridges that are angularly spaced and extend partially outwardly therein and terminate in radially inwardly directed lugs at their outer ends. The inner element has a head at its outer end having a peripheral flange that seats between the lugs and the shoulder, bosses on its outer face for spacing the unit end of a cigarette from the outer face, a skirt having slits on the inner end of the head for permitting smoke to be drawn beyond the head into an annular passage between the inner wall of the first tubular member and the outer wall of the polygonal tubular member, through the smoke channels and then through the central duct, the central duct having an exit for the smoke at the inner end thereof.

**3,520,308**  
**PIPE REAMER**  
Frederick A. Fassbender, Essex Fells, N.J., assignor to S. M. Frank & Co., Inc., New York, N.Y., a corporation of New York  
Filed June 17, 1968, Ser. No. 737,542  
Int. Cl. A24f 9/10

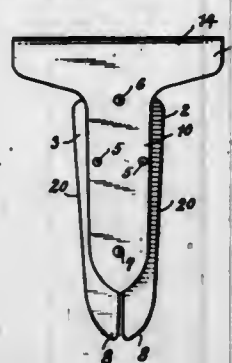
U.S. Cl. 131-246

2 Claims

A reamer for smokers' pipes having a handle or blade holder, the handle being of substantially T-shape and being formed from a single strip or blank. In forming the handle, the strip is doubled transversely upon itself



to provide spaced sections including tabs that are riveted together and hold a pair of slidable scraping blades between the tabs. Rivets extend between the tabs to hold them spaced apart and other rivets also extend between the tabs and pass through angular or inclined slots in the



blades. This pin-and-slot connection between the blades and the holder or handle enables the blades to separate or spread apart to a required extent to enable them to contact the inner wall surface of a pipe bowl and scrape the same when the reamer is rotated.

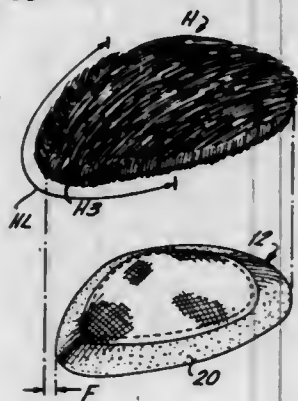
3,520,309

#### HAIRPIECE INCLUDING RELATIVELY RIGID AND RELATIVELY FLEXIBLE PLASTIC PORTIONS

Stanley S. Lane and George A. Drykerman, New York, N.Y., assignors to V.I.P. International Scientific Corp., New York, N.Y., a corporation of New York  
Filed May 3, 1968, Ser. No. 726,387  
Int. Cl. A41g 5/00

U.S. Cl. 132—53

4 Claims



A hairpiece made up of an attached pair of upper and lower hairpiece members and wherein the upper hairpiece member which is rooted with hair is fabricated of "flesh-colored" plastisol to additionally contribute to the natural, lifelike appearance of the hairpiece.

3,520,310

#### CONVERTIBLE WIG

Robert A. Witmond, Lafayette, Calif.  
(255 4th St., Oakland, Calif. 94607)  
Filed May 10, 1968, Ser. No. 728,261  
Int. Cl. A41g 3/00, 5/00

U.S. Cl. 132—53

2 Claims



A wig made up of a plurality of separate hair pieces or wiglets which may be secured together with different relative orientations conducive to the combing of the hair into a variety of different hair styles. Securing of the wiglets together with the various relative orientations for facilitating conversion of the wig hair style is effected in a quick and simple manner. One of the wiglets may be employed alone in conjunction with the

wearer's hair to provide additional body exactly where required to facilitate combing into a desired composite hair style.

3,520,311

#### COMB WITH FLUID DISTRIBUTION MEANS AND MEANS FOR ATTACHING HAIR CARE DEVICE

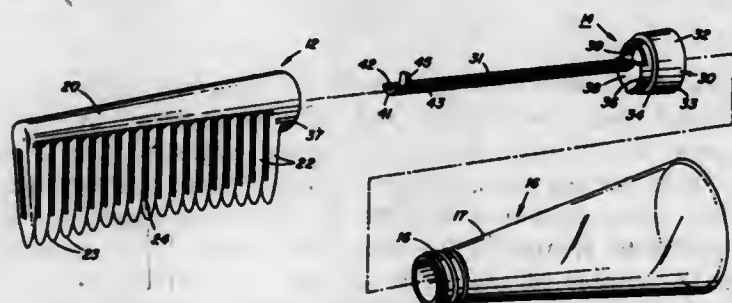
Dante P. Iesersek, Fort Lee, N.J., and John K. Karfo, New York, N.Y. (both of 939 Madison Ave., New York, N.Y. 10021)

Filed May 12, 1967, Ser. No. 638,074

Int. Cl. A45d 24/16

U.S. Cl. 132—111

7 Claims



A combination comb and hair treatment device. The comb back has a hollow interior with a first track receiving a fluid distribution member for feeding fluid through through passages spaced along said back. Adjacent comb teeth have individual openings forming a second track for receiving a razor, felt pad or the like for additional hair treatment.

#### ERRATA

For Classes 134—63 and 134—115 see:  
Patent Nos. 3,520,726 and 3,520,727

3,520,312

#### FLOW PROCESS INCLUDING VISCOSITY CONTROL

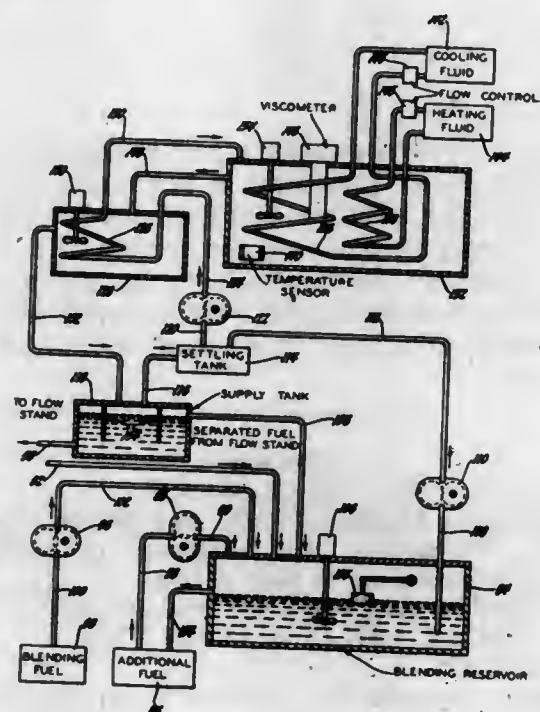
Tracy R. Ackerman, Honeoye Falls, and John F. Schickler, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 19, 1968, Ser. No. 722,653

Int. Cl. F02n 15/00; G05d 11/00

U.S. Cl. 137—4

4 Claims



A carburetor flow stand is located in an enclosure containing air at substantially constant temperature, pressure, and humidity. Air is drawn from the enclosure through the carburetor, the flow stand chamber, and a plurality

of sonic outlet nozzles, the rate of air flow being accurately indicated by the pressure in the flow stand chamber. A calibrated nozzle opening from the enclosure to the flow stand chamber is used to check the accuracy of the measurement of flow stand chamber pressure.

A blending process supplies a continuous stream of test fuel to the carburetor at substantially constant density and viscosity so that the rate of fuel flow may be accurately measured by the pressure drop across an orifice. The blending process includes a step in which the fuel is brought to a substantially constant temperature for accuracy in the viscosity measurement.

3,520,313

#### PROCESS FOR FACILITATING PIPELINE FLOW OF HIGHLY VISCOUS LIQUIDS

Errol V. Seymour, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Dec. 8, 1967, Ser. No. 688,961  
Int. Cl. E21b 43/26; F17d 1/16

U.S. Cl. 137—13

3 Claims

A method for facilitating flow of a highly viscous water-immiscible liquid in conduits by forming a water-immiscible liquid-in-water mixture containing in the water phase of the mixture a water-soluble polymer capable of functioning as a friction reducer.

3,520,314

#### AUTOMATIC SHUT-OFF MEANS FOR THE SUPPLY TO A TANK WHOSE FLOAT VALVE CONTROL HAS BECOME DEFECTIVE, ALLOWING AN OVERFLOW

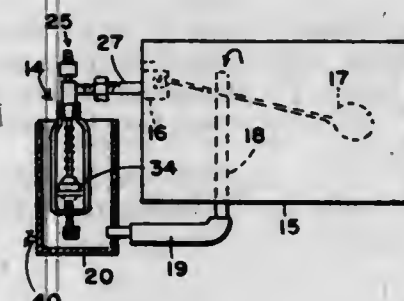
Hirsh Ryan, 79—11 260th St.,  
Floral Park, N.Y. 11004

Filed Jan. 18, 1968, Ser. No. 698,834

Int. Cl. F16k 31/00

U.S. Cl. 137—67

2 Claims



An auxiliary valve, held in open condition by a soluble tablet positioned in an empty auxiliary tank, is interposed in the supply pipe to a main tank whose filling is controlled by a float valve. The main tank has an overflow tube which discharges into the auxiliary tank. Should there be an overflow, the tablet will dissolve and the auxiliary valve will assume closed condition.

3,520,315

#### VALVE HOUSING WITH ALTERNATE BRACKET ENTRY

Harold L. Dobrikin, Highland Park, Ill., assignor to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois

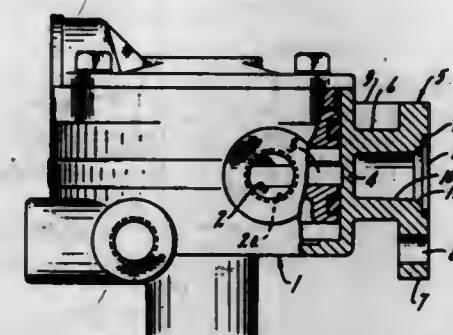
Filed Oct. 5, 1967, Ser. No. 673,213

Int. Cl. F16k 13/04

U.S. Cl. 137—68

1 Claim

A valve housing with an air chamber therein, a threaded passage into said chamber from outside the housing, a mounting bracket for the housing, a partial passage in the



bracket and a rupturable wall between the partial passage and the chamber, a seal-receiving recess in the bracket, whereby the bracket may be attached directly to a reservoir without use of conduits, the wall ruptured and the

threaded passage plugged or the bracket may be attached remotely from the reservoir, the wall left intact and the threaded passage connected to a conduit from the reservoir.

3,520,316

#### PRESSURE-TO-PRESSURE TRANSDUCER

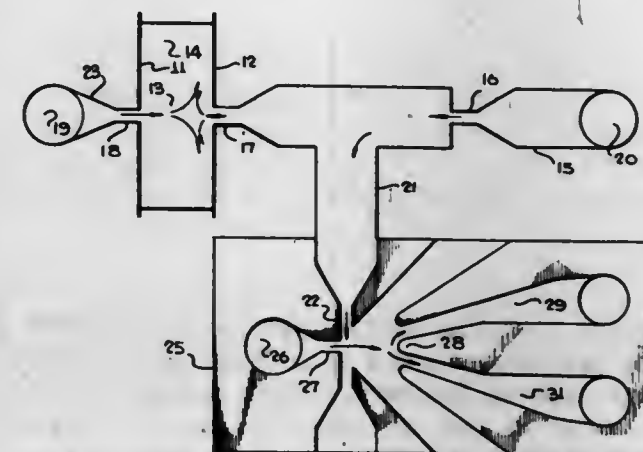
John R. Colston, Silver Spring, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland

Filed Dec. 12, 1963, Ser. No. 330,030

Int. Cl. F16c 1/20

U.S. Cl. 137—81.5

6 Claims



A transducer establishes the pressure of a first fluid as a proportional function of the pressure of a second fluid. The first fluid is supplied at constant pressure to a chamber from which it is continuously bled, establishing an internal static chamber pressure as a proportional function of the rate of bleed. A source of the second fluid under pressure impedes the bleed rate from the chamber as a proportional function of the second fluid pressure. The static pressure in the chamber is thus monitored as a proportional function of the second fluid pressure.

3,520,317

#### SHEAR MODULATED FLUID AMPLIFIER

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Fabio R. Goldschmied, Salt Lake City, Utah

Filed Jan. 30, 1968, Ser. No. 701,635

Int. Cl. F15c 1/16

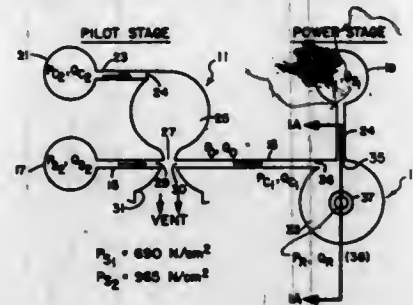
U.S. Cl. 137—81.5

4 Claims

A fluidic high pressure hydraulic amplifier composed of a fluidic vortex amplifier as a power stage and a vortex-shear modulator as a pilot stage. The vortex amplifier's control stream input is modulated by the vortex-shear modulator which has an input of much lower pressure. The modulation is accomplished by the shearing or deflecting effect of the vortex-shear-modulator on the supply jet



within the venting gap between a power nozzle and a jet receiver. The low pressure input of the vortex-shear-modulator thereby controls the larger pressure of the hydraulic control stream of the vortex amplifier which in turn con-



trols the final hydraulic output of the vortex amplifier from zero to a given high pressure. The initial low pressure input may be hydraulic or pneumatic and it may be single or multiple.

3,520,318

### CONTROLLER WITH ASYMMETRICAL FEEDBACK TIME CONSTANT

Artur Oberle, Ennetbaden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

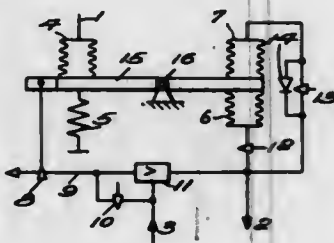
Filed Dec. 19, 1966, Ser. No. 603,025

Claims priority, application Switzerland, Dec. 22, 1965, 17,683/65

Int. Cl. F15b 5/00; G05d 16/00

U.S. Cl. 137-86

4 Claims



A process controller of the type having feedback for obtaining proportional, rate and reset control functions. The reset control feedback circuit includes a bypass effective only in one direction so as to produce an asymmetrical characteristic for the reset time constant for opposite senses of variation in the output signal.

3,520,319

### MULTIPLE INLET BALL CHECK VALVE

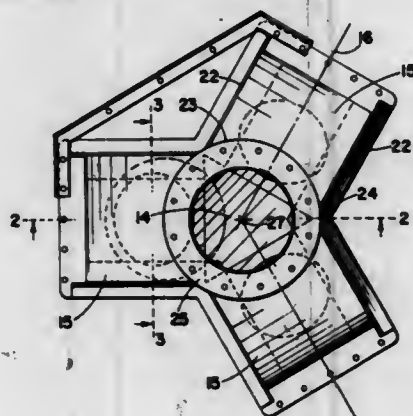
Norman A. Jull, Toronto, Ontario, Herbert A. McCracken, Brampton, Ontario, and James C. L. Graham, Don Mills, Ontario, Canada, assignors to The Techniquip Company Limited, Weston, Ontario, Canada

Filed June 7, 1968, Ser. No. 735,392

Int. Cl. G05d 11/00; F16k 15/04

U.S. Cl. 137-111

3 Claims



The disclosure sets forth a large multiple inlet valve in which the configuration is based on a radial array of

parts about an outlet axis in such manner that the motion of the check valve ball is radial in direction in progressing from one inlet opening to another. The choice of motion being unlimited by the valve geometry.

3,520,320

### BY-PASS AND PRESSURE RELIEF VALVE

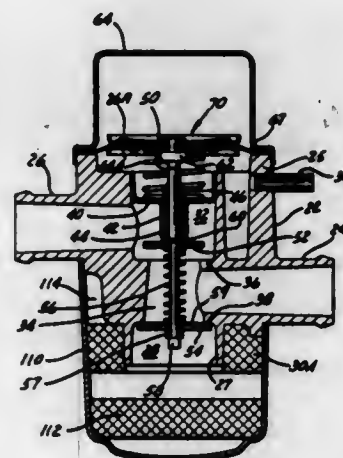
Edward N. Crawford and Jack M. White, Florissant, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Jan. 16, 1968, Ser. No. 698,341

Int. Cl. F01n 1/14, 3/00; G05d 9/00

U.S. Cl. 137-115

6 Claims



A diaphragm actuated by-pass and pressure relief valve having inlet, outlet and by-pass ports is spring biased to a first normal position and movable under conditions of excess pressure to a by-pass position and is also movable to the by-pass position by a change in vacuum applied to the diaphragm actuator. A muffler surrounding the by-pass port reduces the noise level of compressed air exiting from the by-pass port.

3,520,321

### VENTING VALVE FOR A BEVERAGE FILLER

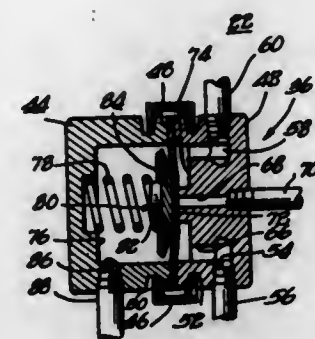
Sigmund P. Skoll, Elmwood Park, Chester J. Witt, Deerfield, and Harry G. Mojonner, River Forest, Ill., assignors to Mojonner Bros. Co., Chicago, Ill., a corporation of Illinois

Filed Dec. 20, 1967, Ser. No. 692,233

Int. Cl. G05d 16/06; B65b 31/00; B67d 5/54

U.S. Cl. 137-116

3 Claims



Pressure controlling apparatus for a beverage filler in which two valve bodies are arranged to confine a flexible diaphragm therebetween, one of the valve bodies having a vent opening and respective connections with the gas space of the filler and with a source of gas under pressure and a channel joining these connections. The second valve body contains a biasing spring for urging the diaphragm into closing relationship with the vent opening. A check-valve controlled line connects the second valve

body with the gas source connections of the first valve body to employ the pressure of said source additively with the biasing spring and independently of the gas space pressure of the filler.

extending from the external atmosphere to the interior of said barrel; a check valve between said duct and said pressure source and a relief valve between said duct and the atmosphere.

3,520,322

### FLUID PRESSURE CONTROL SYSTEM

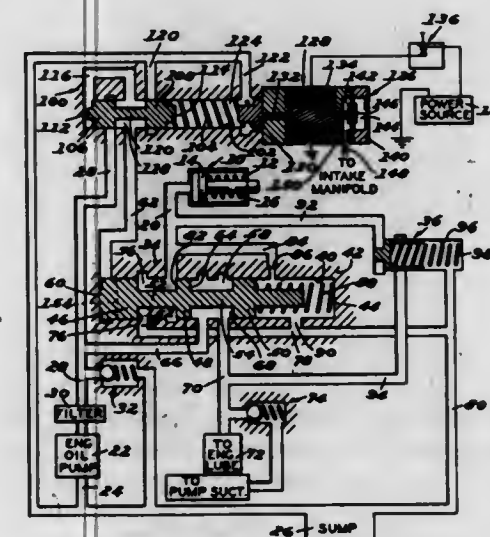
Robert E. Kaptur, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Original application Aug. 30, 1965, Ser. No. 483,754, now Patent No. 3,439,584. Divided and this application Jan. 24, 1968, Ser. No. 718,963

Int. Cl. F15b 11/08

U.S. Cl. 137-116.3

4 Claims



A fluid pressure regulating valve that is movable to any one of three main regulating portions, is variably and progressively movable between two of the positions in response to changes in a source of varying vacuum, such as is provided by an internal combustion engine intake manifold, for example; and, is movable by a selective operable mechanism to the third regulating position to produce an output regulating pressure level that is different than the others.

3,520,323

### MEANS FOR FORCING LIQUID FROM BARRELS AND SAFETY DEVICES THEREFOR

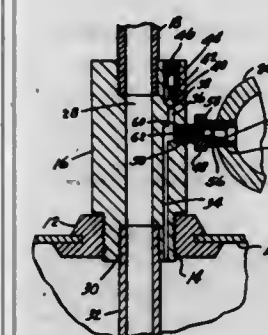
Kay R. Lamb, 1105 Ridge Ave., Rockford, Ill. 61103

Filed May 17, 1968, Ser. No. 730,055

Int. Cl. F04f 1/00; B67d 5/54; B65d 83/14

U.S. Cl. 137-212

1 Claim



A barrel; a tubular body secured to said barrel; a tube aligned with said body and entering said barrel; dispensing means connected with said body; a source of controlled gas pressure connected to said body; a duct in said body connected to said source of pressure, said duct

3,520,324

### VALVE OPERATING SIMULTANEOUSLY AS INTERCEPTING, REGISTER AND CHECK VALVE FOR FLUID FLOWS

Santina Meregalli, Via Savonarola 21,

Monza, Milano, Italy

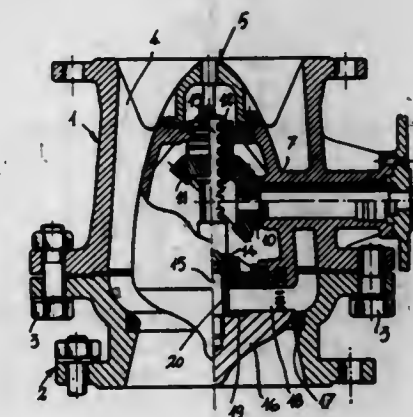
Filed Oct. 7, 1966, Ser. No. 585,148

Claims priority, application Italy, Oct. 12, 1965, 9,995/65

Int. Cl. F16k 31/53, 51/00

U.S. Cl. 137-219

4 Claims



A valve which can be positioned to function in a number of different ways. Thus, a valve member of the valve can be held in a closed position against a valve seat by a non-yielding structure which will prevent movement of the valve from the valve seat until the non-yielding structure is displaced away from the valve member, so that in this way the structure acts as a conventional gate valve. However, it is also possible to maintain the valve against the valve seat only with a yieldable spring structure, so that the valve can function as a non-return valve providing for a one-way flow of fluid. Finally, it is also possible to position the valve member in such a way that it does not reach up to the valve seat but instead forms a predetermined gap therewith, in an end position of the valve, so that in this way the valve functions as a throttle to provide a predetermined throttle to the flow of the fluid.

3,520,325

### INTEGRALLY CAST CONDUIT FOR A VALVE HAVING A PLASTIC BODY

Harry A. Stuart, 16237 Minnesota Ave.,

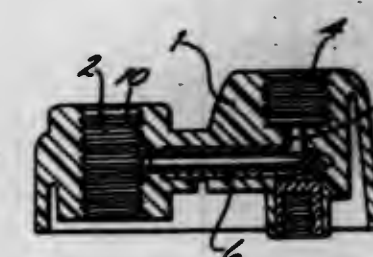
Paramount, Calif. 90723

Filed Feb. 20, 1969, Ser. No. 800,991

Int. Cl. F16k 27/12

U.S. Cl. 137-375

3 Claims



To protect the plastic body of a water faucet which is susceptible to erosion by the chemicals in water, a sleeve is provided to separate the water from the plastic body of the faucet, thus materially reducing the erosive



effect of the chemicals in water, such as chlorine. The metal insert which forms the water conduit is so constructed that it will not fill with the plastic of which the body is formed while that body is being cast.

3,520,326

### SAFETY RELIEF VALVE WITH PRESSURE COMPENSATING SKIRT

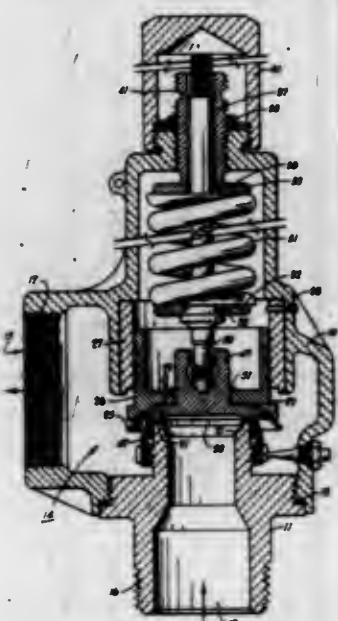
William H. Bowen and Homer E. Ferrill, Alexandria, La., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed June 27, 1968, Ser. No. 740,526

Int. Cl. F16k 17/06

U.S. Cl. 137-477

12 Claims



A safety relief valve for the relief of system over-pressure by means of a pressure responsive valve disc movable away from the valve seat to release flow to an outlet thereof. Supported for movement with the disc is an annular skirt ring extending dependent therefrom about the valve seat. The skirt support permits it to assume an operative position relative to the disc at least partially responsive to fluid forces encountered during relief operation of the valve.

3,520,327

### STATION SELECTOR VALVE

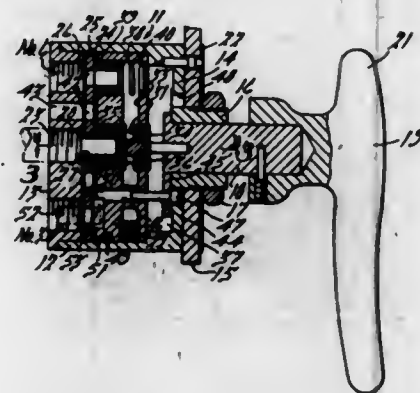
David R. Claydon, Royal Oak, and Daniel B. Abbott, Farmington, Mich., assignors to Ross Operating Valve Company, Detroit, Mich., a corporation of Michigan

Filed May 28, 1968, Ser. No. 732,693

Int. Cl. F16k 25/02, 11/02, 11/06

U.S. Cl. 137-556.6

12 Claims



A combined reciprocating and rotary valve having circumferentially spaced working ports. Normally, one port is connected to a central supply port and the others are

connected to exhaust. Inward axial movement of the handle first cuts off supply and then connects all ports to exhaust and permits rotation of the valve to any other desired port, no intervening ports being pressurized in the process. Release of the handle connects the newly selected working port to supply.

3,520,328

### CIGAR LIGHTER

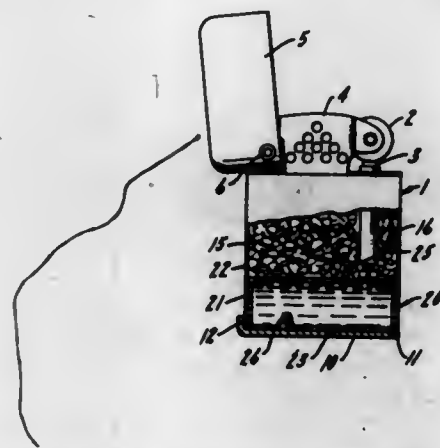
Robert Stuart, 400 E. Randolph, Chicago, Ill. 60601

Filed Dec. 1, 1967, Ser. No. 687,313

Int. Cl. F23d 3/02

U.S. Cl. 137-571

7 Claims



A cigar lighter containing a flexible bag with inlet and outlet valves for filling the lighter with fluid and retaining a reserve of fuel for later delivery to the lighter supply.

3,520,329

### GASOLINE TANK OVERFLOW DEVICE

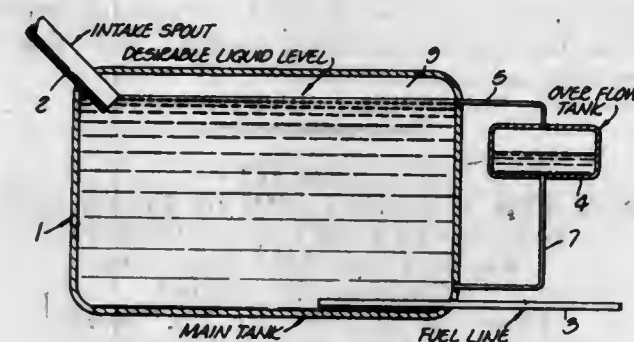
Karl A. Weber, P.O. Box 509, Rancho Santa Fe, Calif. 92067

Filed Oct. 8, 1968, Ser. No. 775,983

Int. Cl. B65d 87/12

U.S. Cl. 137-571

5 Claims



A gasoline tank associated with a second tank, either internally or externally, so that when the gasoline tank is overfilled or the gasoline expands to cause excess gasoline in the main tank, this excess flows into the second tank which in turn meters this gasoline back into the main tank when this overfilled condition subsides.

3,520,330

### POROUS BALL VALVE OR THE LIKE

Jesse L. Szargulski, Florissant, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Mar. 21, 1968, Ser. No. 715,031

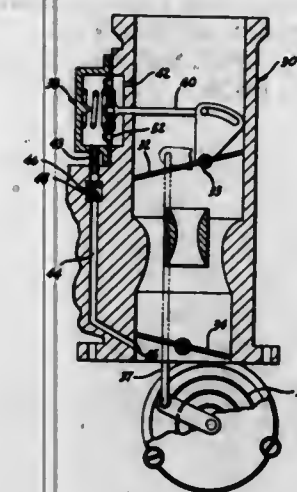
Int. Cl. F16k 15/14; F02m 7/00

U.S. Cl. 137-613

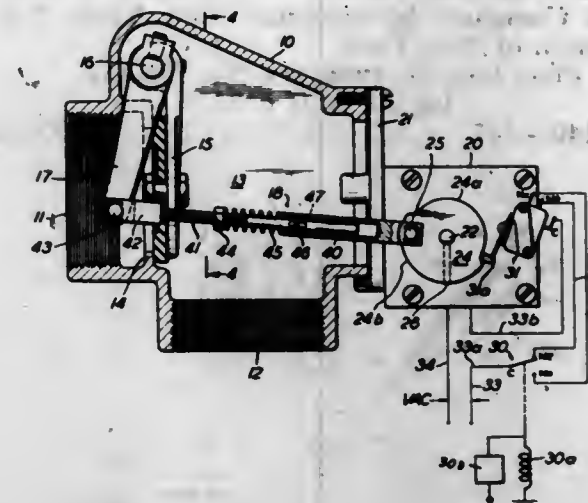
4 Claims

A valve such as a ball check valve, is provided which permits a slow flow when the valve is in its closed position. The ball, preferably, is made of porous plastic or metallic material which will not contaminate readily. The

motion of the ball during operation enables it continually to present new clean surfaces to the flowing fluid and by a timer and the other by the cam surface of the disc,



helps the ball to rid itself of contamination. The valve is used to control an air motor in a carburetor.



control the supply of power that rotates the disc to open and close the valve.

3,520,331

### SELF-SEALING PIPE COUPLING

Walter Frederick Locke, Emsworth, Ernest Arthur Watson, Bedhampton, near Havant, and Leonard Leslie Tyler, Portsmouth, England, assignors to F.P.T. Industries Limited, Portsmouth, England

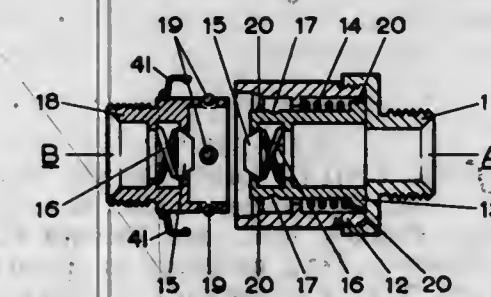
Filed Dec. 4, 1967, Ser. No. 687,783

Claims priority, application Great Britain, Jan. 3, 1967, 356/67

Int. Cl. F16l 37/22, 37/28

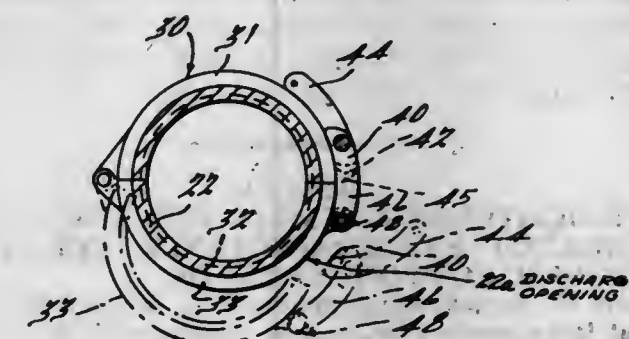
U.S. Cl. 137-614.04

5 Claims



A coupling for joining two pipes or a pipe and a tank consisting of two halves each half having a valve spring loaded to the closed position.

The two halves are held in engagement by balls restricted by a spring loaded sleeve. The sleeve spring is subject to any tensile load applied to the coupling by the pipe or pipes and its strength is arranged so that it allows the sleeve to move, and the coupling to separate, at a tension less than that required to fracture the pipes.



A concrete in line discharge gate having a quick release coupling unit and a removable gate member mounted on a pipe with a discharge opening to distribute concrete.

3,520,334

### WIRE COILING TOOL

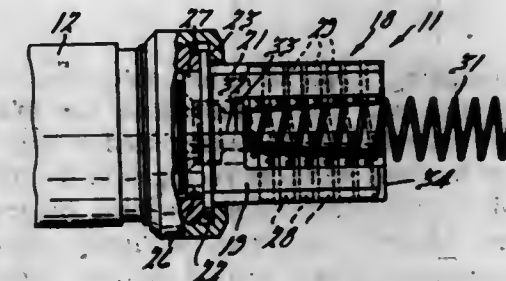
William O. Mueller, Detroit, Mich., assignor to Hans Sickinger Co., Pontiac, Mich., a corporation of Michigan

Filed Jan. 26, 1968, Ser. No. 700,786

Int. Cl. B21f 3/02, 3/04, 45/00

U.S. Cl. 140-92.94

10 Claims



A wire coiling tool for spiral wire binders comprising split hollow body halves each of which has a series of inwardly extending pins, the facing pin sets being offset by one-half the wire pitch.

3,520,332

### OPERATOR FOR FLAPPER VALVES

Frank E. Willard, Dallas, Tex., assignor to Cook Machinery Co., Inc., Dallas, Tex.

Filed Mar. 4, 1968, Ser. No. 709,979

Int. Cl. F16k 31/04

U.S. Cl. 137-624.13

5 Claims

The valve operator disclosed has a disc that is a combination crank and cam. The disc is rotated by a shaft and like a crank reciprocates a valve operating rod to open and close a flapper valve. The periphery of the disc is

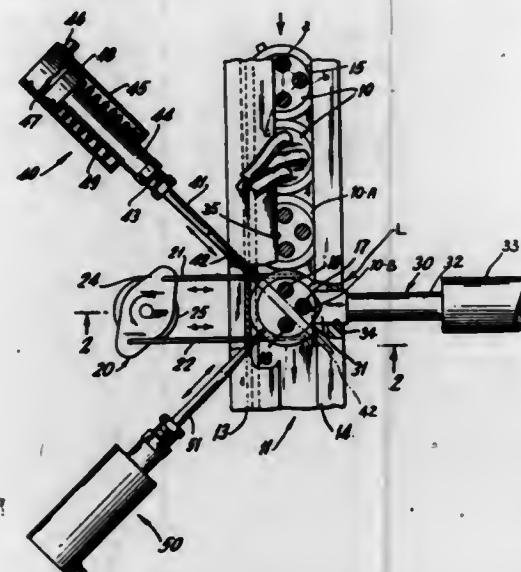


# 3,520,335 METHODS AND APPARATUS FOR SPREADING LEADS

Quentin L. Patterson, Easton, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York  
Filed June 11, 1968, Ser. No. 736,132  
Int. Cl. B21f 1/02

U.S. Cl. 140-147

13 Claims



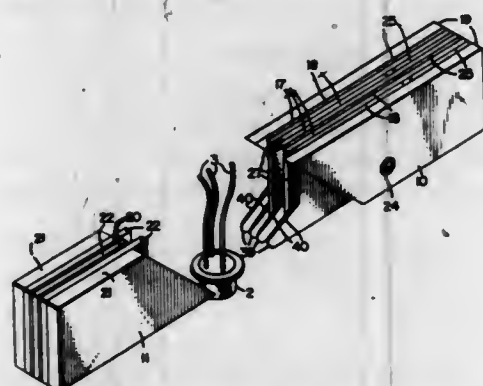
A lead-spreading technique for electrical components, such as transistors, having at least three nominally parallel leads utilizes a plurality of sequentially reciprocable, pencil-like spreading fingers shaped to fit between two leads to spread them. The component is first held in a fixed position with the leads arranged in a predetermined orientation, after which the spreading fingers are reciprocated as closely as possible to the bases of the leads in a sequence such that each lead is spread at different times and in different directions by two separate fingers.

# 3,520,336 STRAIGHTENER ASSEMBLY INCLUDING INTEGRATED PRE-STRAIGHTENER FOR ELECTRONIC COMPONENT LEADS

Albert W. Zemek, Binghamton, N.Y., assignor to Universal Instruments Corporation, Binghamton, N.Y., a corporation of New York  
Filed Aug. 26, 1968, Ser. No. 755,172  
Int. Cl. B21f 1/02

U.S. Cl. 140-147

12 Claims



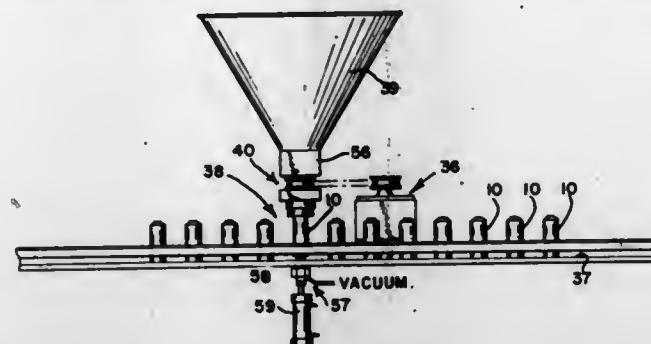
A straightening apparatus for electronic component leads including two facing die tools, the first die tool comprising interleaved forming blades and combing blades with inclined surfaces facing said second die tool, the second die tool comprising forming blades and pre-straightener blades, said pre-straightener blades being pivotally mounted in said second die tool, whereby upon movement of said die tools toward each other said pre-straightener serves to guide the leads of the component between the combs, said pre-straightener riding up the inclined faces of said combs thereby permitting interaction of the die tool forming blades on the leads.

# 3,520,337 FILLING METHOD FOR PRODUCT DISPENSING CONTAINERS

Lewis F. Irland, Hinsdale, and James F. Fox, Chicago, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York  
Filed Sept. 13, 1967, Ser. No. 667,427  
Int. Cl. B65b 1/04, 3/04

U.S. Cl. 141-3

3 Claims



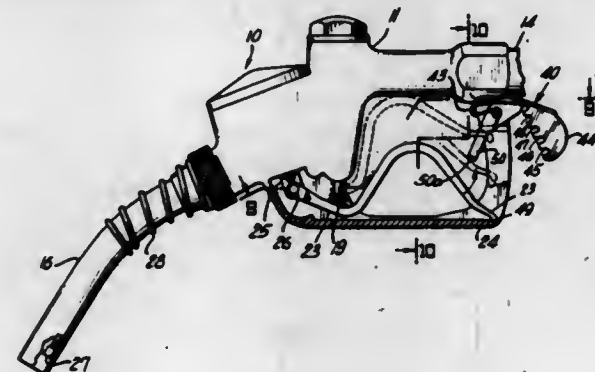
A method for filling the product in a product dispensing container of the type including a collapsible product bag disposed in the interior of the container and defining therein a propellant chamber. The bag is constructed with lengthwise spaced circumferential means imparting radial rigidity and controlling the collapsing of the container under the influence of the propellant in the propellant chamber. The spaced circumferential means form restricted volumes which communicate with the central portion of the bag. The container including the bag attached therein is rotated during the filling of the product to create a centrifugal force causing the deposited product to flow into and completely fill the restricted volume. The propellant chamber is subjected to a partial vacuum to extend the bag from its normal static length. When a vacuum is applied, the bag is filled to a level below the upper lip or top of the bag to provide a volume sufficient to accommodate the volume of the product displaced therein when the bag returns to its normal static length upon release of the vacuum.

# 3,520,338 AUTOMATIC LIQUID DISPENSING NOZZLE

Eugene W. Vest, Wappingers Falls, and Dean C. McGahey, Fishkill, N.Y., and Richard H. Griswold, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware  
Filed Sept. 29, 1967, Ser. No. 671,742  
Int. Cl. B65b 3/24; B67d 5/28, 5/372

U.S. Cl. 141-128

5 Claims



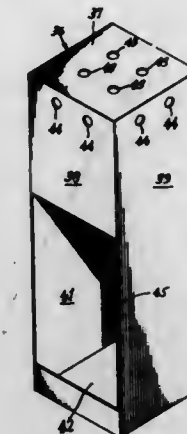
An automatic liquid dispensing nozzle wherein a lever, used to activate a control valve and regulate the rate of flow therethrough, is engaged by a holding means against the control valve, being released therefrom by automatic means upon the liquid being dispensed reaching a predetermined level, and subsequently being engaged by manual operation against a restraining member which permits the filling operation to be completed at a predetermined low rate of flow.

# 3,520,339 CONTAINER FILLING MACHINES

Charles Snowden, 6887 Westcott Lane, Goshen, Ohio 45122  
Filed June 4, 1968, Ser. No. 734,487  
Int. Cl. B67c 3/00; B67d 3/02

U.S. Cl. 141-296

6 Claims



Means for preventing a foam lock in liquid dispensing machines of the type having a supply tank for the liquids being dispensed and one or more units for dispensing metered amounts of the liquid, portions of the units extending upwardly into the tank and reciprocating therein during the metering and dispensing operations. The means comprises a cover member for each metering and dispensing unit portion extending into the tank, the member having a plurality of perforations as described herein-after.

# 3,520,340 METHOD OF REMOVING THE SKIN OF NUTS, BEANS AND VARIOUS OTHER SEEDS

Yoshichi Takeuchi, 353-4 Haze-cho, Saka-shi, Osaka-fu, Japan  
Filed Apr. 30, 1968, Ser. No. 725,589  
Claims priority, application Japan, May 27, 1967, 42/33,592  
Int. Cl. B02b 3/00

U.S. Cl. 146-231

2 Claims



A method of removing the skin from nuts and seeds comprising the steps of immersing the nuts and seeds in hydrogen peroxide solution or metallic peroxide solution, said solution permeating the skin thereof, causing the skin to swell and at the same time causing a space between the skin and the albumen, and thereafter removing the skin from the nuts or seeds.

# 3,520,341 DRUPE PITTER AND METHOD

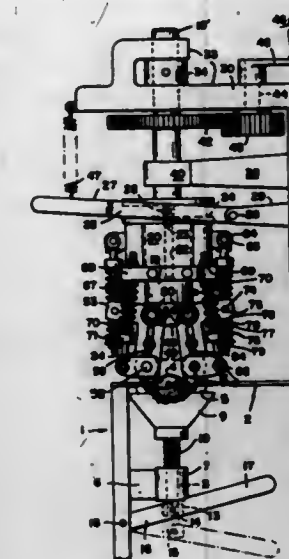
Joseph Perrelli, El Cerrito, Calif., assignor to Filper Corporation, San Ramon, Calif., a corporation of California  
Filed Oct. 9, 1967, Ser. No. 673,778  
Int. Cl. A47j 23/00

U.S. Cl. 146-238

4 Claims

A pitter for drupe halves having a holder to engage the convex hemispherical surface of a drupe half and to support it with its exposed pit or pit half exposed for gripping the pit at opposite edges between jaws having generally opposed pairs of spaced tines adapted to enter the fruit halves at opposite edges of the pit or pit halves

to grip the pit at a plurality of spaced points to preclude slippage of the jaws relative to the pit when the pit is



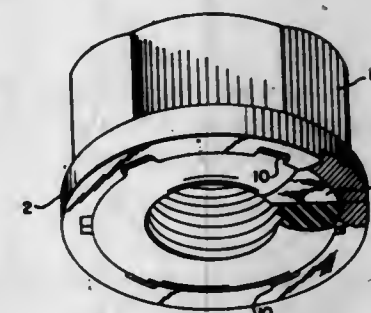
twisted relative to the body of the half to free it from the half.

# 3,520,342 SELF-LOCKING THREADED FASTENER

Harry Scheffer, Brackwede, Germany, assignor to Helmut Rieke, Thal uber Bad Pyrmont, Germany  
Filed Oct. 1, 1968, Ser. No. 764,263  
Claims priority, application Germany, May 27, 1968, 1,750,702  
Int. Cl. F16b 39/34

U.S. Cl. 151-7

7 Claims



The radial seating face of a nut has a shallow annular recess about the threaded bore from which even shallower radial grooves extend in a radially outward direction into the residual flat portion of the seating face. A sealing ring of resilient material conformingly occupies the recess and axially projects from the same while relaxed. The relaxed ring leaves the grooves substantially free to accept displaced material of the ring when the latter is pressed into the recess by a fastened element in the assembled condition of the nut.

# 3,520,343 SELF-TAPPING LOCKING SCREW

Edwin R. Evans, deceased, late of Orchard Lake, Mich., by The Detroit Bank and Trust Company, executor, Detroit, Mich., assignor to Lock Thread Corporation, Detroit, Mich., a corporation of Delaware  
Continuation-in-part of application Ser. No. 531,653, Feb. 9, 1966, which is a continuation-in-part of application Ser. No. 227,301, Oct. 1, 1962. This application Sept. 18, 1967, Ser. No. 670,016  
The portion of the term of the patent subsequent to Sept. 19, 1984, has been disclaimed  
Int. Cl. F16b 25/00, 33/02, 39/30

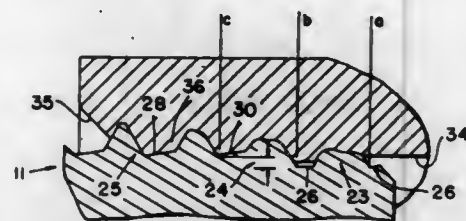
U.S. Cl. 151-22

11 Claims

The self-tapping screw extrudes the female thread radially inwardly sufficiently to cause the crest of the female thread to impinge upon and interfere with the root of the



screw. The root of the self-tapping screw in one or more convolutions is of arcuate non-circular cross section so

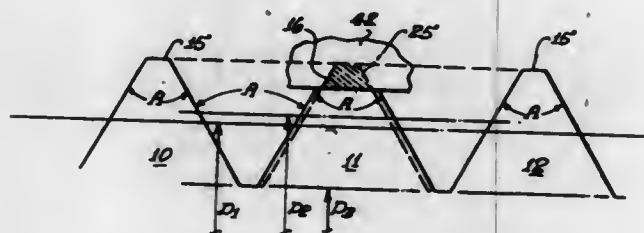


that the interference is relieved at circumferentially spaced points.

3,520,344

**SELF-LOCKING SCREW THREAD**

Eric G. Gabbey, Box 43271, Los Angeles, Calif. 90043  
Continuation of application Ser. No. 481,635, Aug. 23, 1965. This application July 17, 1968, Ser. No. 781,290  
Int. Cl. B21h 3/04; F16b 39/30  
U.S. Cl. 151—22 9 Claims

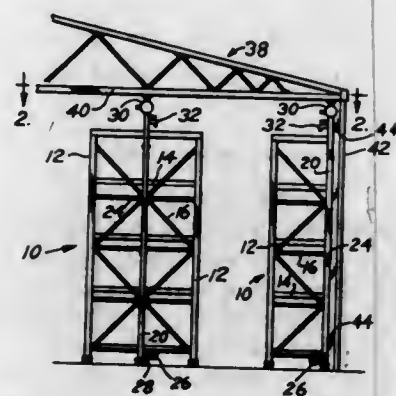


A self-locking screw thread arrangement that includes a device having an external helical thread, the major diameter of which, inwardly of one end, being compressed inwardly to increase the axial thickness of the thread, the compressed thread being provided with flat flanks of the same slope as the remainder of the thread.

3,520,345

**STORAGE RACK AND SPRINKLER ARRANGEMENT**

Duane J. Lillibridge, St. Charles, and Lawrence G. Peck, Tinley Park, Ill., assignors to Unarco Industries, Inc., of the State of Illinois  
Filed May 24, 1968, Ser. No. 731,782  
Int. Cl. E04b 1/92; A62c 31/24, 37/10  
U.S. Cl. 159—2 10 Claims



A storage rack and sprinkler arrangement wherein vertical tubular supports, having alternately spaced sprinkler heads thereon, vertically support the racks while simultaneously conveying fire extinguishing liquid to the sprinkler heads. The vertical tubular supports and/or other vertical rack supports may also support a roof and wall panels to provide a structure for enclosing the racks.

The disclosure shows a foundry machine described as a shell core blower which has a side swinging door and then a down swinging door thereon so that one of the core boxes may be moved in a horizontal arc and then

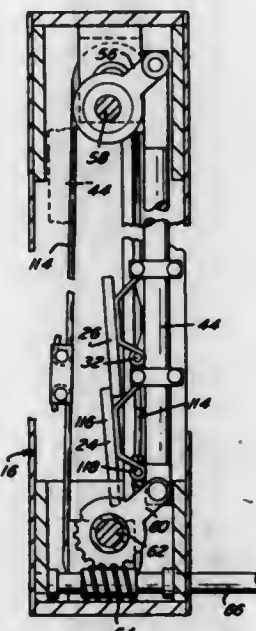
3,520,346

**WINDOW BLIND**

Hollister R. Green, 420 N. Broadway,  
Pitman, N.J. 08071  
Filed Aug. 19, 1968, Ser. No. 753,436  
Int. Cl. E06b 9/26; E04f 10/08

U.S. Cl. 160—165

13 Claims

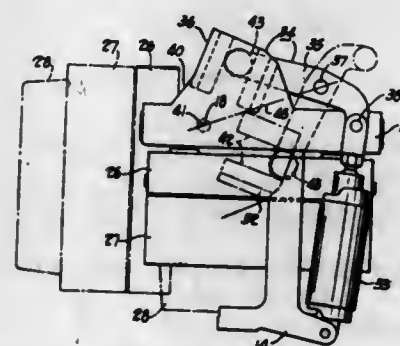


The window blind includes parallel slats which can be raised, disposed upright in overlapping relation, or disposed horizontally. The slats pivot about an axis offset from the longitudinal axis of the slats by means of pins which enter vertical guide slots. Separate rotary handles are provided to effect the raising, lowering and tilting of the slats. Raising the slats is accomplished by one handle connected to an endless cable having a portion connected to the lowermost slat. Tilting is accomplished by the other handle connected to an oscillating upright member coupled to each slat. Latch means are provided effective between adjacent slats to latch the slats in a closed overlapping disposition.

3,520,347

**FOUNDRY MACHINE WITH SWINGING DOOR FOR CORE REMOVAL**

Herbert H. Von Wolff, Shaker Heights, and Hugh A. Bourassa, University Heights, Ohio, assignors to Acme-Cleveland Corporation, a corporation of Ohio  
Filed Apr. 29, 1968, Ser. No. 725,038  
Int. Cl. B22c 13/08, 17/08  
U.S. Cl. 164—183 19 Claims



in a vertical arc to present the core box face downwardly for easy removal of the core in the core box. The down swinging door together with the heater plate and mold box may be fairly heavy and cumbersome and the motive means and linkage means to swing this down swinging door incorporates a partial Geneva mechanism to accurately and easily control the movement of this door. The motive means is shown as a fluid cylinder pivoting a lever which in turn acts on the partial Geneva mechanism to slowly accelerate the door toward an intermediate position and then gradually decelerate the door. Also when the down swinging door is in either a horizontal or vertical position the door is effectively locked in position by the partial Geneva mechanism.

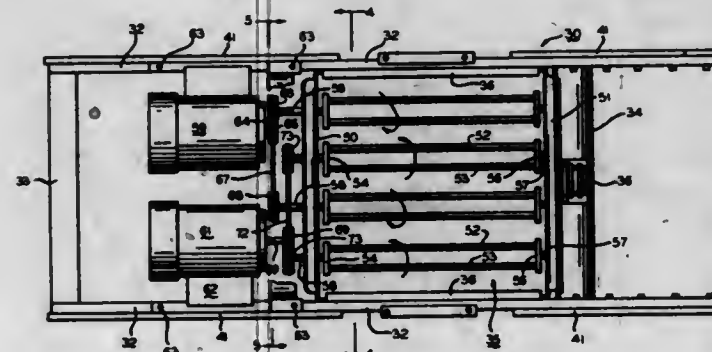
3,520,348

**FILL CARRIAGES FOR AUTOMATIC MATCH-PLATE MOULDING MACHINES**

William Allan Hunter, Morton Grove, Ill., assignor to Heatherwill Company, Morton Grove, Ill., a partnership  
Filed Oct. 9, 1967, Ser. No. 673,605  
Int. Cl. B22c 5/12

U.S. Cl. 164—193

4 Claims



A fill carriage for an automatic matchplate moulding machine, said fill carriage being characterized by structure for aerating moulding sand and depositing the same in substantially level condition alternately into drag and cope flasks as the fill carriage moves into positions atop the same.

3,520,349

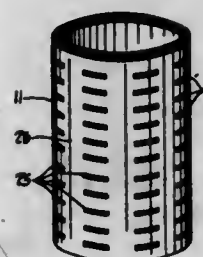
**SPRUE CONSTRUCTIONS FOR USE IN INVESTMENT CASTING**

Claude H. Watts, Lyndhurst, Ohio, assignor to Precision Metal Smiths, Inc., Cleveland, Ohio, a corporation of Ohio  
Continuation-in-part of application Ser. No. 530,488, Feb. 28, 1966. This application Sept. 25, 1967, Ser. No. 670,066

Int. Cl. B22c 7/02

U.S. Cl. 164—244

10 Claims



A sprue construction for use in the lost pattern process of investment casting, characterized by visible markings for locating the positions of patterns to be attached thereto.

3,520,350

**PATTERN ASSEMBLIES FOR USE IN THE LOST WAX PROCESS OF INVESTMENT CASTING**

Claude H. Watts, Lyndhurst, Ohio, assignor to Precision Metal Smiths, Inc.  
Original application Feb. 28, 1966, Ser. No. 530,488, now Patent No. 3,433,627, dated May 13, 1969. Divided and this application Oct. 7, 1968, Ser. No. 765,477  
Int. Cl. B22c 7/02

U.S. Cl. 164—244

19 Claims



A pattern assembly for use in the lost wax process of investment casting comprising a sprue member and a plurality of patterns attached to the sprue member, the sprue member including a tube and a corrugated sleeve around the tube. A pattern assembly for use in the lost wax process of investment casting comprising a sprue member having visible markings for locating the positions of patterns attached thereto.

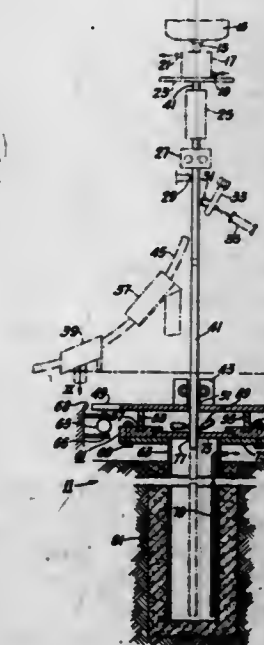
3,520,351

**STARTING BAR ARRANGEMENT FOR CONTINUOUS CASTING MACHINE**

Kenneth L. Rankin, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware  
Filed Feb. 8, 1968, Ser. No. 704,126  
Int. Cl. B22d 11/08

U.S. Cl. 164—274

7 Claims



Apparatus for handling a straight rigid starting bar used with vertical continuous casting machines comprises a set of powered pinch rolls that engage only the starting bar and move it out of a non-magnetic storage caisson and into engagement with strand engaging pinch rolls that move the starting bar in an upward direction to close the bottom of a casting mold. When disconnected from the cast strand the first set of pinch rolls return the starting bar to storage.

A starting bar disengaging arm is rotatably mounted to a flange on the storage caisson and is movable to turn the starting bar to disengage it from the cast strand.

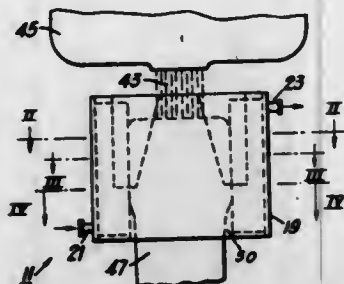


### 3,520,352 CONTINUOUS CASTING MOLD HAVING INSULATED PORTIONS

Martin Heas, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware  
Continuation-in-part of application Ser. No. 503,251, Oct. 23, 1965. This application Oct. 19, 1967, Ser. No. 683,069

Int. Cl. B22d 11/00

U.S. Cl. 164—283



A continuous casting mold that enhances heat transfer and reduces the formation of corner cracks comprises a shell that is water cooled, but which is so made that the formation in the mold of a rigid continuous envelope is avoided until just before the strand emerges from the mold when the skin or shell becomes continuous and rigid enough to contain the molten metal of the core.

### 3,520,353 CASTING MOULDS WITH CORNER PLATE COOLANT FLOW PASSAGES

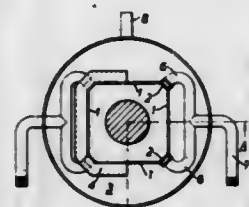
Geoffrey Hoyle and Edward Martin Barrs, Sheffield, England, assignors to The British Iron and Steel Research Association

Filed July 5, 1967, Ser. No. 651,227

Claims priority, application Great Britain, July 6, 1966, 30,274/66

Int. Cl. B22d 27/04

U.S. Cl. 164—348



The disclosure concerns a mould for casting metal, the corners of the mould being obtuse angled and coolant flow means being provided on the exterior faces of the mould sides and corners.

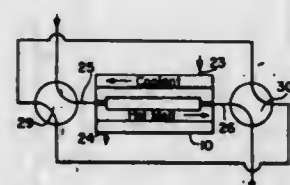
### 3,520,354 METHOD OF IMPROVING HEAT EXCHANGER PERFORMANCE

Benjamin Lawrence, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio  
Filed Oct. 31, 1968, Ser. No. 772,302

Int. Cl. F28f 27/02

U.S. Cl. 165—1

5 Claims



A method of operating a heat exchanger within which a hot, crystal-forming melt is being cooled with resultant crystallization within the heat exchanger of at least

some of the melt. The direction of flow of the melt through the heat exchanger is periodically reversed to extend the effective operating time thereof.

### 3,520,355 AIR CONDITIONING APPARATUS FOR A RAILWAY PASSENGER VEHICLE

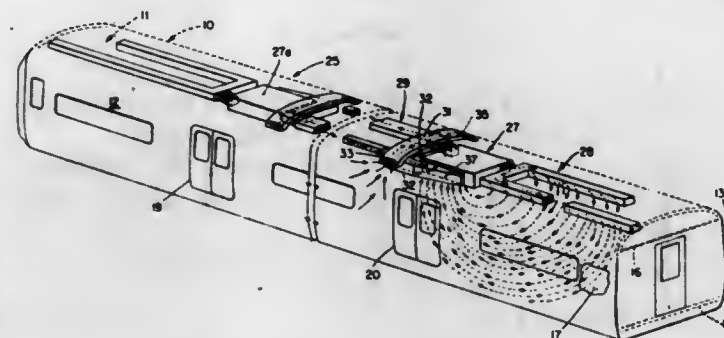
Joseph F. Rueth, Warminster, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 18, 1968, Ser. No. 768,630

Int. Cl. B60h 3/00

U.S. Cl. 165—42

1 Claim



Overhead air conditioning apparatus for a railway passenger vehicle. The apparatus includes dual opposed centrifugal blowers connected to ducting which extends in opposite directions along the vehicle. The air is thus distributed from the apparatus to move in two directions simultaneously without the need for U-turn ducting.

### 3,520,356 VAPOR GENERATOR FOR USE IN A NUCLEAR REACTOR

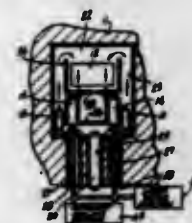
Francis R. Bell and Robert N. Quade, San Diego, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Sept. 22, 1966, Ser. No. 581,328

Int. Cl. F28f 19/00

U.S. Cl. 165—134

4 Claims



A vapor generator is described for use in a nuclear reactor having a circulating coolant. The vapor generator comprises a plurality of fluid conducting heat exchanger tubes each having two sections of materials with different thermal coefficients of expansion. The sections are welded together end-to-end and the tubes are of a material such that the weld is positioned behind a baffle which deflects the flowing coolant in the reactor.

### 3,520,357 OPEN CORE SANDWICH-STRUCTURE

Ralph C. Bruner, Tulsa, Okla., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed July 3, 1967, Ser. No. 650,942

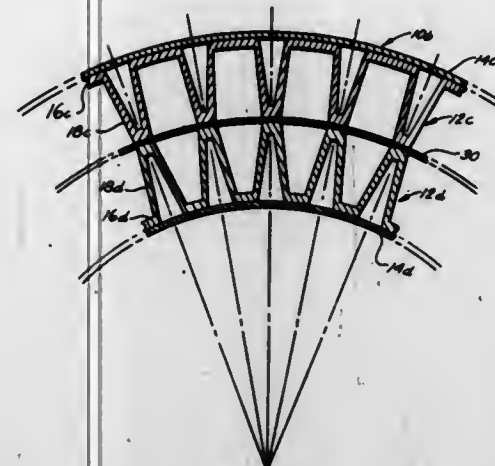
Int. Cl. C23b 7/22; F28f 3/12

U.S. Cl. 165—166

2 Claims

A strong, lightweight structural-element (and a method for making the structural-element) that may—if desired—be used with skin-sheets, comprising one or more electroformed cores having a base-sheet and a plurality

of frusto-conical, frusto-polyhedral, or frusto-quasi-spherical configurations protruding from the base-sheet—



the configurations being affixed to each other or to a common sheet.

### 3,520,358 SUBSEA PRODUCTION SYSTEM

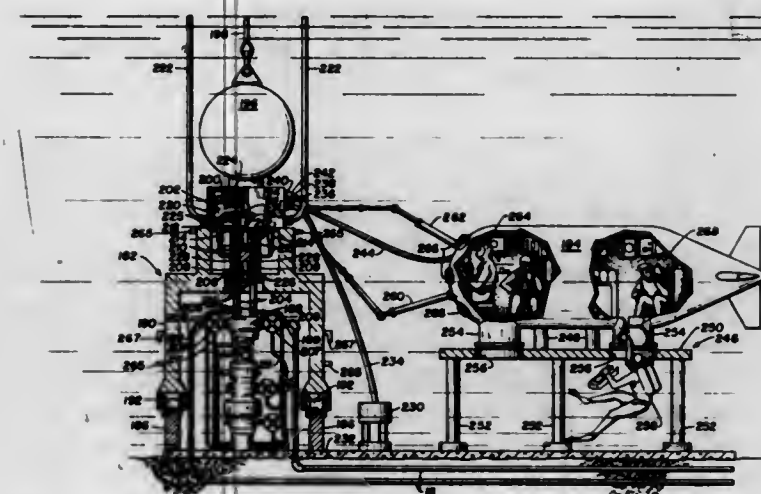
Warren B. Brooks, New York, N.Y., and Charles Ovid Baker, Garland, and Eugene L. Jones, Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York

Filed June 29, 1967, Ser. No. 649,959

Int. Cl. E21b 33/035; E21c 19/00

U.S. Cl. 166—5

43 Claims



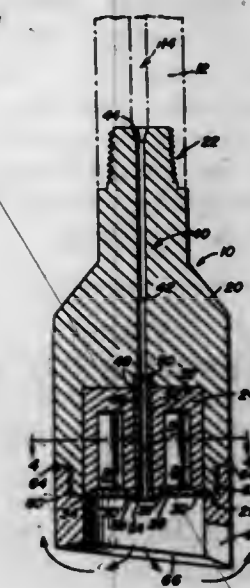
This specification discloses a subsea system for the production of fluid minerals. The system includes a product gathering network provided with production satellites in which the gas-oil-water ratios of each well are periodically tested and the flow rates are automatically controlled. A power distribution network connects a central power station, either floating or bottom supported, at the site or on land nearby, with the various satellite stations and submerged wellhead units. Provision is made for entry into the satellites and diver maintenance at the submerged wellheads. Also, as a part of this subsea system, is a remotely controlled wireline unit. Submersible vehicles function as underwater rest stations for divers working on the subsea equipment as well as conveyances for transporting divers and nondiving personnel to the satellites and wellhead units. General purpose submersible vehicles with articulated manipulators, as well as specialized robot submersibles such as pipe welders and wireline units, permit diverless installation of equipment as well as maintenance and control of the installed equipment.

### 3,520,359 MAGNETIC JUNK BASKET

Herman T. Ehrlich, 2001 Patton Road, Great Bend, Kans. 67530  
Filed June 27, 1968, Ser. No. 740,668  
Int. Cl. E21b 31/06

U.S. Cl. 166—65

8 Claims



A well tool for retrieving magnetic objects from a well and adapted for connection to a pipe string. The body of the tool is provided with a centrally disposed longitudinally extending circulation fluid bore concentric with the bore of the pipe string. A plurality of permanent magnets, carried in a non-magnetic cage are secured within the body of the tool by a pole plate secured to the body by welding. The cage is also protected from dislodgement from the body by the pressure of the circulation fluid by means of a circulation bore sleeve which prevents the circulation fluid from acting against the top of the cage.

### 3,520,360 SETTING TOOL APPARATUS

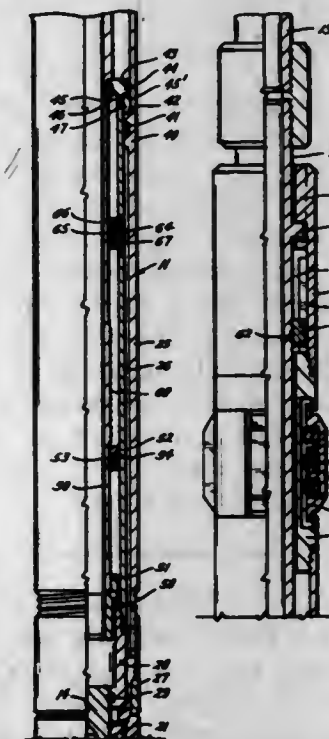
James W. Kislung III, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

Filed Oct. 28, 1968, Ser. No. 771,179

Int. Cl. E21b 23/06

U.S. Cl. 166—123

8 Claims



A setting tool apparatus for use in setting well tools in well bores includes inner and outer members movable in opposite directions relative to one another for applying oppositely directed forces to the well tool. The outer



member has an upwardly facing pressure surface and the inner member has a downwardly facing pressure surface forming movable walls of a fluid-filled hydraulic chamber. An operator member connected to the lower end of a pipe string can be moved upwardly by the pipe string into engagement with a piston ring, and upward strain on the pipe string and piston ring will generate a fluid pressure in the chamber which acts on the pressure surfaces of the members to cause relative movement in opposite directions. The area of the pressure surface on said inner member is larger than the area of said piston ring, whereby the upward force on said inner member tending to cause relative movement is a multiple of the upward strain on the pipe string.

3,520,361

### WELL PACKER WITH SLIP AND DRAG BLOCK ASSEMBLY

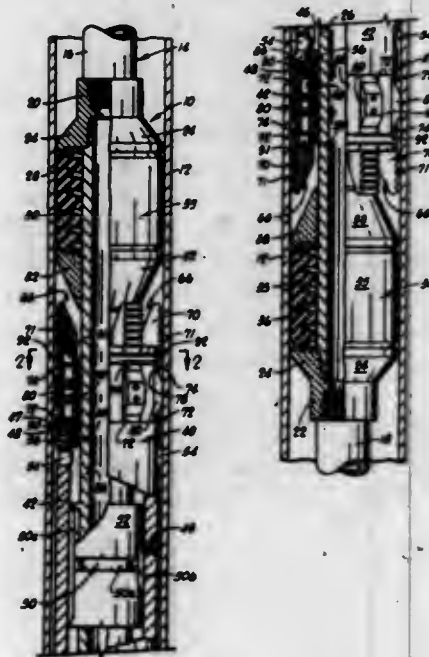
William R. Lewis, Wichita Falls, Tex., assignor to Kiva Corporation, Wichita Falls, Tex., a corporation of Texas

Filed Jan. 22, 1969, Ser. No. 792,964

Int. Cl. E21b 33/12

U.S. Cl. 166—134

20 Claims



A down-hole tool for use in oil wells and which includes upper and lower resilient packing sleeves mounted on a tubing string and each compressible between a fixed collar on the tubing string and a slip and drag block assembly which is axially movable on the tubing string. Each of the packing sleeves is wire reinforced to aid return of the sleeve to an uncompressed condition. The slip and drag block assembly includes a connector sleeve bidirectionally movable on the tubing string, and carrying slip retainer elements at opposite ends thereof. A set of slips is mounted on each retainer element and each of the slips carries a separately formed, independently movable drag block.

3,520,362

### WELL STIMULATION METHOD

Edward M. Galle, Houston, Tex., assignor to Hughes Tool Company, Houston, Tex.

Filed Aug. 4, 1967, Ser. No. 658,513

Int. Cl. E21b 43/25

U.S. Cl. 166—249

22 Claims

Following is disclosed method and apparatus for stimulating large pressure variations an isolated zone in the

bore of a mineral producing well. The apparatus typically includes an oscillator unit and acoustic coupling device tuned to the operating frequency of the oscillator



unit. The coupling device communicates through suitable exit ports with fluid in the region of the mineral bearing formation to be stimulated. Acoustic filters isolate the treated region from other regions in the well bore.

3,520,363

### RECOVERY OF HYDROCARBONS FROM A SUBTERRANEAN FORMATION BY A COMBINATION OF IN SITU COMBUSTION AND WATER FLOOD

Charles L. Bauer, New York, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed June 19, 1968, Ser. No. 738,118

Int. Cl. E21b 43/24

U.S. Cl. 166—251

8 Claims

Improved recovery of hydrocarbons from subterranean hydrocarbon-bearing formations is effected by a combination of in situ combustion and water injection. In situ combustion is caused to occur in random pockets in a subterranean formation, followed by water injection thereto to scavenge the generated heat as part of a water drive and thereby produce additional hydrocarbons contained therein. During injection of a combustion-supporting gas into the formation, effluent gases are monitored at output wells until the carbon dioxide content of the effluent gases exceeds 4% and the percent of oxygen accounted for has increased to about 50% to indicate when in situ spontaneous ignition of hydrocarbons has occurred.

3,520,364

### METHOD AND APPARATUS FOR INITIATING IN SITU COMBUSTION

Charles L. Bauer, New York, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 28, 1968, Ser. No. 708,915

Int. Cl. E21b 43/24

U.S. Cl. 166—260

9 Claims

A method of initiating in situ combustion in an underground hydrocarbon-bearing formation wherein a self-contained ignition package with a lower chamber containing a fuel pack and means for ignition therefor and with

an upper chamber containing an additional supply of fuel is placed adjacent the stratum to be ignited subsequent to



the injection of a liquid having a relatively low self-ignition temperature and flash point thereinto.

3,520,365

### STABILITY OF A SECONDARY-TYPE RECOVERY PROCESS

Stanley C. Jones, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio  
No Drawing. Continuation-in-part of application Ser. No. 693,129, Dec. 26, 1967. This application July 28, 1969, Ser. No. 845,561

Int. Cl. E21b 43/22

U.S. Cl. 166—273

10 Claims

A secondary-type crude oil recovery process using a drive fluid to move a displacing fluid containing electrolyte and/or semipolar organic compound through a subterranean formation to displace crude oil therefrom is improved by incorporating within the front portion of the drive fluid a mobility reducing agent, electrolyte and semipolar organic compound. Preferably, the displacing fluid is a micellar dispersion containing surfactant, water, hydrocarbon, electrolyte, and/or semipolar organic compound (e.g., alcohol) and the front portion of the drive fluid is preferably a mobility buffer containing aqueous medium, mobility reducing agent, electrolyte and semipolar organic compound (e.g., an alcohol).

3,520,366

### IMPARTING IN SITU STABILITY TO DISPLACING FLUIDS

Stanley C. Jones, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio  
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,103

Int. Cl. E21b 43/22

U.S. Cl. 166—273

13 Claims

A secondary-type recovery process wherein crude oil is recovered from a subterranean formation by moving therethrough a displacing fluid containing electrolyte and/or semi-polar compound is improved by injecting into the formation before the displacing fluid a liquid pre-slug containing semi-polar compound or electrolyte and semipolar compound. Examples of displacing fluids include water- and oil-external emulsions, and water- and oil-external micellar dispersions and miscible-type fluids; examples of liquid pre-slugs include preferably aqueous fluids but also include those which are substantially hydrocarbon. A mobility buffer slug can follow the displacing fluid, examples include those which are substantially hydrocarbon as well as aqueous slugs. The displacing fluid and the mobility buffer can be displaced through the formation by a drive material which can be substantially hydrocarbon or aqueous.

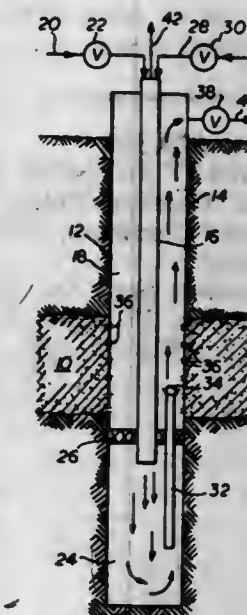
3,520,367  
METHOD OF PRODUCING OIL USING STEAM  
CONDENSATE TRAPPED IN STORAGE ZONE  
Riley B. Needham and Harry W. Parker, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 28, 1968, Ser. No. 770,956

Int. Cl. E21b 43/24

U.S. Cl. 166—302

4 Claims



Production of oil by injecting steam at low temperature into a tubing string of an oil well, trapping the steam condensate in a condensate storage zone and discharging the trapped condensate from said zone by means of gas into the annulus of the oil well wherefrom condensate and oil are produced.

### ERRATUM

For Class 169—2 see:  
Patent No. 3,520,345

3,520,368

### AUTOMATIC FIRE ALARM AND EXTINGUISHER APPARATUS

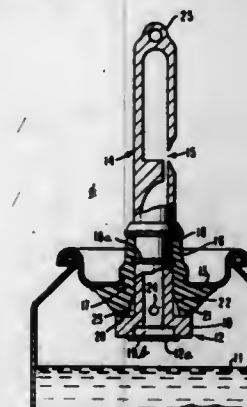
John A. Hayes, Philadelphia, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 28, 1968, Ser. No. 716,870

Int. Cl. A62c 39/02

U.S. Cl. 169—23

2 Claims



There is disclosed an apparatus adapted to provide a signal when exposed to fire or other forms of excess heat; the signal, for example, can be an audible sound or the actuation of a means of turning on a fire extinguisher. The apparatus comprises (1) a container of fluid, for example a pressurized nonflammable fluid of suitable



vapor pressure, (2) a suitably located valve means (for example a rupture disc or removable plug mounted in a suitable valve assembly) which opens when the pressure in the container reaches a certain excessive level resulting from heating of said fluid and (3) a signal means (for example a whistle, or a switch leading to a fire extinguisher) communicating with the exterior of said valve means and capable of being actuated by the opening of the valve means and resultant flow of pressurized fluid towards the signal means. A secondary valve (for example a tilt-opening valve) can also be present for manual testing of the signal means.

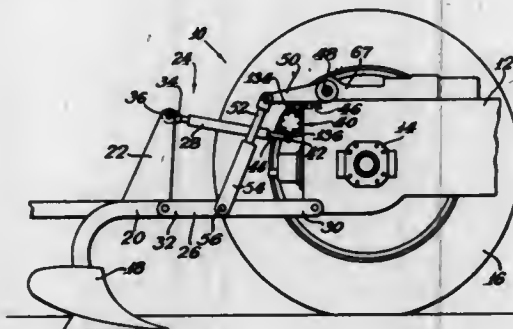
3,520,369

**RESILIENT DRAFT SENSING DEVICE**

Kenneth W. Nicholson, Chicago Ridge, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey  
Continuation of application Ser. No. 504,027, Oct. 23, 1965. This application Feb. 27, 1969, Ser. No. 804,374  
Int. Cl. A01b 63/112

U.S. Cl. 172—7

18 Claims



An improved draft sensing means for a tractor draft control system having relatively rotatable inner and outer members, one of the members being attached to the tractor, the other adapted for connection to the implement, with resilient means interposed between said members for resiliently opposing the draft force of an implement when stressed in elastic bending.

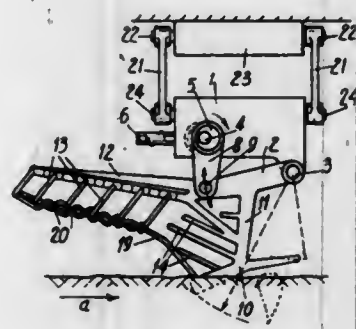
3,520,370

**DEVICE FOR HARVESTING ONE OR MORE ROWS OF BEETS OR LIKE ROOT CROPS**

Eugène J. E. Heyens, 176 Zoutestraat, Hulst, Netherlands  
Filed Nov. 8, 1966, Ser. No. 592,815  
Int. Cl. A01d 15/04

U.S. Cl. 171—76

7 Claims



A device for harvesting beets comprising a travelling frame and a holder which is movable relatively to the frame in transverse direction, wherein a harvesting element is suspended from said holder. Owing to this the harvesting element can be adjusted at the places of the beets to be harvested.

3,520,371

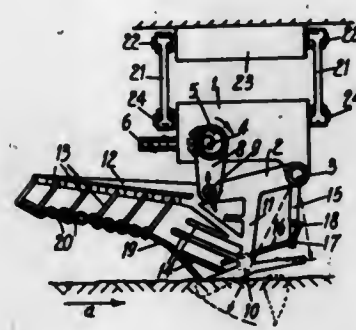
**HARVESTING DEVICE**

Herbert Visser, Nieuw Vennep, Netherlands, assignor to Landbouwwerktuigen- en Machinefabriek H. Visser N.V., Nieuw Vennep, Netherlands, a company of the Netherlands

Filed Sept. 25, 1967, Ser. No. 670,229  
Int. Cl. A01d 25/00

U.S. Cl. 171—106

5 Claims



The digging frame of a harvester for root crop such as beets is provided with a pair of fingers which are freely pivoted ahead of the throat of the digging frame and project into the throat. The fingers act as a gate and are lifted by a root received in the throat and return under their own weight when the root clears them, to prevent the root from falling forwardly out of the throat.

**ERRATUM**

For Class 172—7 see:  
Patent No. 3,520,367

3,520,372

**TRACTOR DRIVEN VIBRATORY HARROW**

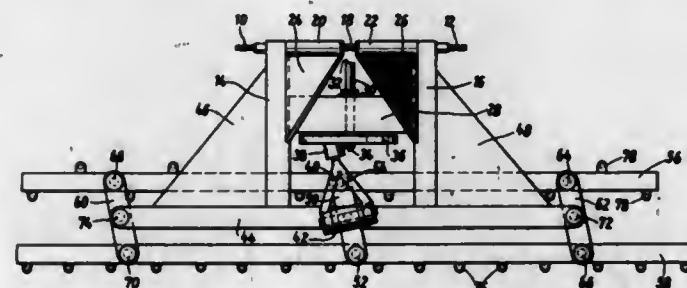
Ernst Beck, 18 Hauptstrasse, 7151 Lutzenberg, Germany  
Continuation-in-part of application Ser. No. 587,463, Oct. 18, 1966. This application Dec. 23, 1968, Ser. No. 805,066

Claims priority, application Germany, Oct. 29, 1965, 1,258,645

Int. Cl. A01b 39/10

U.S. Cl. 172—101

14 Claims



A harrow used to break up and pulverize the soil is adapted to be pulled by a tractor. The harrow includes a gyrotory disk rotated at high speed by a shaft adapted to be connected, directly or indirectly, to the power take-off of the tractor.

3,520,373

**ROW MARKER MEANS HAVING MARKER AND WING IMPLEMENT RAISER MEANS**

Godfried D. Stinemetz, 1224 Old Manor, Garden City, Kans. 67846

Filed Apr. 15, 1968, Ser. No. 721,284

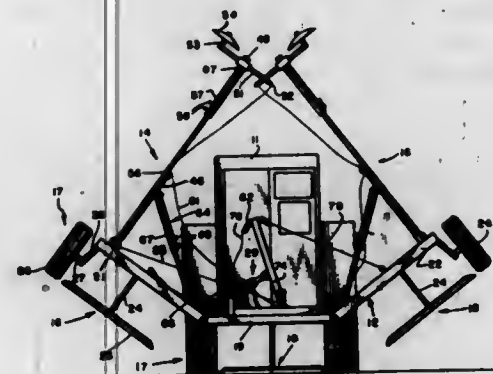
Int. Cl. A01b 39/28, 49/04

U.S. Cl. 172—130

8 Claims

A marker and wing implement raiser means is pivotally connected to a frame connected to a plurality of support wheel assemblies. The frame is provided with a central

frame assembly having opposed wing frame assemblies pivotally connected thereto. Adjustable marker means are pivotally mounted on the outwardly extending end portions of the opposed wing frame assemblies for movement between an operative ground-engaging position and an inoperative raised position. The marker and wing implement raiser means is mounted on the central frame assembly and interconnects the marker means so that



when one of the marker means is in the ground-engaging position the other marker means is in the inoperative raised position. The raiser means also interconnects the central frame assembly and the opposed wing frame assemblies so that the opposed wing frame assemblies can be moved upwardly with respect to the central frame assembly thus facilitating the movement of the marker means and the frame from one location to another.

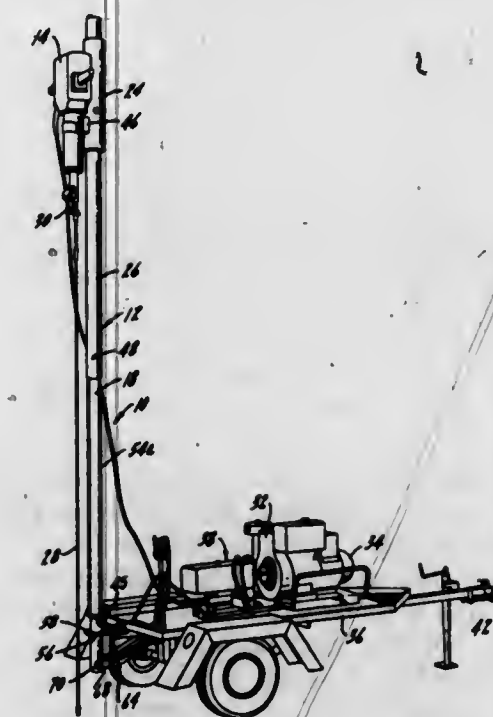
3,520,374

**FLUID ACTUATED TELESCOPIC LIFTING MECHANISM**

Lloyd A. Ebert, Green Bay, Wis.  
(P.O. Box 2167, Green Bay, Wis. 54306)  
Filed June 6, 1968, Ser. No. 735,015  
Int. Cl. E04h 12/34; E21c 5/10, 11/02

U.S. Cl. 173—22

12 Claims



A lifting mechanism having an adjustable and collapsible mast adapted for lifting a power-driven hammer or the like, structurally including a telescopic piston vertically disposed in a cylinder and driven by fluid pressure. A movable inner sleeve telescopes over the cylinder and a movable outer sleeve, supporting the power-driven hammer or the like, telescopes over the movable inner sleeve. A cable means, fixed at opposite ends to the inner and

outer sleeves and fixed intermediately to the cylinder, passes around a pulley means connected to the piston thereby transmitting a lifting motion from the reciprocating piston to the movable inner and outer sleeves.

3,520,375

**METHOD AND APPARATUS FOR MEASURING MECHANICAL CHARACTERISTICS OF ROCKS WHILE THEY ARE BEING DRILLED**

Jean Raynal, Serge Gatalder, Claude Quichaud, and Michel Raynaud, Pau, France, assignors to Société Nationale des Pétroles d'Aquitaine, Coubevoie, France, a corporation of France

Filed Mar. 19, 1969, Ser. No. 808,633

Int. Cl. E21b 47/00, 49/00

U.S. Cl. 175—24

12 Claims

A method is provided for continuously measuring the characteristics of geological formations (in particular rock formations) which are being drilled at the actual moment of drilling, in particular during the drilling of oil and gas wells and the like. The drilling assembly used has a rotary cutting tool at its lower part, in the drill-hole, the rock-breaking action of which sets up vibrations in the drilling assembly which are detected at the upper part of the assembly and transformed into electrical signals. These signals are sampled and compared with a reference signal, so as to give an indication of the mechanical properties of the rock. Novel electronic means are also provided, as part of drilling apparatus, to enable the above-mentioned method to be carried out, and also a method of automatic drilling in which devices which determine the parameters of the drilling operation are controlled in response to variation in the mechanical properties of the rock as measured in the manner referred to above.

3,520,376

**TRANSMISSION FOR TRACK-LAYING VEHICLES**

Helmut Müller, Heidenheim (Brenz), Germany, assignor to Voith Getriebe KG, Heidenheim (Brenz), Germany

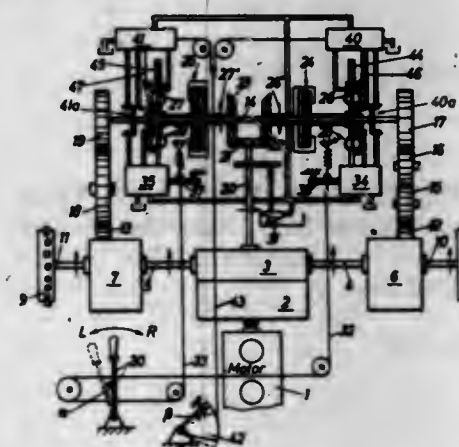
Filed Sept. 30, 1968, Ser. No. 763,581

Claims priority, application Germany, Oct. 14, 1967, 1,655,637

Int. Cl. F16h 37/08; B62d 11/10

U.S. Cl. 180—6.7

6 Claims



A transmission control system for caterpillar vehicles having track drive wheels provided with motive power transfer regulated for speed and torque variation during steering and braking in straight and curved travel movements. The system includes a pair of hydrodynamic fluid control units each having rotors journaled on an intermediate supporting shaft connected to differential transmissions for respective drive wheels; both speed and torque governor means coupled to direction control lever means and brake actuator means respectively regulate fluid supply to the hydrodynamic fluid control means each also having ventilator valve means used for superimposed control over motive power transfer to the drive wheels,

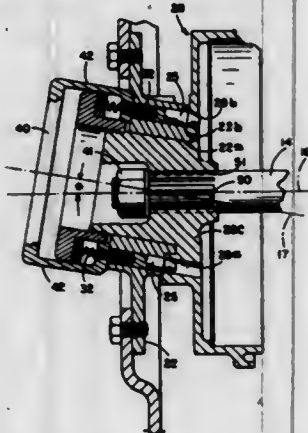


both of the hydrodynamic fluid control means upon braking during straight travel of the vehicle and only differentially one of the hydrodynamic control means upon braking during curve travel of the vehicle being fluid filled and regulated proportionately to braking torque parameter due to brake actuator means position independently of vehicle travel speed.

**3,520,377**  
**CONVERTIBLE MODE OF MOVEMENT FOR VEHICLE WHEEL**  
Ricardo F. Wallace, 2741 Vista Mesa Drive, Miraleste, Calif. 90732  
Filed Aug. 25, 1969, Ser. No. 852,561  
Int. Cl. B60b 37/00

U.S. Cl. 180—7

10 Claims

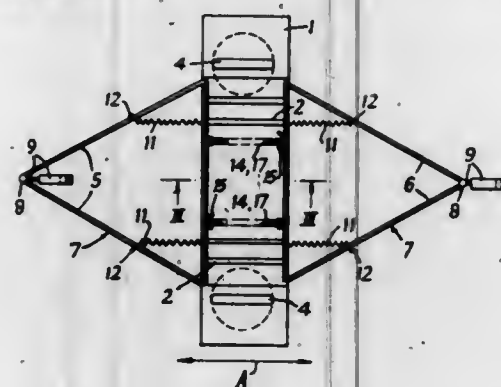


The wheel axles of the vehicle have end portions thereon which extend at a predetermined angle away from the axis of rotation of the central portion thereof. The wheel apertures into which the ends of the axles fit are canted away from their associated wheel axes by an angle equal to the angle of the axle end portions. A locking device is provided to lock the wheels to the axles in any one of a plurality of rotational positions relative thereto. With a wheel locked in a position whereby it is perpendicular to the rotation axis of the central portion of its associated axle, normal wheel rotation is attained. With a wheel locked to the axle in a position whereby it is not normal to its associated axle central portion rotation axis, a sculling or wobble type motion is attained, the degree of wobble being a function of the degree of angular departure from the axle central portion rotation axis.

**3,520,378**  
**MOTOR-DRIVEN WHEELED VEHICLES**  
Reginald Arthur Slay, Annables, Sliema Road, Kappara, Malta  
Filed Apr. 5, 1968, Ser. No. 719,169  
Int. Cl. B62d 61/00

U.S. Cl. 180—21

3 Claims



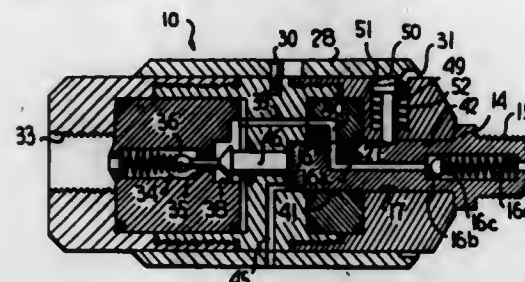
A motor-driven wheeled vehicle having a platform which is stabilised by two or more castor-carrying outrigger members, it being substantially impossible for said vehicle to turn over on to one side or the other

regardless of the terrain over which it is driven. The vehicle is provided with winch-operated jacking means whereby the drive wheels, or one of them, can with ease be lifted off the ground.

**3,520,379**  
**COUPLING TYPE GREASE GUN FEED UNIT**  
Lloyd Hitchcock, 1648 E. Belvedere Ave., Baltimore, Md. 21212  
Filed Sept. 16, 1968, Ser. No. 759,869  
Int. Cl. F16n 31/10

U.S. Cl. 184—105

7 Claims

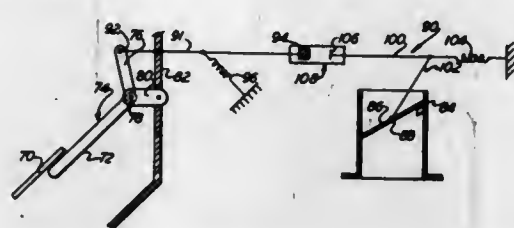


A feed unit for use with a pressurized grease gun, the feed unit having features wherein the gun is inoperable unless fully connected and locked onto a grease fitting. The insertion of a grease fitting into an open end of the feed unit unseats a ball check valve and thereby permits grease under pressure to flow through the unit. The use of O-ring seals eliminates seepage of grease during use and prevents a residue of grease from building up within the open end of the unit following use. The O-ring seals act to wipe the surface of the grease fitting upon its withdrawal from the open end of the unit.

**3,520,380**  
**MAXIMUM VEHICLE SPEED LIMITER**  
Bernard G. Radin, Oak Park, and Lawrence J. Vandenberg, Ann Arbor, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Filed June 13, 1968, Ser. No. 736,836  
Int. Cl. B60k 31/00

U.S. Cl. 180—106

12 Claims



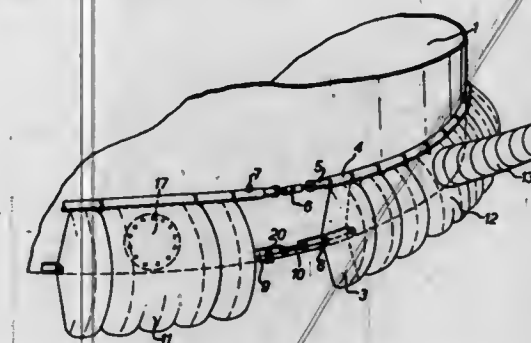
In a maximum vehicle speed limiter, vehicle speed is limited by controlling the length of the linkage between the throttle or accelerator pedal and the carburetor throttle by the action of an electromagnetic solenoid. During normal operation a solenoid attached to one member of the throttle linkage is energized and it holds a keeper attached to another member of the vehicle linkage in engagement with it thereby providing normal operation of the vehicle. When a predetermined speed is reached, a circuit is closed to energize a warning lamp that alerts the vehicle operator that he is approaching a predetermined maximum speed level. When the predetermined speed level is reached, the circuit to the solenoid is opened thereby de-energizing it and lengthening the linkage between the accelerator pedal and the carburetor throttle by permitting the solenoid and the keeper to separate. This action permits the carburetor throttle return spring to return the carburetor throttle to its closed position and, as a result, the speed of the vehicle is reduced. In order for the vehicle operator to return control of the speed of the vehicle to the movement of the accelerator pedal, he must

remove his foot from the accelerator pedal so that the solenoid and the keeper again come into engagement. The electromagnetic field generated by the solenoid is sufficient to keep the solenoid and keeper engaged, but it is not sufficient to attract the keeper to the solenoid once contact has been broken between these two elements.

**3,520,381**  
**METHOD AND APPARATUS FOR MOVING STORAGE TANKS**  
Michael A. Pinder, Teddington, England, assignor to Esso Research and Engineering Company, a corporation of Delaware  
Filed Nov. 1, 1967, Ser. No. 679,783  
Claims priority, application Great Britain, Nov. 4, 1966, 49,587/66  
Int. Cl. B60v 1/16

U.S. Cl. 180—127

10 Claims



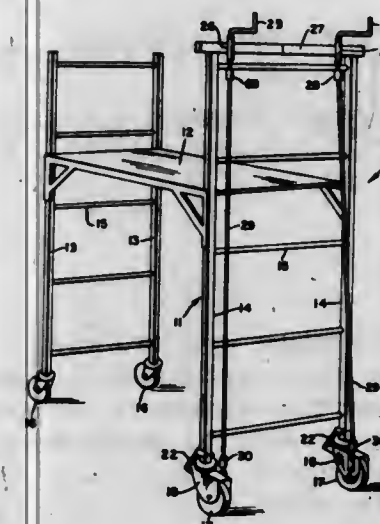
The instant disclosure is directed to a method of moving storage tanks. A flexible skirt is circumferentially attached to the tank near its bottom, the skirt being so positioned that when the tank is raised, the skirt is capable of extending downwardly. A sufficient amount of compressed fluid is then introduced into the space beneath the tank bounded by the skirt until a fluid cushion is established which supports the tank off the ground. This fluid cushion allows for relative ease in moving the tank along the ground.

**ERRATUM**  
For Class 181—31 see:  
Patent No. 3,520,559

**3,520,382**  
**OCCUPANT PROPELLED SCAFFOLD**  
Paul F. Halsey and Daniel C. Tevis, Wichita, Kans., assignors to Adapa, Incorporated  
Filed Dec. 10, 1968, Ser. No. 782,602  
Int. Cl. E04g 1/24

U.S. Cl. 182—13

2 Claims



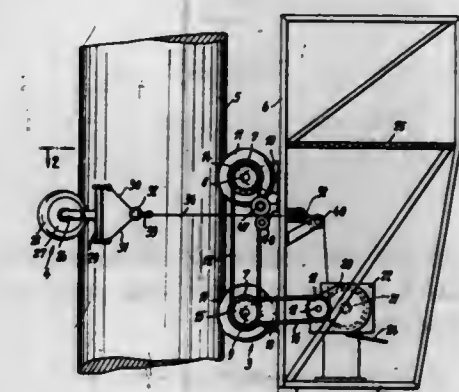
A scaffold frame including an elevated platform and running gear with two transversely spaced traveling

wheels. A pair of occupant actuated, independently rotatable cranks are provided on the frame adjacent the platform and drive shafts extend downwardly from the respective cranks, the drive shafts being operatively connected to the respective traveling wheels by gearing, so that the scaffold may be propelled by its occupant. Steering is effected by independent driving of the traveling wheels.

**3,520,383**  
**APPARATUS FOR CLIMBING POLE-LIKE OBJECTS**  
Willi Lööck, 40 Rotenhofer Weg, 237 Rendsburg, Germany  
Filed Oct. 29, 1968, Ser. No. 771,572  
Int. Cl. A63b 27/00

U.S. Cl. 182—133

7 Claims



Apparatus for climbing pole-like objects like masts, trees and chimneys and carry a workman and his equipment, includes a carriage having a platform for the workman, at least two pairs of laterally directed driving wheels journaled on the carriage with one pair of wheels above the other, a motor on the carriage for driving the driving wheels through a reversible transmission, and a holding device which has an axle frame on which a pair of running wheels are freely rotatably and held in angular relation and a pair of steel cables extending from the ends of the axle frame to the carriage, on which they pass over idler pulleys and thence to a winding drum which is driven from the same motor through a sliding transmission to impose a desired torque on the drum tending to tighten the cables. The holding device may have a releasable coupling, such as a hook at the end of each cable engageable with rings on the axle frame. The holding device is positioned to the side of the object opposite to the carriage, whereby tension on the cables presses the carriage through its driving wheels against the object to permit ascent or descent.

**ERRATUM**  
For Class 184—105 see:  
Patent No. 3,520,379

**3,520,384**  
**HYDRAULIC DAMPER WITH ONE-WAY VALVED BY-PASS IN CYLINDER HEAD**  
Lawrence George Nicholls, Tyseley, Birmingham, England, assignor to Girling Limited  
Filed Oct. 7, 1968, Ser. No. 765,459  
Claims priority, application Great Britain, Oct. 17, 1967, 47,192/67  
Int. Cl. F16f 9/34

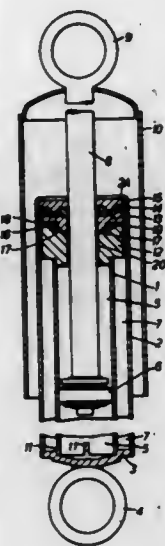
U.S. Cl. 188—88

3 Claims

A telescopic vibration damper comprising a cylinder containing hydraulic fluid, in which works a piston whose rod extends out through the upper end of the cylinder, and an outer tube surrounding the cylinder and forming a reservoir whose lower part communicates with the



lower end of the cylinder and also contains hydraulic fluid, while its upper part contains gas under pressure, has closure means at the upper end of the cylinder formed



with a passage for the return to the reservoir of any gas that may collect in the cylinder, the passage being controlled by a one-way valve.

3,520,385

# DISC BRAKE WITH TORSION SPRING OPERATED, SELF-ADJUSTING MEANS

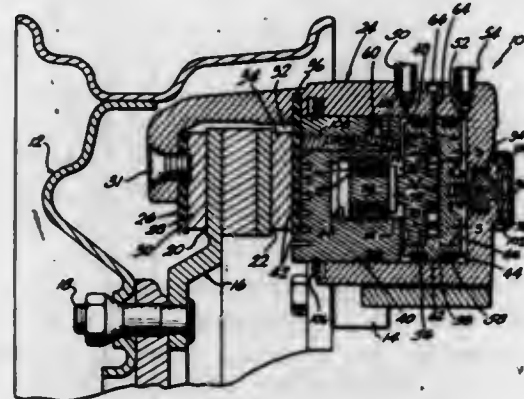
Herman M. Huffman and John A. Beckman, Owosso, Mich., assignors to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 1, 1968, Ser. No. 772,783

Int. Cl. B60f 11/20

U.S. Cl. 188—152

11 Claims



Apparatus for a hydraulic power and manual or split manual brake system for an automobile including a conventional drop-center type rim and wheel assembly to which is connected a disc for rotation with the wheel assembly, said disc having opposite friction surfaces. A caliper or transfer member straddles a portion of the periphery of the disc and carries friction pads for engagement with the opposite friction surfaces of the disc. The caliper is floatingly carried on a fixed support for movement normal to the plane of the disc. A self-adjusting brake actuator means is provided in the caliper for continuously maintaining both of the friction pads in contact with the surfaces of the disc and for forcing said pads against the disc during brake-applied conditions. The actuator means is responsive either to a primary power source or to a secondary manual source of hydraulic fluid. The adjustment of the actuator means is performed by a low-torque expansion mechanism including a threaded assembly which is unscrewed by a wound torsion spring at a rate sufficient to compensate for wear of the

pads, thereby to maintain both of the pads continuously in contact with the disc. To aid in cooling of the actuator and related parts, air cooling fins are provided on one of the actuator pistons forming a part of the actuator means.

3,520,386

# DISC-BRAKE, ESPECIALLY FOR INDUSTRIAL USE

Léonce Elie Robert Rogier, Saint-Denis, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France

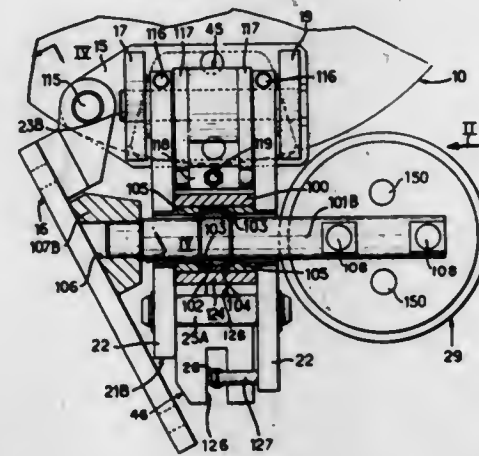
Filed Dec. 18, 1967, Ser. No. 691,407

Claims priority, application France, Dec. 29, 1966, 89,272

Int. Cl. B60t 13/04

U.S. Cl. 188—171

7 Claims



The linings of the brake according to the invention are articulated on the actuating levers and the operating electro-magnet of the brake acts on these levers through the intermediary of pillars, of which at least one is articulated on the frame. This electro-magnet is arranged between the said pillars so that the surface area at the ground of the electro-magnet is wholly contained within that of the levers. The general overall size of the brake is thereby advantageously reduced to a substantial extent.

3,520,387

# TWO-WAY AUTOMATIC BRAKE ADJUSTER

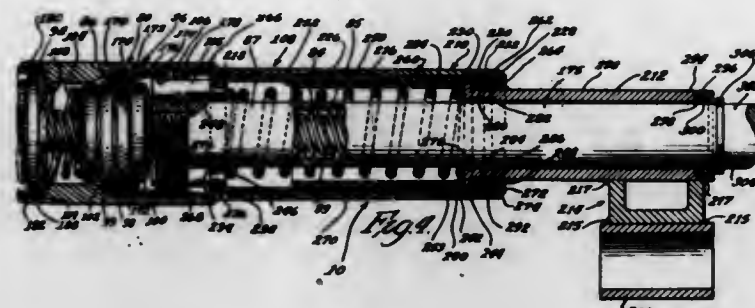
Eldred H. Natschke, Bourbonnais, Ill., assignor to Universal Railway Devices Company, a corporation of Illinois

Filed June 24, 1968, Ser. No. 739,439

Int. Cl. F16d 65/66

U.S. Cl. 188—202

13 Claims



The disclosure relates to a two-way automatic brake adjuster for use in railroad car brake rigging and is an improvement over that disclosed in Rauglas Pat. 3,177,985. In accordance with the improvements of this application the overtravel spring device that forms the resiliently flexible thrust device of the slack take up control arrangement of the adjuster of said Rauglas patent is in the form of a dual cannister arrangement that provides for full enclosure of the compression spring and

nut thrust pins involved, with the adjuster operating parts being sealed against the elements for maximum operating efficiency. The adjuster is arranged to provide 19 inches of travel within a maximum extended length limitation of 8 1/4 inches for center rod applications, and is provided with arrangements at either end thereof for connecting the adjuster into the brake rigging that adapts the adjuster for ready application to various car builder car designs.

3,520,388

# CLUTCH OFFERING LOWERED CLUTCH DISENGAGING FORCE AND WEAR COMPENSATION

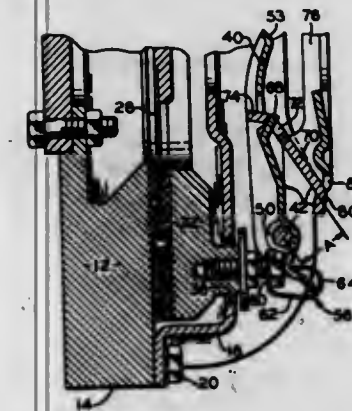
William H. Sink, Auburn, Ind., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia

Continuation of application Ser. No. 628,999, Apr. 6, 1967. This application Mar. 17, 1969, Ser. No. 808,380

Int. Cl. F16d 13/48

U.S. Cl. 192—70.29

7 Claims



A clutch comprising a spring biased pressure plate is provided wherein the urging springs of the clutch are disposed axially extending to engage a collector ring. The collector ring transfers the engaging force of the springs to a series of angled links which, in turn, are connected to the clutch engaging levers. By this structural arrangement, wear compensation and reduced disengaging force are provided as characteristics of the operative clutch.

3,520,389

# CLUTCH PLATES

Herbert Smales, New Brighton, Morley, England, assignor to BBA Group Limited, Cleckheaton, Yorkshire, County, England, a British company

Filed Feb. 2, 1968, Ser. No. 702,605

Claims priority, application Great Britain, Feb. 3, 1967, 5,321/67

Int. Cl. F16d 13/60

U.S. Cl. 192—107

3 Claims



A friction clutch mechanism for connecting a driving shaft to a driven shaft includes a clutch plate carried between a driving plate and a pressure plate and means for engaging the driving and pressure plates with the clutch plate. The clutch plate is divided along substantially radial

3,520,390

# CLUTCH FACING

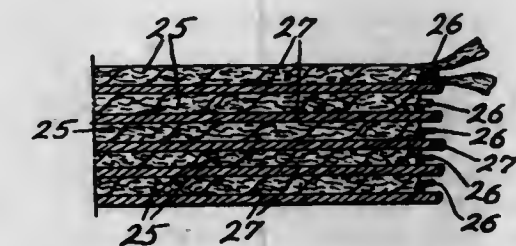
Lloyd Oscar Bentz, Lancaster, Pa., assignor to Raybestos-Manhattan, Inc., Manheim, Pa., a corporation of New Jersey

Filed Feb. 8, 1968, Ser. No. 704,034

Int. Cl. F16d 11/00, 61/02

U.S. Cl. 192—107

12 Claims



A clutch facing formed of a compressed spiral coil of a fibrous fabric strip, the strip being reinforced by a plurality of spaced assemblies of substantially parallel continuous glass filaments, the assemblies running longitudinally of the fabric strip, the glass filaments of the assemblies having a surface capable of forming a strong bond with a vulcanizable elastomer, each assembly of glass filaments being impregnated with a vulcanizable elastomer, and the fabric strip being impregnated with a heat-hardenable cement composition of thermosetting resin and a vulcanizable elastomer which is vulcanizably compatible with the vulcanizable elastomer with which the assemblies of glass filaments are impregnated.

3,520,391

# INTERMITTENT DRIVE MECHANISM

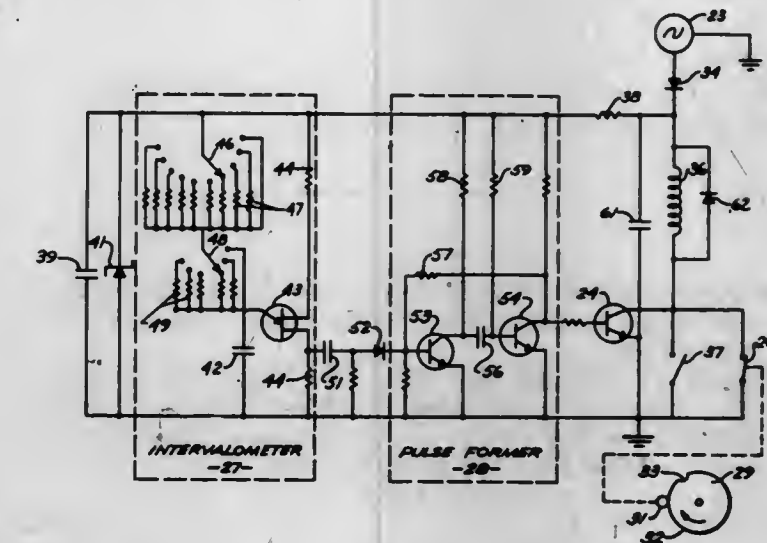
Uel O. Graham, West Covina, and Ralph I. Nielsen, Huntington Beach, Calif., assignors to North American Rockwell Corporation

Filed Jan. 29, 1968, Ser. No. 701,450

Int. Cl. F16d 71/00

U.S. Cl. 192—142

3 Claims



An intermittent drive mechanism having a constant speed motor and an electric clutch is described particularly for attachment to a rotary shutter camera for time lapse



photography. An intervalometer provides timing signals at selectively variable repetitive time intervals for initially energizing the electric clutch by way of a pulse former and electronic switch. Energization of the clutch causes rotation of an output shaft and the operating mechanisms of the camera including the shutter. A cam on the output shaft is also rotated and operates a mechanical switch to close a circuit path in parallel with the electronic switch. After sufficient time has elapsed for the mechanical switch to be closed, the pulse from the pulse former to the electronic switch terminates and opens this circuit path. The mechanical switch then sustains energization of the clutch until sufficient angular rotation of the cam brings a cam detent into position for opening the switch which in turn, deenergizes the clutch and stops rotation of the output shaft and shutter at the completion of one full cycle. Electronic circuits are shown for the intervalometer and pulse former.

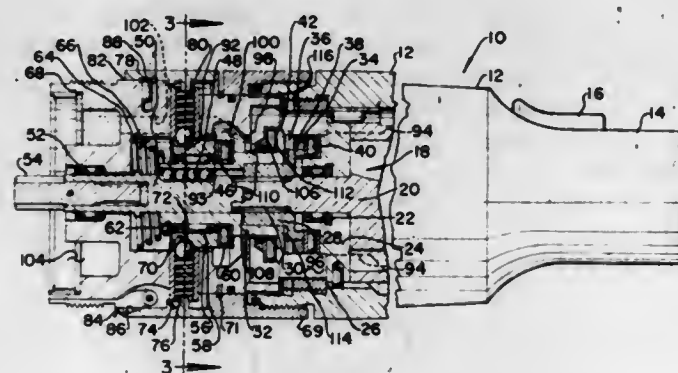
3,520,392

### OVERLOAD RESPONSIVE CLUTCH AND MOTOR EXHAUST VALVE

Edwin J. Deremo, Spring Lake, and Joseph F. Carter, Grand Haven, Mich., and William Workman, Jr., Columbia, S.C., assignors to Gardner-Denver Company, Quincy, Ill., a corporation of Delaware  
Filed May 16, 1968, Ser. No. 729,674  
Int. Cl. F16d 35/00

U.S. Cl. 192—150

9 Claims



A torque-responsive motor shutoff for pressure fluid actuated rotary power tools such as nutsetters, screwdrivers and equivalent high speed torque devices wherein the flow of exhaust from the motor is choked off by a valve which closes when a clutch operable by torque reaction disengages the motor from the tool output spindle. To provide for substantially simultaneous clutch disengagement and choke valve actuation, the shiftable member of the clutch is adapted for unitary movement with the closure member of the choke valve.

3,520,393

### APPARATUS FOR LIFTING AND TRANSFERRING ARTICLES BETWEEN DIVERSE CONVEYING SYSTEMS

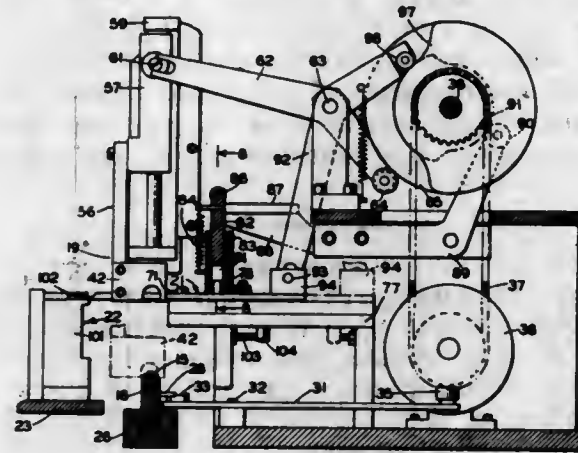
Donald E. Horning and Paul W. Moyer, Wyomissing, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York  
Filed June 18, 1968, Ser. No. 737,953  
Int. Cl. B65g 46/06

U.S. Cl. 198—20

9 Claims

A lift and transfer apparatus lifts successive diodes advancing in a rectilinear row whereafter each diode is transferred into a welding machine and then back into the lift and transfer apparatus which functions to return each diode for subsequent rectilinear movement. The

apparatus includes a lift platform having a T-shaped slot, the cross slot of which guides the diodes during rectilinear



movement, and the stem slot of which guides the diodes during transfer by an auxiliary feeder mechanism.

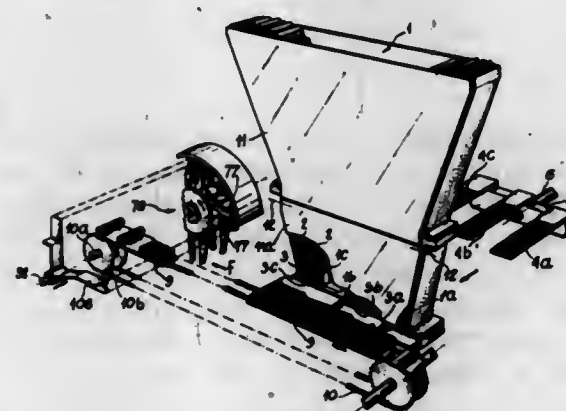
3,520,394

### CIGARETTE BATCHING APPARATUS

Ariosto Seragnoli, Via Bellinzona 31, Bologna, Italy  
Filed Apr. 15, 1968, Ser. No. 721,532  
Claims priority, application Italy, Apr. 20, 1967,  
1,614/67  
Int. Cl. B65g 47/02

U.S. Cl. 198—24

4 Claims



An apparatus for preparing batches of cigarettes with supervisory functions as to the sorting and transfer of such batches. Grading of the batches prepared is controlled by tactile sensing as to the presence of cigarettes therein.

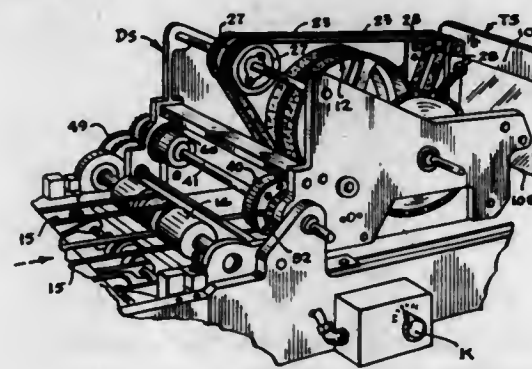
3,520,395

### BOOK TRIMMING MACHINE

Jerome T. Jablonski, Jr., Chicago, and James F. Cosgrove, Western Springs, Ill., assignors to Chicago Machinery Laboratory, Inc., Chicago, Ill., a corporation of Illinois  
Filed Aug. 13, 1968, Ser. No. 752,259  
Int. Cl. B65g 57/00; B67b 7/02

U.S. Cl. 198—35

6 Claims



Books are stacked for trimming by diverting one book from the main stream, delaying it, and redelivering it

to the main stream to lie atop a companion book so that the two may be trimmed together. In order to assure that the stacked books will have edges in good alignment for trimming, a variable speed control is interposed by which the speed of the redelivered book may be regulated easily and at will.

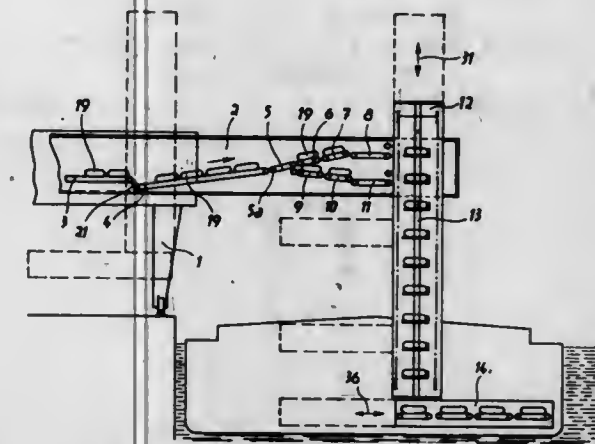
3,520,396

### LOAD HANDLING DEVICES

Gerhard Lingg, Leimen, near Heidelberg, Germany, assignor to Rudolf Giesel Maschinenfabrik, a firm of Germany  
Filed Mar. 26, 1968, Ser. No. 716,707  
Int. Cl. B65g 37/22, 67/58

U.S. Cl. 198—77

6 Claims



A telescoping bridge structure has a conveyor belt mounted therein for transport of discrete articles, such as bags, bales, or sacks; a vertical elevator shaft with a vertical conveyor having swingable release-type platforms is vertically movably connected to the bridge structure such that the platforms receive, singly, a discrete article. The release platforms communicate at their lower ends with horizontal loading runners, or conveyor belts; the first conveyor belt, vertical conveyor and horizontal runner operate in synchronism. By horizontal adjustment of the length of the bridge structure, and vertical positioning of the elevator shaft, direct loading in the holds of ships of various sizes of articles, and of different shapes, can be achieved.

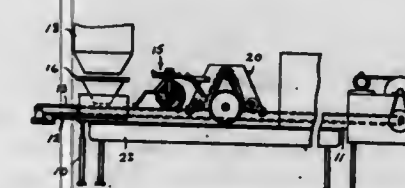
3,520,397

### PARTICULATE MATERIAL DISTRIBUTING DEVICE

Eugene W. Cauffman, Claypool, Ind., assignor to Supreme Augers, Inc., Silver Lake, Ind.  
Filed Apr. 15, 1968, Ser. No. 721,264  
Int. Cl. B65g 15/00

U.S. Cl. 198—185

14 Claims



A particulate material distributing device having a brush rotatively mounted on a carrier which reciprocates along an elongated table supporting the upper run of a power driven conveyor belt adapted to carry granular

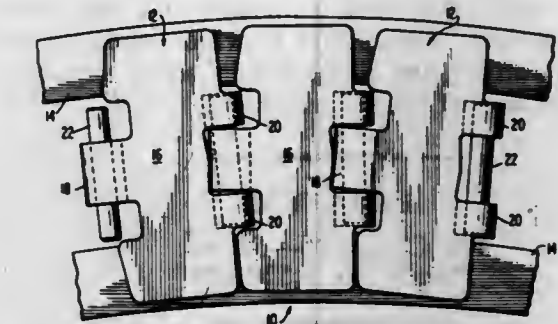
3,520,398

### LATERALLY FLEXIBLE CONVEYOR

Ronald E. Thomson, Big Bend, Wis., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin  
Filed Nov. 30, 1967, Ser. No. 687,000  
Int. Cl. B65g 15/30

U.S. Cl. 198—195

3 Claims



A laterally flexible flat top conveyor chain includes a plurality of pivotally connected stamped sheet metal links with knuckles curled from the sheet metal for hinge pins. A pin opening in a central knuckle allows for pivotal movement of the pin to accommodate lateral flexing of the link. A tongue of a sheet metal blank from which the knuckle is formed has metal removed from the sides and ends by cold forming or swaging before it is formed into the knuckle, the removed metal allowing for the lateral pivotal movement of the pin.

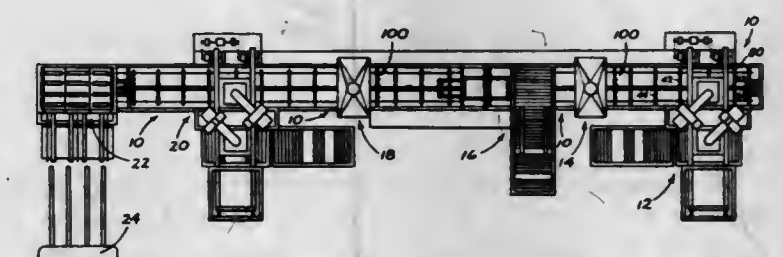
3,520,399

### FLAT SHEET CONVEYER

Leslie M. Steffensen, Springfield, Russell W. Wilson, Eugene, Robert J. Slagle, Springfield, and James P. Petermann, Eugene, Oreg., assignors to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia  
Filed Nov. 17, 1967, Ser. No. 683,872  
Int. Cl. B65g 21/22

U.S. Cl. 198—197

6 Claims



A conveyer for conveying flat sheets past a plurality of processing stations comprises an endless, driven, horizontal, guided chain. The chain has wide flights at spaced intervals. These underlie and support the sheets. Parallel rails are placed one on each side of the chain underlying and supporting the flights. Lugs pivotally attached to the chain are shiftable between operative and inoperative positions at selected processing stations. Spurs extend upwardly from selected flights to engage the undersurfaces of the sheet. Air jets are directed on the upper surfaces of the sheets for removing debris.



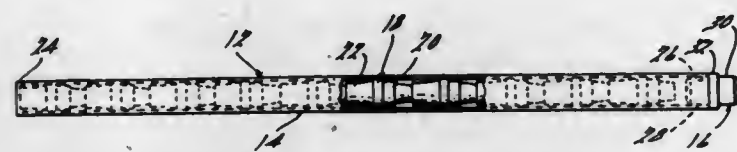
### 3,520,400 CASELESS AMMUNITION PACKAGE AND CONTAINER

David W. Gates, Rogers, Ark., assignor to Victor Comptometer Corporation, Chicago, Ill., a corporation of Illinois

Filed Dec. 12, 1968, Ser. No. 783,187  
Int. Cl. F41c 25/00; F42b 37/00, 39/00

U.S. Cl. 206—3

10 Claims



There is herein disclosed a method and apparatus for packaging caseless ammunition in which multiple rounds of the ammunition are packaged in axial alignment in tubular containers of plastic material.

#### ERRATUM

For Class 206—52 see:  
Patent No. 3,520,409

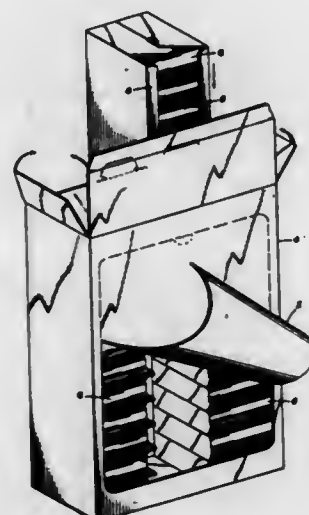
### 3,520,401 DISPOSABLE SURGICAL SCRUB SPONGE DISPENSER

Ferdinand Joseph Richter and Jack Marks Granowitz, Danbury, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
Continuation-in-part of application Ser. No. 554,886, June 2, 1966. This application Aug. 5, 1968, Ser. No. 750,206

Int. Cl. B65d 83/00

U.S. Cl. 206—56

3 Claims



A dispenser for wrapped surgical scrub sponge packages in the form of a box adapted to hold columns or rows of wrapped surgical scrub sponges and having a tearable opening in the face thereof of size permitting removal of sponges. Preferably the sponges are multi-zonal, one fine pored polyurethane foam with interconnecting pores impregnated with a detergent composition containing antibacterial agent and another zone or two zones on either side of the fine pored foam having coarser pores so that they exert a scrubbing action when the sponge is used in surgical scrubbing, the detergent being free from abrasive materials and of low alkalinity and non-irritating to the human skin and being in amount sufficient to provide for a surgical scrubbing of 5 minutes or more, the wrapping being tight to microorganisms but permeable to cold sterilizing gases.

### 3,520,402 PURIFIED COLLAGEN FIBRILS

Joseph Nichols, Princeton, and Irving B. Oneson, Somerville, N.J., assignors to Ethicon, Inc., a corporation of New Jersey

No Drawing. Filed Aug. 30, 1967, Ser. No. 664,293

Int. Cl. B65h 55/100

U.S. Cl. 206—59

8 Claims

Collagen is treated sequentially with an enzyme, an alkaline borohydride, and a one percent salt solution to remove impurities. The collagen fibrils so obtained are swollen in acid solution and may be centrifuged or filtered to remove insoluble impurities.

### 3,520,403 ADHESIVE BANDAGE PACKAGE AND DISPENSER THEREFOR

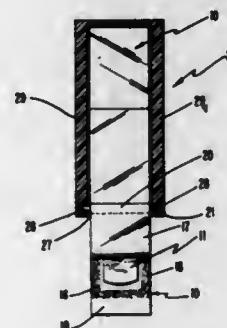
Martin B. Moshel, 588 Concord Lane, Westwood, N.J. 07675

Filed Aug. 6, 1968, Ser. No. 750,577

Int. Cl. B65d 71/00

U.S. Cl. 206—63.2

18 Claims



A package in which an adhesive bandage or other flat, elongated article is wrapped has two flexible leaves separably joined along their longitudinal edges to enclose the bandage therebetween with one end of one leaf constituting a tab projecting beyond the adjacent end of the other leaf at which a rigid member extends laterally thereacross and projects beyond the longitudinal edges for reception in grooves provided at opposite sides of an opening at one end of a dispensing receptacle containing a stack of the packages with the tabs thereof projecting through such opening, so that, when a tab is pulled in the direction to withdraw the respective package from the receptacle, the rigid member of such package is retained by the grooves to peel apart the leaves and expose the bandage on the leaf terminating in the pulled tab.

### 3,520,404 METHOD AND APPARATUS FOR INDICATING A CHANGE WITHIN A GROUPING

Robert M. Pine, 9401 Home Ave., Des Plaines, Ill. 60016

Filed July 13, 1967, Ser. No. 653,143

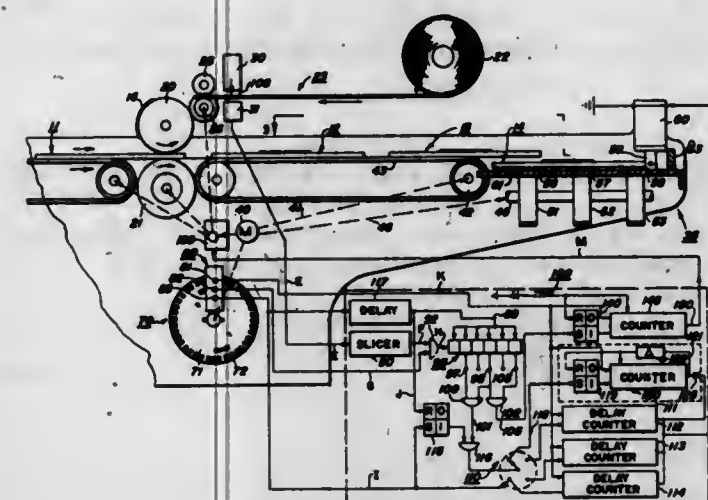
Int. Cl. B07c 1/02

U.S. Cl. 209—72

14 Claims

Apparatus for controlling the operation of an automatic addressing machine and for indicating a change within a grouping to actuate a device which, for example, can sort mailing pieces addressed thereby. The address information applied to the mailing pieces are printed by computer techniques or typed, the position of the ZIP CODE or other portion of the address being altered with respect to the remainder of the address in order to selectively control the operation of the addressing machine and the device. Photoelectric means are employed for generating electrical signals which, when compared with timing signals, indicate the relative position of

the ZIP CODE. A logic circuit responsive to these signals operates in combination with timed delay units to monitor the movement of the mailing pieces and to produce signals which control the operation of the addressing and device at appropriate times.



Method for indicating a change of ZIP CODE within a grouping on mail pieces by arranging the addresses by groups, selecting either the first or last address in each group, positioning a portion of the so-selected address so that such position can be recognized and sensing the recognized difference in position.

### 3,520,405 RANDOM INFORMATION RETRIEVAL SYSTEM

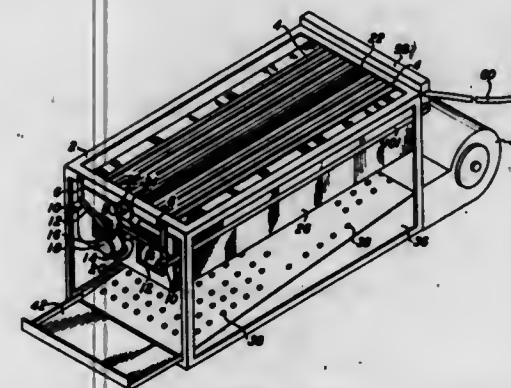
James E. Young, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed July 19, 1967, Ser. No. 654,408

Int. Cl. B07c 5/344

U.S. Cl. 209—80.5

3 Claims



A random retrieval system utilizing selectively actuable magnetic members to attract magnetic portions of information bearing members which are not desired for retrieval, the desired information bearing member being so coded as to be unaffected by the attractive force of the actuated magnetic members.

### 3,520,406 ARTICLE SORTING SYSTEM CONTROLLED BY RADIO FREQUENCY ENERGY SIGNALS

John Charles Turner, Danville, Calif., assignor to Spott Electrical Company, Hayward, Calif., a corporation of California

Filed May 13, 1968, Ser. No. 728,521

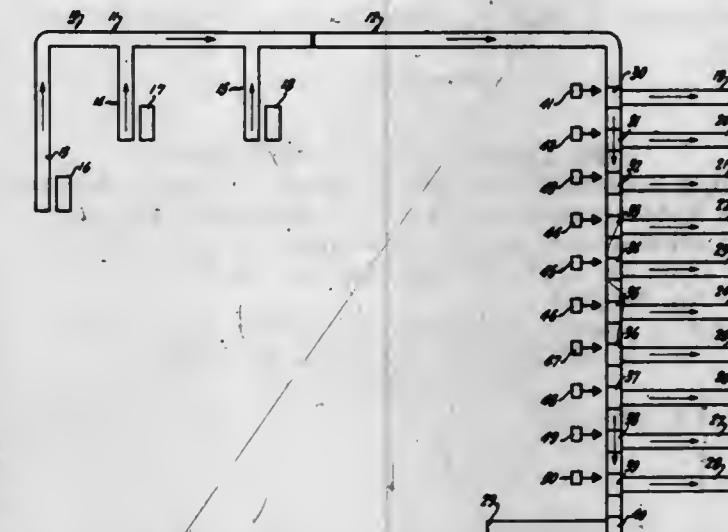
Int. Cl. B07c 5/34

U.S. Cl. 209—111.5

2 Claims

An article-handling system for processing passenger baggage at airline terminals. A particular form of the system includes a conveyor having both a collection section along which baggage is accumulated and a distribution section providing a plurality of distribution branches

or stations respectively corresponding to particular flight destinations and into which baggage is selectively diverted in accordance with the destinations thereof. A plurality of diverters disposed in respective association with the distribution branches are operative selectively to effect diversion thereinto of individual pieces of baggage being advanced along the conveyor. Each piece of baggage carries a tag equipped with a self-identifying responder pro-



viding control indicia corresponding to the destination indicated by the tag; and a plurality of interrogation units respectively associated with the diverters are operative to transmit interrogation signals for interception by the responders. Whenever control indicia of a predetermined character answers an interrogation signal, the interrogation unit responsive thereto operates the associated diverter to segregate or divert the piece of baggage carrying such answering responder into the appropriate branch.

### 3,520,407 CLASSIFICATION METHOD AND APPARATUS

Hans Rumpf, Hansjacobstr. 12, Karlsruhe, Germany, and Kurt Leschonski, Forchheim, Germany; said Leschonski assignor to said Rumpf, Karlsruhe, Germany

Filed Aug. 29, 1967, Ser. No. 664,067

Claims priority, application Germany, Aug. 31, 1966,

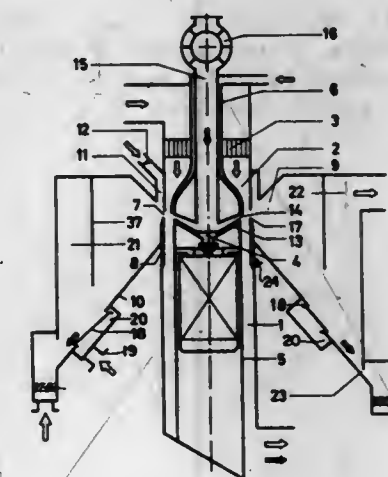
R 44,037; Aug. 17, 1967, R 46,730

The portion of the term of the patent subsequent to Mar. 28, 1984, has been disclaimed

Int. Cl. B07b 4/00

U.S. Cl. 209—139

22 Claims



A classification method and apparatus for classifying granular material so as to separate fine and coarse particles from each other. The particles which are to be classified are centrifugally directed by a rotary distributor plate means into a classification stream which forms



a cross stream into which the particles are centrifugally introduced and which is of a hollow cylindrical configuration of circular cross section surrounding the distributor plate means so that fine particles are entrained in this cross stream while coarse particles move transversely through and beyond the cross stream to be received in a discharge means which discharges the coarse particles while the fine particles which are entrained in the classifying cross stream can also be subsequently collected. In this way, it is possible to achieve a relatively large throughput of granular material in a substantially small space.

3,520,408

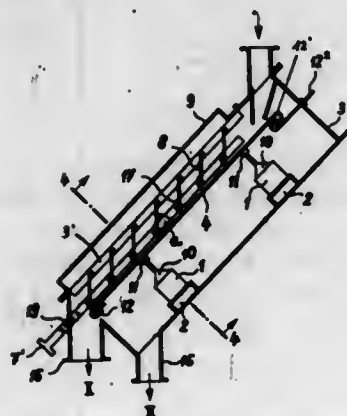
## VIBRATING SCREEN ASSEMBLY

Ludwig Schlebusch, Mulheim (Ruhr), Germany, assignor to Siebtechnik G.m.b.H., Mulheim (Ruhr), Germany  
Continuation-in-part of application Ser. No. 686,588, Nov. 29, 1967. This application Sept. 25, 1969, Ser. No. 860,895.

Claims priority, application Germany, Dec. 5, 1966, S 107,263; Dec. 27, 1966, S 107,620  
Int. Cl. B07b 1/34

U.S. Cl. 209—267

13 Claims



A vibrating screen assembly comprising a screen clamped within a housing between an inlet opening and a discharge opening extending through the housing. At least one vibrating cross bar extends transversely to said screen and engages the bottom portion thereof. Rebounding members are mounted above the screen and are adjustable to change the spacing between the screen and rebounding members.

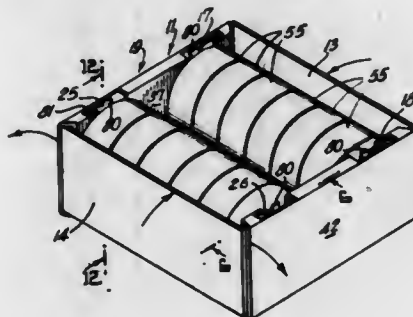
3,520,409

## PACKAGE

Robert J. Gibbs, Sr., Trenton, N.J., assignor to Johnson & Johnson, a corporation of New Jersey  
Filed Mar. 10, 1969, Ser. No. 805,402  
Int. Cl. B65d 85/66, 5/22

U.S. Cl. 206—52

9 Claims



A package for shipping, storing and dispensing rolls of sheet material mounted on elongated spindles is made from a single blank and comprises a bottom portion, two opposed side portions integral with the bottom portion

and two opposed end portions formed from inwardly turned flaps which are extensions of the side portions and from locking members which are extensions of the bottom and are wrapped upwardly and downwardly around the flaps. The flaps have spindle receiving slots therethrough which are constructed in such a manner as to cam the spindles upwardly when the flaps are opened and downwardly into a locked position when flaps are closed.

3,520,410

## FILTER CAKE REMOVAL DEVICE FOR ROTARY DRUM FILTER

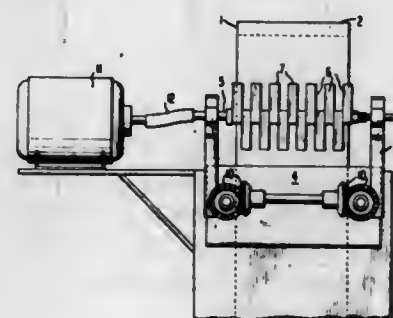
Francis Baird Hutto, Jr., Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Apr. 4, 1968, Ser. No. 718,853

Int. Cl. B01d 37/02, 33/36

U.S. Cl. 210—67

12 Claims



A rotary drum filter provided with a novel rotary cutter comprising a plurality of typically chisel-like blades mounted on a revolving shaft for rotation therewith. The blades are arranged in a plurality of angularly spaced rows, at least one blade per row, and adjacent blades are in substantially different rows. The cutter rotates preferably rapidly in a direction opposite to the direction of rotation of the filter drum. This device is particularly useful in filtration of slurries containing fibrous materials such as cellulose or asbestos fibers, for example, the fibers of which normally rapidly accumulate to build-up on the conventional prior art doctor blade thereby rendering such a blade commercially ineffective for cutting off peripheral shavings from a precoat filter cake clogged with such fibrous materials.

3,520,411

## SCREENINGS PRESS

Oswald Anton Busse and Hugo Erwin Klesper, Michelbach, Nassau, Germany, assignors to Passavant-Werke, Michelbach, Nassau, Germany, a corporation of Germany

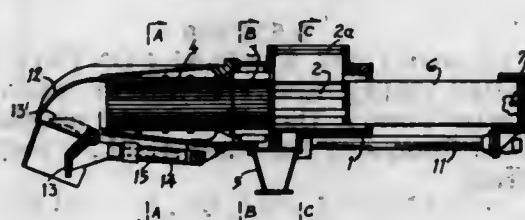
Filed Dec. 8, 1967, Ser. No. 689,197

Claims priority, application Germany, Dec. 9, 1966, P 40,972

Int. Cl. B01d 37/04

U.S. Cl. 210—73

13 Claims



A method and apparatus for separating the solids from a mixture of solids and liquid by subjecting the mixture to a series of variable pressures while moving the mixture

through a series of chambers adapted to facilitate removal of liquid while restraining the solids for eventual compact accumulation and discharge.

3,520,412

## NEMATODE EXTRACTION DEVICE

Morton Frank, 210 W. 19th St., Deer Park, N.Y. 11729, and Sol Lesh, 39 Monterey Drive, New Hyde Park, N.Y. 11040

Filed Mar. 1, 1968, Ser. No. 709,659

Int. Cl. B01d 37/00

U.S. Cl. 210—73

2 Claims



The invention relates to a means for extracting nematodes, which are microscopic worms, from soil samples, mud, sand, animal tissues, algae and the like. The principle of operation is based on the ability of living nematodes in a sample of soil or other substratum to pass through a membrane, such as filter paper, to be captured in an external water solution. Primarily, the invention comprises a soil sample chamber and water chamber terminating in a downwardly disposed spout, wherein a soil sample enclosed in filter paper is placed within the sample chamber and inundated with water. Following a period of time, such as 24 hours, the nematodes will be found to have filtrated through the filter paper into the water chamber into the spout, the water of which can be drawn off into an examination dish in small amounts for examination and study of the nematodes therein by a microscope.

3,520,413

## SEPARATING BAFFLE

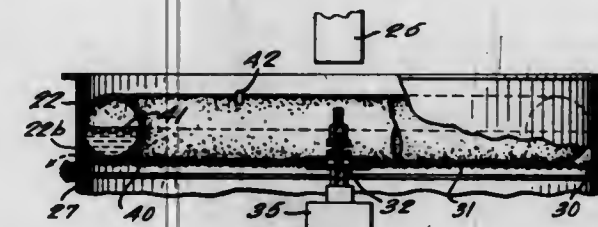
John L. More, Montreal, Quebec, Canada, assignor to Separator Engineering Ltd., Montreal, Quebec, Canada  
Continuation-in-part of application Ser. No. 606,830, Jan. 3, 1967. This application July 29, 1968, Ser. No. 748,563

Claims priority, application Canada, Feb. 23, 1966, 953,089

Int. Cl. B01d 35/20

U.S. Cl. 210—77

23 Claims



A baffle for use in separating one substance from a mixture of at least two substances. The baffle is particularly useful in separating pulp solids from water and comprises an open or closed flexible trough-like member partially filled with a nongaseous flowable material. The baffle can be positioned on an edge of a vibrating screen allowing the water to drain through the screen while the pulp solids pass under the baffle and off the edge of the screen.

An improved controlled phase separation vessel for separating a hydrocarbon material, specifically bitumen, as a froth from a slurry of water, bitumen and sand is disclosed herein. The vessel has a feed conduit feeding the slurry to a dispersion means consisting of an impeller mechanism mounted in a flood cell, a sand settling zone below the flood cell, and a froth disengaging zone above the flood cell. The froth disengaging zone comprises a

3,520,414

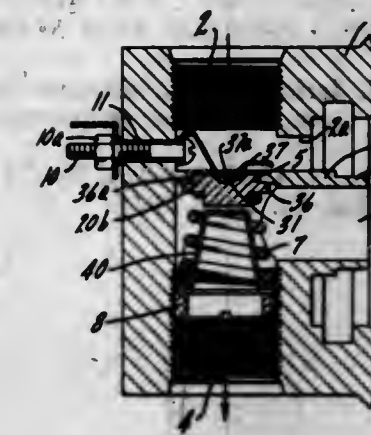
## FILTER PRESSURE SIGNAL

Walter J. Kudlaty, Elmhurst, and Peter Heinrich, Jr., Chicago, Ill., assignors to Marvel Engineering Company, Chicago, Ill., a corporation of Delaware  
Continuation-in-part of application Ser. No. 764,104, Oct. 1, 1968. This application Dec. 23, 1968, Ser. No. 786,347

Int. Cl. B01d 35/14

U.S. Cl. 210—90

4 Claims



A pressure signal for filters in which a wall is moved in response to excess pressure in the filter housing and an electricity-transmitting member is yieldingly urged against the wall for movement therewith to make or break a signal circuit. In one form the wall is a bypass valve. In another form the wall is a piston interchangeable with the bypass valve and electricity-transmitting member.

3,520,415

## SEPARATION VESSEL

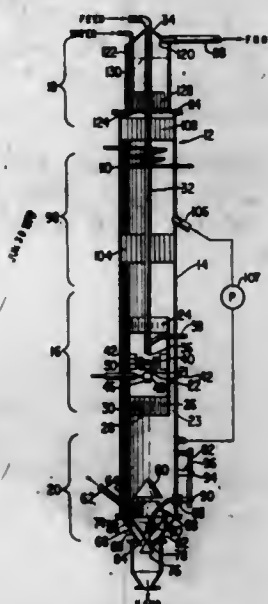
Lubomyr M. O. Cymbalista, Edmonton, Alberta, Canada, assignor of thirty percent each to Cities Service Athabasca, Inc., a corporation of Delaware, Imperial Oil Limited, a corporation of Canada, and Atlantic Richfield Corporation, a corporation of Pennsylvania, and ten percent to Royalite Oil Company, Limited, a corporation of Canada

Filed June 17, 1968, Ser. No. 737,577

Int. Cl. B03d 1/24

U.S. Cl. 210—177

7 Claims





froth removal conduit at the vessel top, and an underwash water sparger, preferably a circular transversely mounted tube having a plurality of holes, mounted below the froth withdrawal conduit. A set of turbulence reducing baffles is mounted between the underwash sparger and the froth withdrawal conduit.

3,520,416

# LIQUID AND GAS-PERMEABLE MICROPOROUS MATERIALS AND PROCESS FOR MAKING THE SAME

Cyril A. Keedwell, Jericho, N.Y., assignor to Pall Corporation, Glen Cove, N.Y., a corporation of New York

Filed Feb. 12, 1968, Ser. No. 704,747

Int. Cl. B01d 39/16

U.S. Cl. 210—490

21 Claims



Microporous materials are provided that are capable of passing liquids at low differential pressure while at the same time passing gasses even though the materials are wet with or even saturated with a liquid. This unusual characteristic is obtained by providing two kinds of pores through the material, one kind that are preferentially wetted by the liquid, and one kind that are not, and as a consequence do not absorb enough liquid to be plugged with liquid, and therefore are available for passage of gas therethrough.

3,520,417

# PLEATED PAPER FILTER AND METHOD OF MAKING SAME

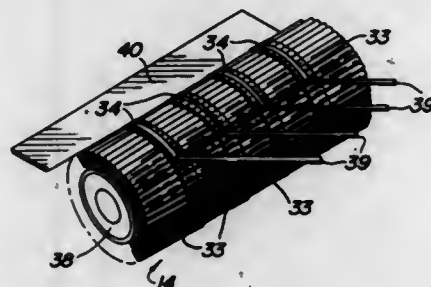
Larry L. Durr and Edward D. Fulton, Lebanon, Ind., assignors, by mesne assignments, to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Continuation of application Ser. No. 503,188, Oct. 23, 1965. This application July 2, 1969, Ser. No. 845,614

Int. Cl. B01d 27/06

U.S. Cl. 210—493

3 Claims



A filter cartridge comprising an outer perforated cylindrical housing and end caps, an inner concentric perforated outlet tube forming an annular chamber containing an annular axially pleated filter element, the pleats or folds of said filter element on their outer faces being maintained in spaced apart relationship by a plurality of axially separated narrow paper strips frictionally interpleated with the pleated filter paper but adhesively un-

attached to the filter element, and having wedges of plastisol applied to the spacer strips and doctored down between the pleats so as to be clear of the radially outer tips of the pleated material.

3,520,418

# FILTER ELEMENTS AND THE MANUFACTURE THEREOF

Paul André Guinard, Saint-Cloud, Hauts-de-Seine, France, assignor to Etablissements Pompes Guinard, Saint-Cloud, France, a company of France

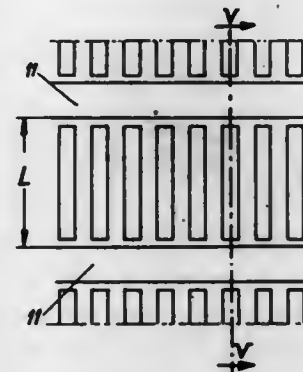
Filed Jan. 17, 1967, Ser. No. 609,859

Claims priority, application France, Jan. 25, 1966, 47,125; Nov. 23, 1966, 84,665

Int. Cl. B01d 39/10

U.S. Cl. 210—498

4 Claims



This invention relates to filter elements of the type comprising a metal sheet or plate formed with rows of parallel slots which are initially punched out from the metal and subsequently reduced in width by deformation of the metal by the application of pressure. The metal sheet is provided on one or both of its faces with projections which act to space the filter element and, in particular the slots, from adjacent opposed surfaces which may be stationary or moving relative to the metal sheet. The projections are formed by or during the step of deforming the metal by suitably shaped punches, stamps or rollers or by electrolytic action or chemical etching.

3,520,419

# GARBAGE CAN HOLDER

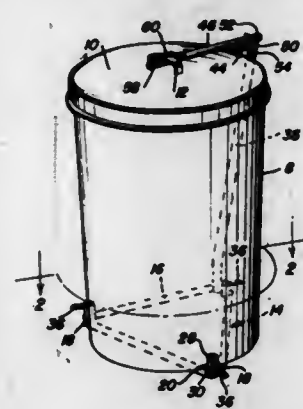
Robert J. Kennedy and Rose M. Kennedy, both of 2343 Newton St., Sidney, Nebr. 69162

Filed June 25, 1968, Ser. No. 739,784

Int. Cl. A47g 29/00

U.S. Cl. 211—84

6 Claims



A portable ready-to-use stand embodies a frame which provides a practical base atop which a garbage can is removably seated. This base frame can be stationed wherever desired atop the ground after which it is held in its given position by accessible ground-penetrating stakes. These stakes coact with sleeve-type socket members welded in the corner portions of the base frame. One corner of the base is equipped with an oblique angled suitably offset upright. An arm has one end clamped to

the handle on the can's lid. The other end is hingedly linked to the upper bent end of the upright. Hence, the lid cannot be accidentally or otherwise displaced.

3,520,420

# COUPLER POSITIONING DEVICE

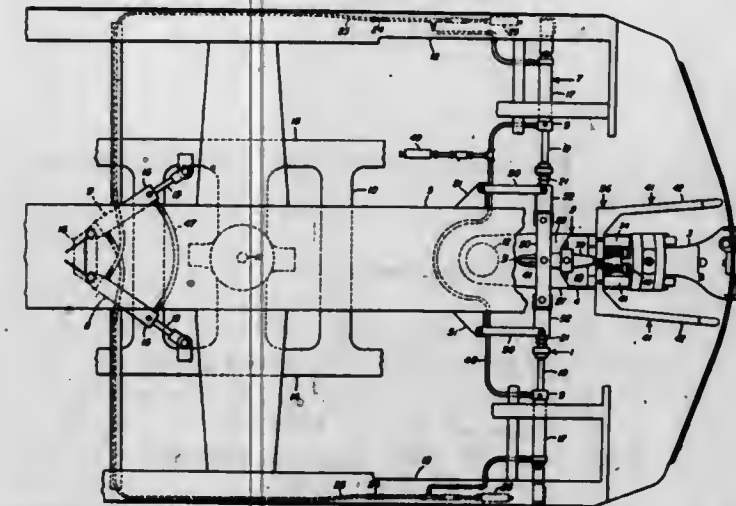
Geoffrey W. Cope, Williamsville, N.Y., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation

Continuation-in-part of application Ser. No. 618,207, Feb. 23, 1967. This application Sept. 6, 1967, Ser. No. 665,864

Int. Cl. B61g 7/12, 9/24

U.S. Cl. 213—15

18 Claims



A master and slave hydraulic system for transmitting horizontal angling of an adjoining truck to an uncoupled railway car coupler for centering the head of the coupler for coupling on underlying track with a manual override for disengaging the coupler from the system for positioning for coupling under extreme track conditions.

3,520,421

# COUPLER POSITIONING ARRANGEMENT FOR RAILWAY VEHICLES

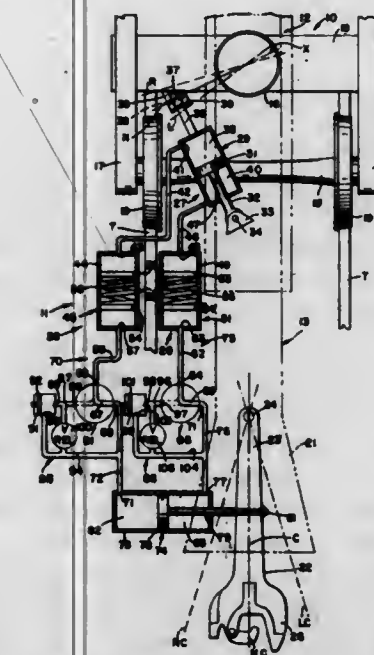
Jack E. Gntridge, Dyer, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed June 3, 1966, Ser. No. 555,652

Int. Cl. B61g 5/00, 7/12

U.S. Cl. 213—15

3 Claims



A railway car includes a hydraulic coupler positioning arrangement which accurately positions the coupler horizontally when cars are coupled together on a curved track. The arrangement includes a fluid pressure responsive means disposed between the coupler and frame for

876 O.G.—18

3,520,422

# ARTICLE STACKER

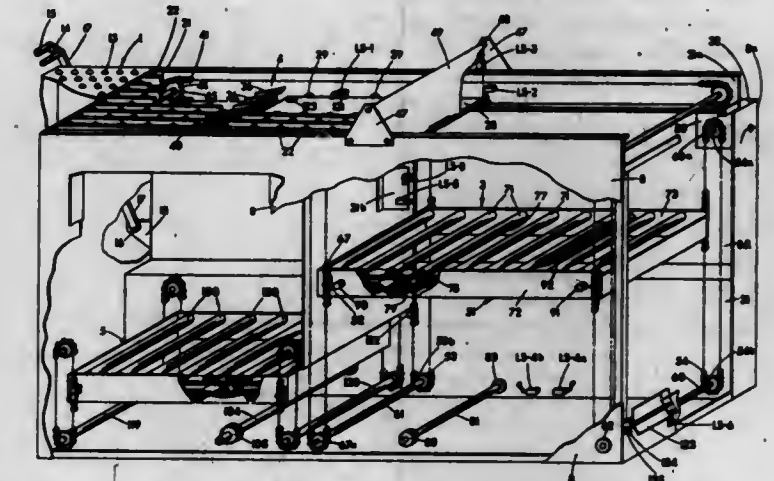
Roger K. Bruce, North Hollywood, Calif., and Robert S. Waite, Madison, Conn., assignors to Tridair Industries, Redondo Beach, Calif., a corporation of California

Continuation of application Ser. No. 532,286, Mar. 7, 1966. This application Oct. 25, 1968, Ser. No. 770,870

Int. Cl. B65g 57/10, 57/24

U.S. Cl. 214—6

14 Claims



This disclosure describes an article stacking machine which includes a makeup deck on which a layer of articles can be formed, a movable stacking deck mounted adjacent the ejection end of the makeup deck, and a stripper assembly for moving the layer of articles from the makeup deck to the stacking deck. The stacking deck is lowerable incrementally to allow successive layers from the makeup deck to be moved thereon to form the desired stack. The stacking deck supports a pallet or other article unitizing means. The loaded pallet can be automatically removed from the stacking deck when the stacking deck reaches the lowermost position, and an empty pallet is then supplied to the stacking deck.

3,520,423

# VEHICLE STORAGE APPARATUS

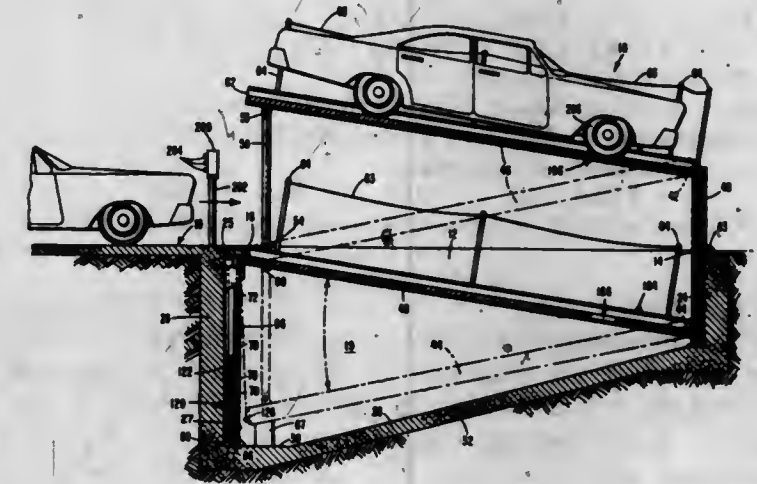
Kunibert H. Gerhardt, 1735 Coronado Ave., Apt. 31, Long Beach, Calif. 90804

Filed Feb. 7, 1968, Ser. No. 703,746

Int. Cl. E04h 6/06

U.S. Cl. 214—16.1

9 Claims



An apparatus for storing two or more vehicles which includes an opening with a sloped bottom recessed



beneath the normal vehicle supporting surface. A framework including two vehicle storage platforms interconnected to move in parallelism is selectively raised and lowered within the opening by an actuator so that the vehicles can be stored on or removed from the respective platforms independently.

3,520,424

**AUTOMATIC STORAGE APPARATUS**

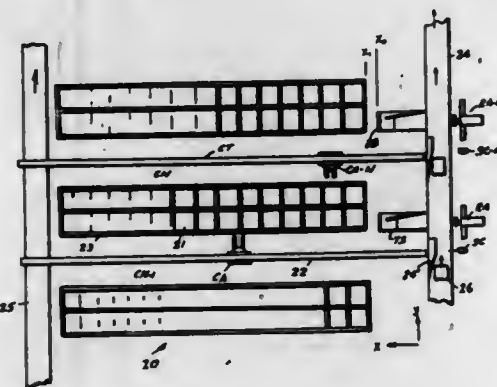
Jerome H. Lemelson, Metuchen, N.J., assignor to The Triax Company, Cleveland, Ohio, a corporation of Ohio

Original application June 30, 1965, Ser. No. 468,532, which is a continuation-in-part of abandoned application Ser. No. 219,357, Aug. 13, 1962, which is a continuation-in-part of application Ser. No. 577,415, Apr. 10, 1956, now Patent No. 3,049,247, which in turn is a continuation-in-part of abandoned application Ser. No. 449,874, July 28, 1954. Divided and this application July 15, 1968, Ser. No. 744,934

Int. Cl. B65g 37/00

U.S. Cl. 214-16.4

6 Claims



An automatic load handling system comprising a storage rack having a plurality of storage volumes with the storage volumes opening on vertically oriented front and rear faces of the storage rack, and one or more powered load carriers movable alongside the front and rear faces of the storage rack for depositing loads into and removing loads from the storage volumes. The storage volumes comprise inclined passageways or conveyor means adapted to receive loads at the front face and discharge the loads at the rear face, with the loads moving downwardly along the inclined passageway from the front face to the rear face, whereby a load carrier can deposit loads at the front face and remove loads from the selected passageway at the rear face.

3,520,425

**APPARATUS FOR ASSURING THE POSITION OF THE COKE QUENCHING CAR IN RELATION TO THE COKE GUIDE**

Klaus Stender, Essen, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Aug. 19, 1968, Ser. No. 753,666

Claims priority, application Germany, Sept. 16, 1967, 1,671,327

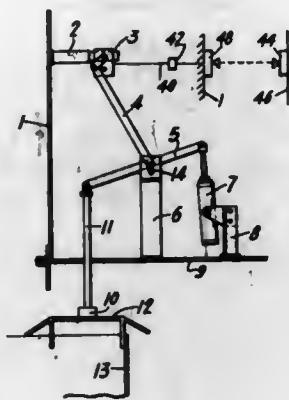
Int. Cl. C10b 33/10

U.S. Cl. 214-23

4 Claims

The invention is based on the problem of providing an apparatus for assurance of the position of the coke quenching car in relation to the coke guide with a very simple design and one that does not result in a high expenditure and that takes full account of the operating conditions. According to the invention, it is suggested that a switch connected with a lever system is arranged on the outside of the coke guide and that a lifting device,

which is provided on the coke guide or on the coke quenching car, acts on the lever system to operate the



switch in case of a correct position of both cars in relation to one another.

3,520,426

**HYDRAULIC ENDGATE APPARATUS**

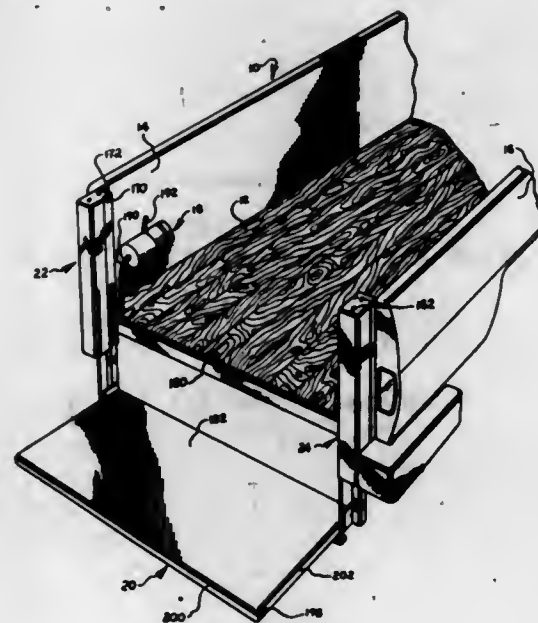
William Lester Hostetter, 701 E. Main, Harper, Kans. 67058

Filed Nov. 20, 1967, Ser. No. 684,201

Int. Cl. B60p 1/46

U.S. Cl. 214-75

4 Claims



A hydraulically actuated lift unit wherein a vertical hydraulic cylinder is mounted for guided vertical movement relative to fixed supporting structure, the piston rod associated with the cylinder extending downwardly therefrom and resting upon the support structure. Means is provided for guiding vertical movement of an elongated lift column, the latter having horizontally extending load carrying means at its lower end. A pulley is mounted on the exterior of the cylinder for rotation about a horizontal axis, and a cable is entrained over the pulley and has depending ends secured to the column and the fixed supporting structure whereby vertical movement of the column is twice that of the cylinder. The relatively fixed piston rod has a passageway therethrough whereby hydraulic fluid can be introduced into the cylinder to force upward movement of the latter. A pair of such units can be mounted on a truck bed with the load carrying means being common to both units and pivotally mounted thereon to serve as an endgate.

3,520,427

**INDUSTRIAL TRUCK WITH AN ARTICLE CONVEYOR AND STORAGE MEANS THEREON**

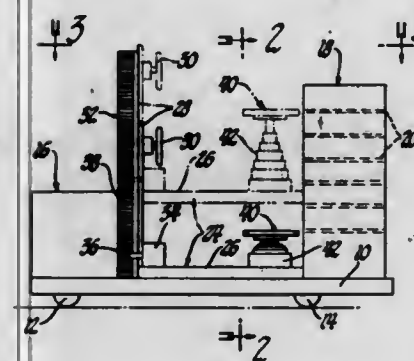
Roger I. Offen, Wallingford, Conn., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 1, 1968, Ser. No. 772,504

Int. Cl. B60p 1/46; B65g 1/00

U.S. Cl. 214-75

4 Claims



A lift truck having a wheeled frame, one end of which supports drive means and the other end of which is provided with a rack for storing individual containers. An operator's platform is located between the drive means and rack and supports a roller conveyor thereon. Both the operator's platform and roller conveyor can individually be elevated to desired heights.

3,520,428

**DETACHABLE CONTAINER HANDLING AND MATERIAL HAULING APPARATUS**

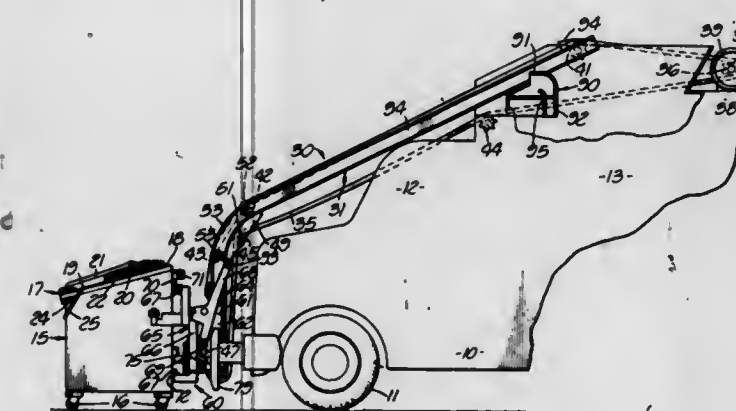
Eugene A. Puckett, Lakewood, Calif., assignor to Rite Way Mfg., Downey, Calif., a corporation of California

Filed June 13, 1968, Ser. No. 736,638

Int. Cl. B65f 3/02

U.S. Cl. 214-302

21 Claims



A bulk material loading and hauling vehicle for use with detachable containers, such as for a trash disposal system, where a track system extends from in front of the vehicle up and over the cab to an opening in the top of the vehicle body and the containers are supported on a carriage assembly movable on the track system between the front loading position and the elevated dumping position where a portion of the carriage pivots to invert the container for dumping. The container is positively secured to the carriage assembly during elevating and dumping by laterally movable latching hooks on the carriage that engage cooperating brackets on the container but such latching hooks do not project forwardly an objectionable amount and thus the carriage need not be elevated for highway travel.

3,520,429

**TRANSPORT VEHICLE FOR HEAVY LOADS**

Gustaf Verner Andersson, Rosson, Sweden, assignor to AB Hagglund & Soner, Ornskoldsvik, Sweden, a corporation of Sweden

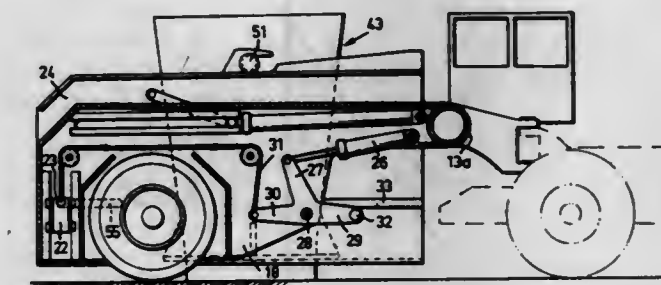
Filed June 25, 1968, Ser. No. 739,740

Claims priority, application Sweden, June 28, 1967, 9,514/67

Int. Cl. B65g 67/00

U.S. Cl. 214-314

15 Claims



A transport vehicle for picking up a heavy load carrying basket or ladle, particularly for iron works, and tilting the basket or ladle for emptying, comprising a U-shaped wheel-carried outer frame towed by a tractor and supporting an inner load picking up U-shaped frame which is liftable vertically and is alternatively tiltable about a pivot axis at its rear end by means of hydraulically operated power means.

3,520,430

**LOADING AND HAULING APPARATUS**

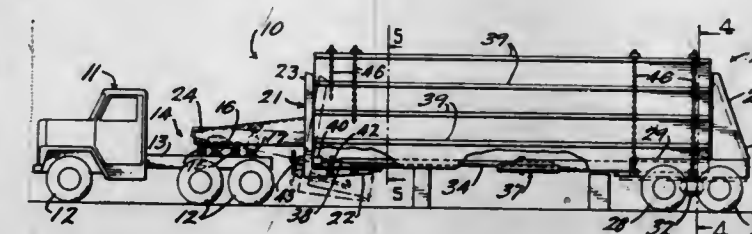
Glenn G. Dunbar, 2608 Overbrook Drive, Toledo, Ohio 43614

Filed Dec. 5, 1968, Ser. No. 781,356

Int. Cl. B60p 1/64

U.S. Cl. 214-390

8 Claims



A tractor-trailer apparatus for the loading and hauling of heavy elongated objects. An air-lift fifth wheel is mounted on a rear portion of the tractor. The trailer includes front and rear support assemblies which are connected by an elongated adjustable tongue. The front support assembly includes a pivot member which engages the fifth wheel. A fluid cylinder is connected between the tractor and the front support assembly for rotating such assembly during loading and unloading. Fluid cylinders are positioned adjacent rear axles and the rear support assembly for elevating such assembly during loading and unloading. A tension assembly is provided for increasing the tension force on the tongue to compress the elongated objects between portions of the front and rear support assemblies during the transportation of the elongated objects.

3,520,431

**CONTAINER TRANSPORTING VEHICLE**

Hans Tax, 3 Potsdamer Strasse, 8 Munich 23, Germany

Filed Sept. 30, 1968, Ser. No. 763,544

Claims priority, application Germany, Oct. 3, 1967, 1,556,279

Int. Cl. B66f 7/62

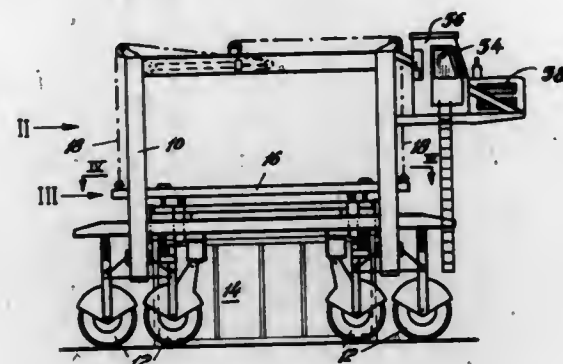
U.S. Cl. 214-394

9 Claims

A gantry-type transporting vehicle for containership containers has a two-part lifting frame. A first frame part is attached to hoisting cables and guided on the vehicle



body during vertical movement. The second frame part is pivotally suspended from the first part and may be shifted transversely of the direction of vehicle movement and turned somewhat about a vertical axis by two electri-



cally operated jacks controlled by sensing blades on the second part through a feedback circuit to align coupling elements on the frame part and on a container to be lifted.

### 3,520,432 SELF-LOADING TRUCK

Ragnar Ludvig Muotka, Kyrkogatan 44, Kiruna; Lars Erik Landeborg, Per Alsin Hanssonsvagen 523; and Sune Torsten Henriksson, Kvartsvagen 9, Kiruna, all of Malmo, Sweden

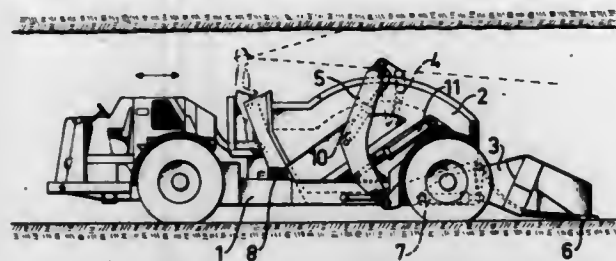
Filed Apr. 12, 1968, Ser. No. 720,834

Claims priority, application Sweden, May 11, 1967, 6,594/67

Int. Cl. B60p 1/48

U.S. Cl. 214—508

10 Claims



A self-loading truck including a load container swingable about a horizontal pivot axis at one end of the truck, a bucket for loading material into the load container pivotally mounted at one edge for swinging movement about the same pivot axis as the load container, arms at each side of the load container pivoted at one end to the load container adjacent the bottom and substantially centrally thereof for swinging movement toward the opposite ends of the load container, a blade extending transversely of the load container and pivotally mounted to the other end of the arms for swinging about a pivot axis therethrough, and means for swinging the blade about the pivot axis thereof. Movement of the load container, bucket, arms and blade is produced in the preferred embodiment by hydraulic piston and cylinder means. The bucket is provided with an arcuate surface adjacent the pivot axis thereof having substantially the same curvature described by the point of the blade on swinging the blade through the pivot axis thereof whereby with the bucket in an upper position and with the arms at the one end of the truck, the bucket is swept clean by the blade on swinging of the blade about the pivot axis thereof, and on swinging of the arms toward the other end of the load container the load is distributed in the load container.

### 3,520,433 TRUCK-TRACTOR CHASSIS AND DETACHABLE CONTAINER CHASSIS

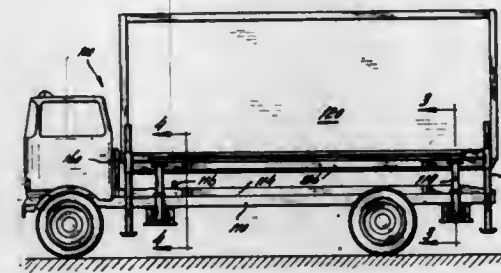
Horace D. Blackburn, Bradenton, Fla., assignor to Miller Trailers, Inc., Bradenton, Fla., a corporation of Florida

Filed Aug. 23, 1968, Ser. No. 754,768

Int. Cl. B60p 1/64

U.S. Cl. 214—515

5 Claims



In combination with truck-tractor chassis having detachable container chassis, a system whereby the container chassis may be readily detached, semi-automatically from the truck chassis for temporary storage following long distance hauling and pickup or local hauling. The system includes automatic means for raising and lowering the container chassis above the truck chassis; for centering same; for locking same; as when the container chassis has been positioned for re-conveyance.

### 3,520,434 HYDRAULICALLY OPERATED SELF-UNLOADING VEHICLE

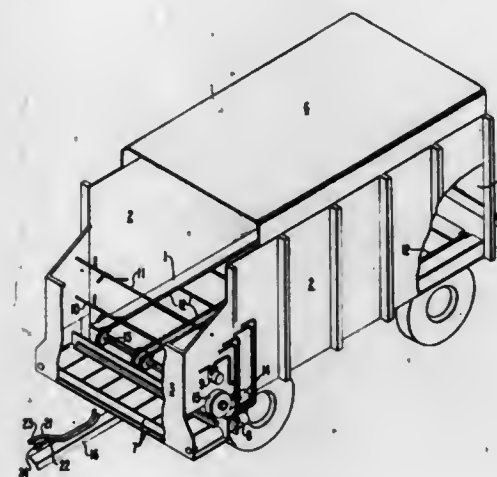
John F. Destefan, Waynesboro, James J. Ezolt, State Line, and James Martin Benchhoff, Waynesboro, Pa., assignors to Grove Manufacturing Company, Shady Grove, Pa., a corporation of Pennsylvania

Filed July 16, 1968, Ser. No. 745,165

Int. Cl. B60p 1/38

U.S. Cl. 214—519

11 Claims



A hydraulic control system for a self-unloading vehicle having at least a pair of conveyors and beaters operated by individual hydraulic motors for unloading forage from the vehicle body, which preferably utilizes the existing hydraulic pump and reservoir system on a tractor adapted to tow the vehicle and which includes valves adapted to sequentially connect the fluid motors for the conveyors and beaters in a series circuit. One of the valves is connected as a safety valve to stop operation of all of the hydraulic motors. The circuit is arranged so that by reversing the connections of the hydraulic lines to the tractor one of the conveyors can be operated at adjustable speeds in reverse by one of the valves. The hydraulic system is also provided with means to provide the same hydraulic fluid flow rate through

the system independent of the output of the tractor's hydraulic system so that the self-unloading vehicle may be used with all sizes of tractors.

### 3,520,435 PLASTIC SAFETY CLOSURE

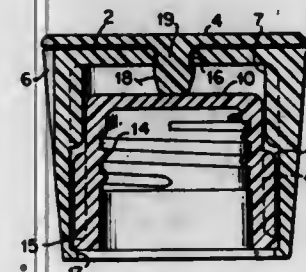
James A. McIntosh, Upper Montclair, N.J., assignor to Mack-Wayne Plastics Company, Wayne, N.J., a corporation of New Jersey

Filed Dec. 30, 1968, Ser. No. 787,695

Int. Cl. B65d 55/02

U.S. Cl. 215—9

1 Claim



A plastic safety closure for threaded neck containers is described having an inner cap and an encompassing outer cap, each cap having engaging means, the engaging means being engaged for simultaneous rotation of the caps when the cap tops are in juxtaposition, and a plug associated with the outer cap capable of extending through the top of the outer cap to contact the top of the inner cap, thereby to maintain the cap tops separated and the engaging means in non-engaging relationship.

### 3,520,436 CLOSURE HAVING A COATED INTERIOR

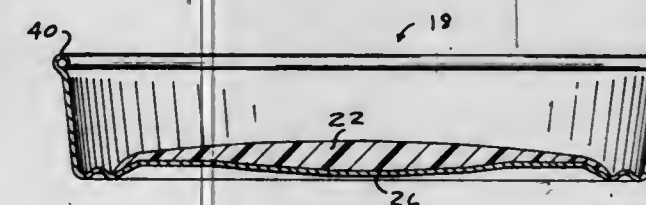
Peter A. Vercillo, Chicago, Ill., assignor to Continental Can Company, New York, N.Y., a corporation of New York

Filed Nov. 20, 1968, Ser. No. 777,292

Int. Cl. B65d 23/00, 53/00

U.S. Cl. 215—40

8 Claims



A container closure which includes an exterior shell portion having a skirt portion for engaging a finish portion of a container in a snug relation, a gasket on the inner surface of the shell adjacent an outer margin thereof, a layer of a heat insulating, protective coating disposed on the inner surface of the top panel of the closure, and having sufficient thickness to provide heat insulation at least in an area disposed radially inwardly of the outer margin, and means for causing the liquid contents of the container which form, condense on, or are disposed adjacent the margin of the closure to flow inwardly toward the central portion of the closure when the container with which the closure is associated is in an upright position of use, whereby any liquid remaining on the cap is protected from excessive heat transferred through the shell portion of the closure during a pasteurizing or like operation. Typical means for causing flow toward the center of the cap include shaping the interior insulation coating so that the center thereof is low relative to the outer margin portions, providing grooves or notches in the coating for

collecting liquid, and may include forming or shaping the shell so that, with the contents of the container in their normal condition, the center of the cap will be lower than the radially outer margin portions of the interior thereof. The preferred interior coating is a foamable plastisol material.

### 3,520,437 INTEGRAL SEAL STRUCTURE FOR NON-METALLIC RESERVOIR

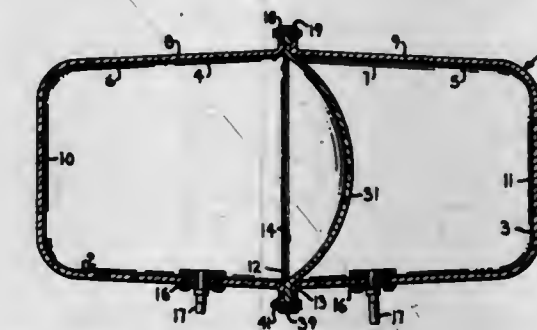
Joseph R. Fleming and Thomas M. Fleming, Prairie Village, Kans., assignors to T. J. Fleming Company, Kansas City, Kans., a corporation of Missouri

Filed Mar. 18, 1969, Ser. No. 808,283

Int. Cl. B65d 11/02, 25/04

U.S. Cl. 220—5

2 Claims



A double chamber compressed air reservoir of the railroad air-brake type includes a non-metallic center separating member having a radial flange sandwiched between the radial flanges of opposed non-metallic tank members. An axially directed annular projection on each face of the separating member flange is received into annular grooves on the flanges of the tank members. Fluid pressure in the tank chambers causes slight elastic expansion of the tank member flanges which urges walls of the projections and grooves together.

### 3,520,438 BREAD SET

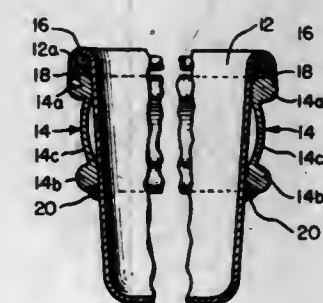
Richard T. Ahrens, Cary, and Eric S. Apelgren, Barrington, Ill., assignors to Chicago Metallic Manufacturing Company, Lake Zurich, Ill., a corporation of Delaware

Filed June 25, 1968, Ser. No. 739,743

Int. Cl. B65d 21/02

U.S. Cl. 220—23.2

4 Claims



A bread set or the like and its method of manufacture are disclosed. The bread set includes a plurality of bread baking pans held in a spaced array by an elongated strap or band that peripherally encloses the array and is individually welded to each pan. Specifically, the upper edge portion of each pan sidewall is rolled outwardly to form a conventional rolled bead protective rim for the pan and the enclosing band is positioned at the underside of the rolled bead on those pan sidewalls defining the



outer periphery of the pan array; a substantially continuous weld is made between the underside of the rolled bead of each of these pan sidewalls and the upper surface of the adjacent band to securely retain the pans in the fixed array and concurrently prevent an unrolling, etc. of the rolled bead as may otherwise occur with heavy use. Other features are disclosed.

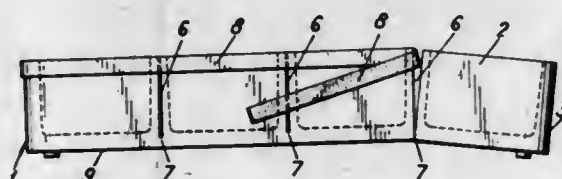
### 3,520,439 CONTAINER

Donald Nathaniel Deavin Smith and Paul Victor Deavin Smith, Battlesbridge, England, assignors to Hindmarch Smith Plastics Limited, Battlesbridge, England, a British company

Filed Oct. 2, 1968, Ser. No. 764,433  
Claims priority, application Great Britain, Oct. 4, 1967, 45,084/67; Oct. 18, 1967, 47,517/67  
Int. Cl. B65d 21/02

U.S. Cl. 220—23.4

1 Claim



This invention concerns a compartmented container unit formed from a self-supporting but frangible material and comprising a plurality of containers, or groups of containers; at least one separation cut being formed between adjacent containers or groups of containers which, whilst only partially separating the containers or group of containers will permit the latter to be separated wholly from the remainder of the unit by breaking portions of the material forming the unit which extend between adjacent containers; releasable means extending across the or each separation cut for releasably securing together the containers of the unit.

### 3,520,440

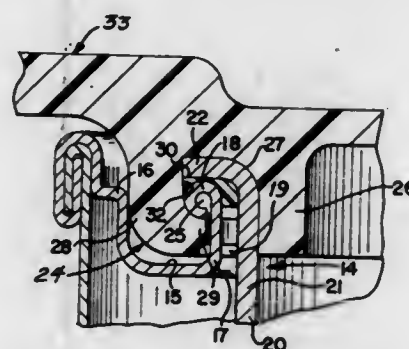
#### CONTAINER AND CLOSURE THEREFOR

James W. Kinnavy, Westmont, and Frederick J. Stec, Oak Lawn, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Sept. 12, 1968, Ser. No. 759,295  
Int. Cl. B65d 43/10

U.S. Cl. 220—60

9 Claims



A closure lid for a container having an opening defined by an end ring having a rim projecting upwardly from a horizontal ledge and terminating in an outwardly directed curl. The closure lid includes a panel having an upstanding peripheral wall which is received within the opening. Extending from the upper end of the peripheral wall is an outwardly directed flange which overlies the curl in the closed position. Attached to the flange and upstanding wall is a plastic locking member which is

formed to provide a locking lip which engages the curl about the opening so as to sealingly retain the lip of the lid member against the curled end and at the same time urge the upstanding wall toward the rim.

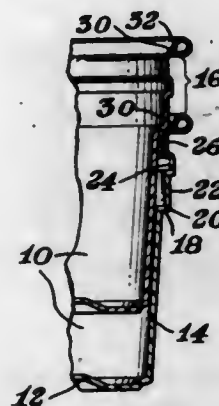
### 3,520,441 CONTAINER

Charles E. Fitzgerald, Findlay, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Jan. 2, 1969, Ser. No. 788,448  
Int. Cl. B65d 43/10, 21/00

U.S. Cl. 220—60

9 Claims



A nestable thin walled container for packaging cottage cheese, salads, ice cream, sherbet and other products. The tub part of the container includes a novel stacking ridge particularly adapted for containers having only a slight side wall taper. The stacking ridge extends both above and below a lid receiving groove in the side wall of the tub whereby a substantially rigid positive stack between a plurality of such tubs when nested is obtained.

### 3,520,442

#### PROTECTIVE SHIELD FOR FRANGIBLE METER ENCLOSURE

Jack Moran and Boyd Steveson, Fort Gibson, and William A. Reynolds, Oklahoma City, Okla., assignors to M-R-S, Inc., Fort Gibson, Okla., a corporation of Oklahoma

Filed July 18, 1968, Ser. No. 745,915  
Int. Cl. B65d 25/54

U.S. Cl. 220—82

12 Claims



A cup shaped shield of impact resistant material is provided with a notched flange at its base to permit its insertion into the opening of a meter housing.

### 3,520,443

#### SAFETY VENT STRUCTURE

Roger M. Selby, Jr., Munster, Ind., assignor to Union Tank Car Company, Chicago, Ill., a corporation of Delaware

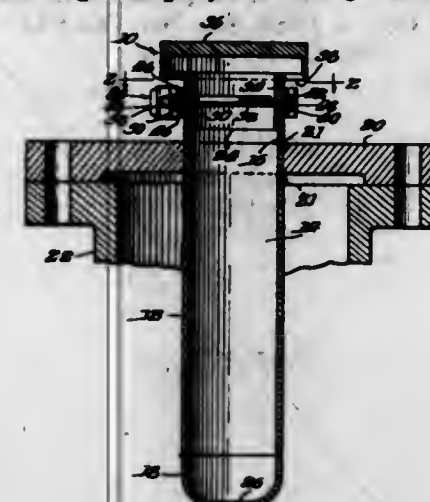
Filed June 4, 1968, Ser. No. 734,489  
Int. Cl. B65d 25/100

U.S. Cl. 220—89

6 Claims

A safety vent structure for pressure vessels. A body defines a chamber having first and second openings, the latter communicating with a third opening in the vessel. Associated with the first opening is a seat member adapted to receive a frangible element in closing relationship to the first opening. A retainer member, which may

include a cover, serves to hold the frangible element against the seat. Both the seat and the retainer have beveled projections around the outer peripheries thereof. A clamp having inner bearing surfaces is secured about the peripheries of the seat and retainer so that the bearing surfaces will urge the projections together when the clamp



is tightened. The body may project partially through the third opening in the vessel wall, so that the second opening is within the vessel itself. Either the second or third openings may have a sectional area which is less than the sectional area of the chamber, so as to retard transient pressure buildup within the chamber.

### 3,520,444

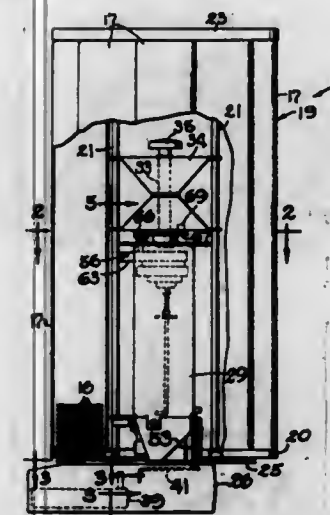
#### CUP DISPENSING DEVICE WITH AUTOMATIC STACK REPLACEMENT

Marvin R. Manzer, Donald E. Schmitt, and Samuel O. Smith, Rockford, Ill., assignors to Reed Electromech Corp., Rockford, Ill., a corporation of Delaware

Filed Sept. 26, 1968, Ser. No. 762,747  
Int. Cl. G07f 11/12

U.S. Cl. 221—11

16 Claims



For dispensing cups in an automatic vending machine, a rotatable turret carries a series of angularly spaced tubes adapted to hold upright stacks of nested cups and successively registrable with a dispensing opening when the turret is indexed step-by-step, the cups in each registering tube dropping into the opening and being dispensed one-by-one as purchases are made. After a registering tube is emptied of cups, an electric motor indexes the turret through approximately one step to advance the next tube into registry with the dispensing opening and, immediately after the lowermost cups in such tube have dropped into the opening, the motor is uncoupled from the turret momentarily to allow the latter to turn freely relative to the motor while the cups in the tube automatically center themselves and seek aligned positions with respect to the opening. Thereafter, the motor is re-coupled to the turret to retard free rotation of the turret and prevent inad-

vertent turning of the turret between the dispensing of successive cups, but is uncoupled from the turret momentarily as each cup is dispensed so that the cups in the registering tube may re-align themselves with the opening.

Control cams for governing the operation of the vending machine are housed optionally in the otherwise unused space between the tubes, are rotated in timed relation with the dispensing of the cups by the same motor used to effect release of the cups from the opening, and are mounted on shafts which are releasably coupled to such motor in a manner reducing shaft misalignment while effecting a torsionally stiff drive.

### 3,520,445

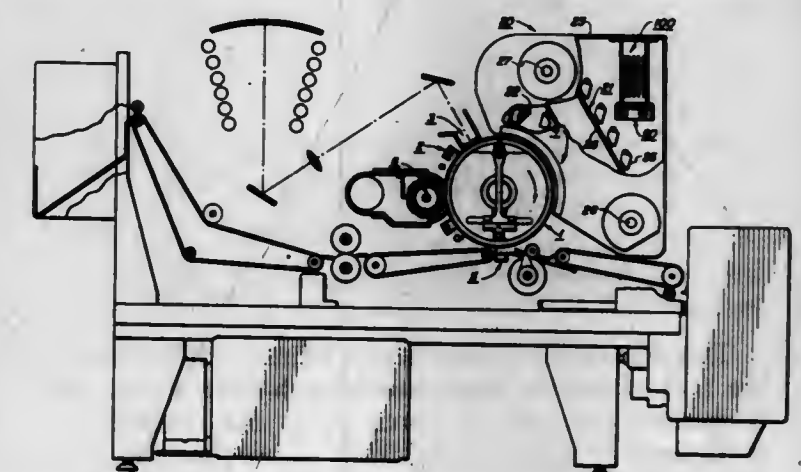
#### DIELECTRIC LEVEL SENSOR

Russell C. Hansen, Lakeville, Conn., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Feb. 13, 1968, Ser. No. 705,153  
Int. Cl. B67d 5/38

U.S. Cl. 222—23

3 Claims



A level sensing controller for determining the quantity of xerographic toner powder in the toner powder dispenser of an automatic xerographic reproducing machine wherein a plurality of electrically conductive plates are suspended within the dispenser cavity in spaced relation and connected to a threshold detecting circuit for activating a suitable indicator when the quantity of toner powder contained within the dispensing cavity is below a level predetermined for optimum machine operation.

### 3,520,446

#### CONDIMENT DISPENSER

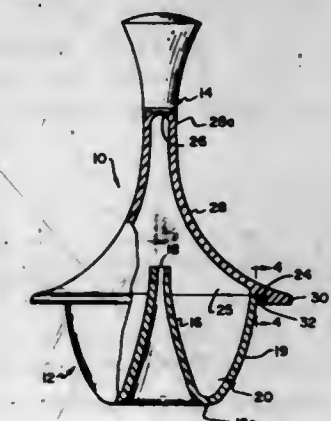
William H. Chaffee, Hinsdale, Ill., assignor to Model Builders, Inc., a corporation of Illinois

Continuation of application Ser. No. 625,151, Mar. 22, 1967. This application Mar. 5, 1969, Ser. No. 805,120

Int. Cl. A47g 19/12

U.S. Cl. 222—457.5

2 Claims



An improved condiment dispenser of the type having an elevated discharge spout adjacent a recessed chamber wherein dispensation is accomplished by vertical to and



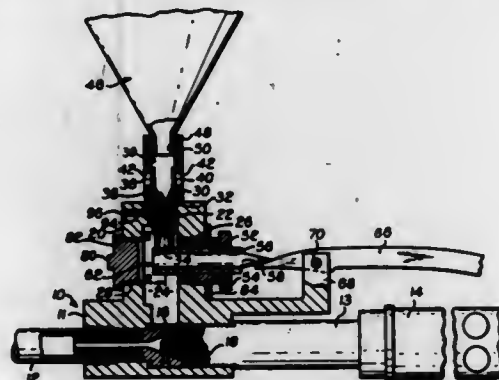
from movement while the dispenser is held upright, rather than inverted, the improvement being the shaping of the inner and outer walls of the condiment dispenser such as to tend to direct the condiment out the discharge spout when the shaking action is being accomplished, and in the shaping of the exterior of the condiment dispenser such as to naturally lend itself to a proper shaking action when the dispenser is grasped by a user.

3,520,447

**CONTROL FOR POWDER FEED OR SPRAY TORCH**  
Elwin A. Hawk, Sr., East Rochester, Ohio, assignor to Coast Metals, Inc., Little Ferry, N.J., a corporation of Delaware  
Original application Apr. 18, 1966, Ser. No. 543,264, now Patent No. 3,396,746, dated Aug. 13, 1968. Divided and this application June 18, 1968, Ser. No. 737,943  
Int. Cl. B67d 5/22

U.S. Cl. 222-46

12 Claims



This specification discloses an adjustment for regulating the rate of powder feed into a torch from which powder is sprayed through the torch flame into contact with a workpiece. Powder flows from a hopper into the gas stream in the torch, and a valve under the hopper outlet shuts off the flow when the valve is in closed position. The hopper has threads for screwing it up and down so that it is closer to or further from the valve when the valve is in normally closed position. A graduated scale on the hopper moves past an indicator mark to designate the feed setting.

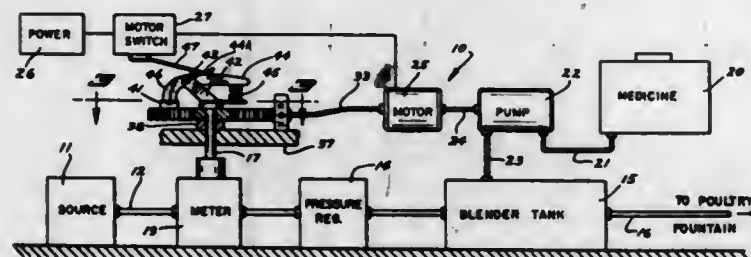
3,520,448

**LIQUID PROPORTION DEVICE**  
Donald W. Russell, 2512 37th Ave. S., Minneapolis, Minn. 55406  
Filed Apr. 10, 1968, Ser. No. 720,044  
Int. Cl. B67d 5/08

U.S. Cl. 222-57

7 Claims

A liquid proportioning device for inserting a needed amount of medicine into a water supply, particularly for poultry, wherein the amount of the medicine introduced is precisely controlled. A water meter is used to measure the amount of water consumed in the system, and the meter in turn controls a switch for actuating a pump for injecting medicine into a blending tank wherein the medicine and water are mixed after a predetermined amount



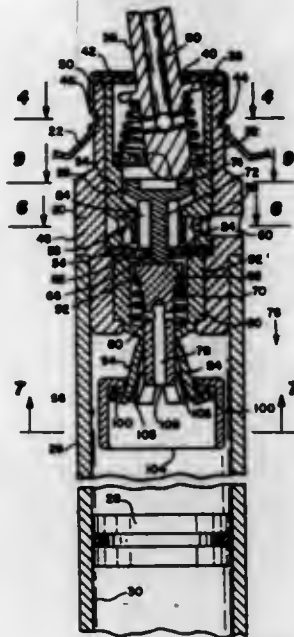
of water has been consumed. The pump is driven by a motor which also drives a switch follow up device that quickly closes off the motor after the correct amount of medicine has been dispensed.

### 3,520,449 AUTOMATIC SHUT-OFF VALVE FOR TWO-FLUID SOURCES RESPONSIVE TO DEPLETION OF ONE FLUID SOURCE

Samuel Prussin, Los Angeles, and Jimmie L. Mason, Hacienda Heights, Calif., assignors to Dart Industries Inc., Los Angeles, Calif., a corporation of Delaware  
Filed Oct. 2, 1968, Ser. No. 764,552  
Int. Cl. B67d 5/08

U.S. Cl. 222-66

6 Claims



An automatic shutoff valve for use with aerosol and non-aerosol products containers, wherein fluids from two separate sources of fluid, under pressure, may be dispensed in a mixture; the valve of the invention comprising automatic shutoff means in response to a depletion of flow and/or pressure from one source which causes the flow of fluid from another source in the container means to be shut off to thereby prevent dispensation of any fluid from the valve, when one of the fluid sources is depleted.

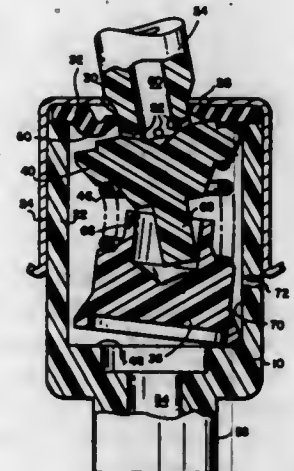
3,520,450

### FLUIDS DISPENSING VALVE

Samuel B. Prussin, Los Angeles, and Jimmie L. Mason, Hacienda Heights, Calif., assignors to Dart Industries Inc., Los Angeles, Calif., a corporation of Delaware  
Filed June 6, 1968, Ser. No. 735,031  
Int. Cl. B65d 35/22

U.S. Cl. 222-94

11 Claims



A fluids dispensing valve and method, said valve having a pair of poppet valves operable by a common operating member and disposed to dispense fluids through a common chamber and nozzle, said valves having actuating means slightly spaced apart therebetween, such that during a valve closing operation, one of said valves may be closed slightly before the other of said valves closes, thereby allowing said other valve to pass fluid there-through and cause purging of one of said fluids from

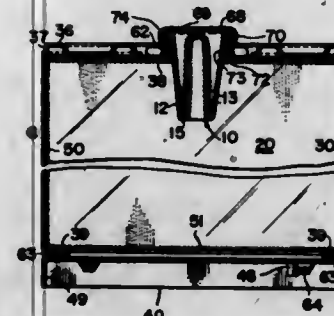
said chamber and nozzle during each closing movement of the fluid dispensing valve of the invention at the end of each operating cycle thereof, and while holding the valve in a normal dispensing attitude.

3,520,451

**SANITARY MILK DISPENSER**  
Hiroshi Ashizawa, 1, 111 Kitakase, Kawasaki-shi, Kanagawa, Japan  
Filed May 6, 1968, Ser. No. 726,831  
Claims priority, application Japan, May 17, 1967, 42/30,852, 42/30,853  
Int. Cl. B67d 1/08

U.S. Cl. 222-148

8 Claims



A sanitary milk dispenser having a refrigerated cup receiving and machine department in which milk is dispensed from a V-shaped flexible tube, which is fitted to an inner container and which can be made to form the inverse shape of a W for purposes of transportation, by the fixed pressure of a pressure medium led to the space between the outer container and the flexible inner container enclosed within said outer container. Control apparatus is provided so that clean water spouts into the dispensing end of tube when a cup is removed from the cup receiving compartment below the milk tube and stops spouting when a cup is set thereon.

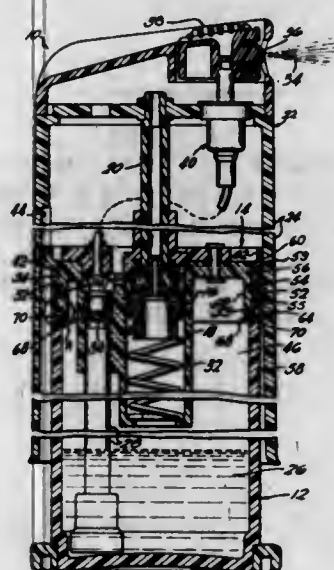
3,520,452

### LEAKPROOF CONTAINER SEAL

Carl E. Malone, Fort Lauderdale, Fla., assignor to The AFA Corporation of Florida, Miami, Fla., a corporation of Florida  
Filed Nov. 29, 1968, Ser. No. 779,755  
Int. Cl. G01f 11/30

U.S. Cl. 222-321

8 Claims



A liquid tight air permeable seal structure interposed between the wall of a liquid container and a closure for the container which prevents leakage of liquid from the container but is effective to admit air to the container to equalize head space pressure with outside pressure.

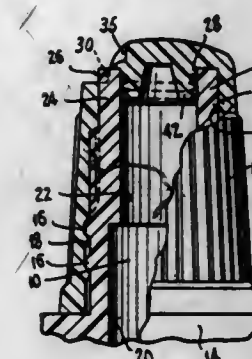
3,520,453

### DISPENSING CLOSURE CAP

Morton B. Stull, Boonton, N.J. (% Stull Engraving Co., 2132 81st St., Gulf, Marathon, Fla. 33050)  
Original application Dec. 15, 1966, Ser. No. 602,004. Divided and this application Oct. 14, 1968, Ser. No. 767,392  
Int. Cl. B67d 5/06

U.S. Cl. 222-519

4 Claims



A dispensing closure cap having a tubular body (through which the product passes) and an annular top edge portion or mouth, and a cap axially movable on the body, having a plug for entry in said mouth to seal the body. The cap has in its top an eccentric opening normally closed by the top edge portion and which communicates with the space around the plug to constitute therewith a discharge orifice. When the user unscrews the cap the threads become disengaged but an annular seal above the threads remains effective whereby contamination of the threads is effectively prevented.

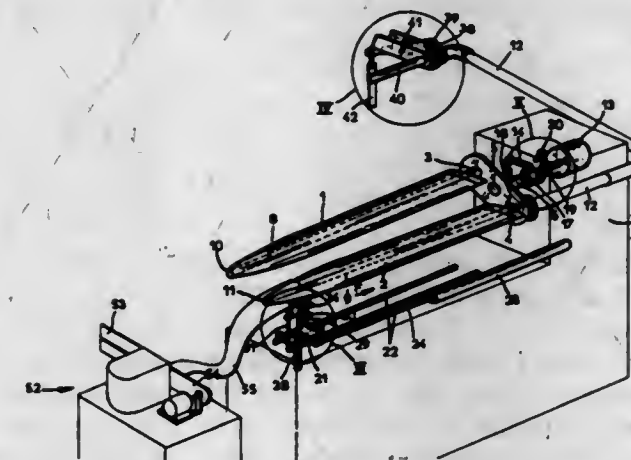
3,520,454

### DEVICE FOR INSPECTING AND PNEUMATICALLY CONVEYING STOCKINGS OR THE LIKE

Joseph Pepo Saltiel, Saint Quentin, France, assignor to Bas le Bourget-ets. J. P. Saltiel et ses Fils, Fresnoy-le-Grand, France, a company of France  
Filed Feb. 13, 1968, Ser. No. 705,190  
Claims priority, application France, Nov. 15, 1967, 128,380  
Int. Cl. A41h 43/00

U.S. Cl. 223-43

7 Claims



The device includes several testing forms mounted on a rotary support which, by its rotation, substitutes a form for another, whereby each form successively occupies several positions, each of which being intended for a distinct operation. Each form communicates, in one of said positions, with a pneumatic duct means. A mechanism carries on the stocking in translation over the form which is in the position wherein it communicates with said pneumatic duct means. Said mechanism including means for opening and closing said duct means so as to pneumatically evacuate the stocking as soon as it reaches its end-of-travel position.

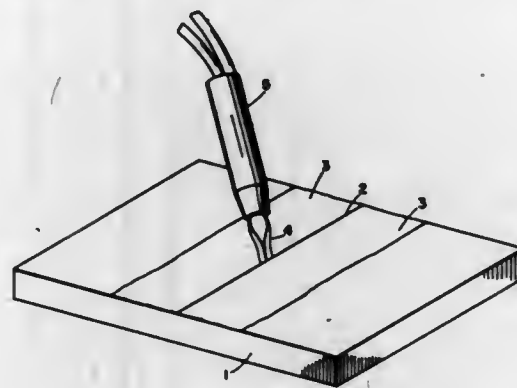


**3,520,455**  
**METHOD FOR SEVERING CERAMIC BODIES BY LOCALIZED THERMAL ACTION**  
 James S. Smith, Ligonier, Pa., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Sept. 13, 1968, Ser. No. 759,681  
 Int. Cl. B26f 3/06

U.S. Cl. 225-1

8 Claims



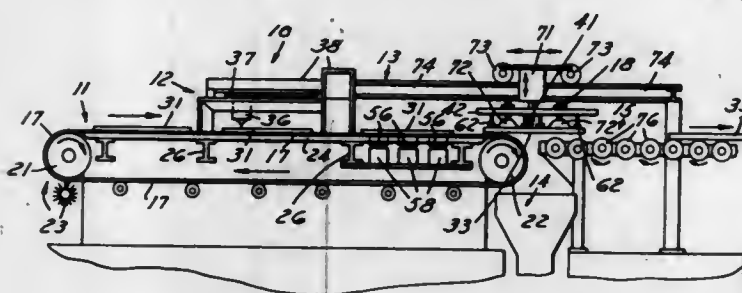
A method is provided for severing or splitting ceramic bodies such as ceramic alumina tiles, bricks, tubes, rods, and the like, which includes applying a boron nitride containing coating adjacent the desired line of severance, and then locally heating the body along the line, for example, by means of a gas torch, which causes the body to sever or split along the line through localized thermal action.

**3,520,456**  
**METHOD OF CUTTING GLASS**  
 Eugene H. Augustin, Dearborn Heights, and George J. Pagan, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 7, 1968, Ser. No. 765,508  
 Int. Cl. B26f 3/00

U.S. Cl. 225-2

6 Claims



A method of cutting a glass template from a glass bracket and automatically separating the edge trim from the template has the following steps. A surface of the glass bracket is initially scored along a pattern to define the shape of a template to be cut from the bracket. The unscored surface of the bracket is positioned on the surface of a supporting medium with at least a portion of the scored surface of the bracket being in a reference plane. Pressure is applied across the initial score in a direction generally downward toward the supporting medium to run the initial score completely through the thickness of the glass. A secondary score is placed on the already scored surface of the glass bracket generally along a line from a marginal edge of the bracket toward the initial score. The scored surface of the glass bracket is raised upwardly from the reference plane along at least the line of the secondary score. The pressure applied across the initial score is maintained during the raising of the bracket thereby to run the secondary score from the marginal edge of the bracket to the initial score

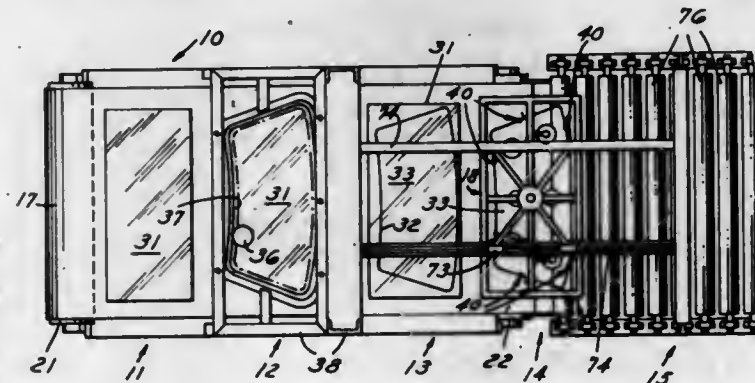
whereby the glass forming the edge trim of the bracket is separated from the glass template. Other embodiments of the method for separating the edge trim from the glass template are also set forth as well as an apparatus for performing the method.

**3,520,457**  
**METHOD OF SEPARATING PIECES OF EDGE TRIM REMAINING AFTER THE CUTTING OF A GLASS BRACKET**  
 Eugene H. Augustin, Dearborn Heights, and George J. Pagan, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 7, 1968, Ser. No. 765,509  
 Int. Cl. B26f 3/00

U.S. Cl. 225-2

6 Claims



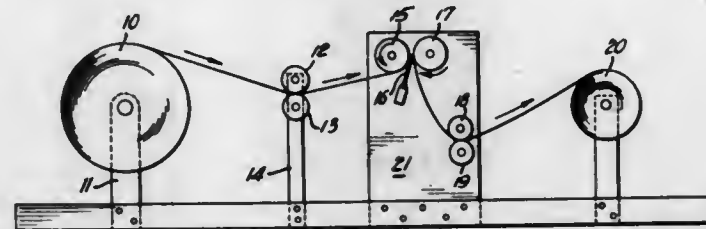
A method of separating adjacent pieces of glass edge trim remaining after a glass template has been cut from a glass bracket has the following steps. A glass scoring tool is moved over the surface of the glass bracket in an area of the glass bracket between its lateral edge and the glass template shape defined thereon, the tool thereby placing a score on the surface. The glass is broken along the score to open the score. When the score is open, the lateral edges of adjacent pieces of edge trim remain in close proximity to one another. The scoring tool is moved downwardly into a position between the adjacent lateral edges of the pieces of edge trim to separate the lateral edges of the pieces at that position. The scoring tool is then moved along at least a portion of the length of the open score thereby to separate the lateral edges of the adjacent pieces of edge trim permitting easy removal therefrom of the glass template which has been cut from the glass bracket. A preferred direction of movement of the scoring tool for both the scoring and the separating operations is described as well as an apparatus for performing the method.

**3,520,458**  
**APPARATUS FOR SPLITTING ORIENTED PLASTIC MATERIALS INTO FIBROUS STRUCTURES**  
 Frank Kalwates, Somerville, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Mar. 5, 1968, Ser. No. 710,532  
 Int. Cl. B26f 3/02

U.S. Cl. 225-98

6 Claims



This is a method and apparatus for splitting oriented plastic sheet materials such as films, ribbons, etc. into fibrous structures. The material to be split is moved in a

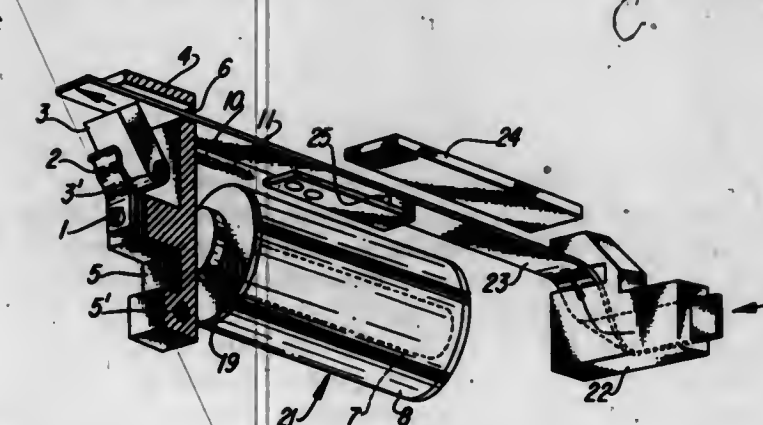
first direction. The direction in which the material is moving is changed so that the second direction makes an acute angle with the first direction. Simultaneously with the change in direction or movement of the material a plurality of disruptive forces are applied to the material substantially in the direction of the movement of the material to split the oriented material into a fibrous structure.

**3,520,459**  
**TAPE ADVANCE SYSTEM**  
 John McCrady, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Sept. 29, 1967, Ser. No. 671,804  
 Int. Cl. B65h 17/36

U.S. Cl. 226-160

12 Claims



A tape advance system for advancing a printing tape in a stepwise fashion past the printhead of a printing system. The tape is gripped in a mechanism which moves a predetermined distance, advancing the tape, in response to a spring force. The tape is released from the mechanism when the mechanism is moved along the tape to a new gripping position in response to a magnetic field.

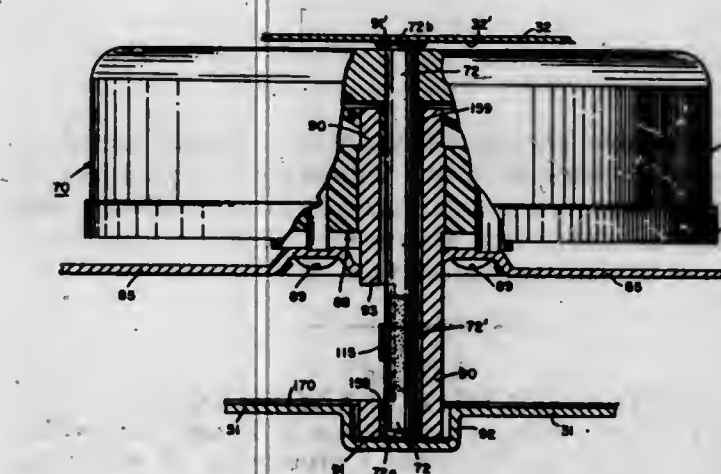
**3,520,460**  
**MAGNETIC TAPE DRIVE SYSTEM**  
 William P. Lear, Wichita, Kans., assignor to Lear Jet Corporation, Wichita, Kans., a corporation of Delaware

Continuation-in-part of application Ser. No. 540,289, Apr. 5, 1966. This application Apr. 25, 1967, Ser. No. 633,635

Int. Cl. B65h 17/20

U.S. Cl. 226-188

4 Claims



A capstan motor drive for transporting magnetic tape in a player. The motor is at relatively slow speed to permit its capstan shaft to protrude and engage the tape

against a roller. A concentric sleeve about the shaft contains its bearings and has a cut-out section for tape engagement with the capstan. Avoids need of deleterious belts or gearing; is a direct drive. Motor mounts directly between top and bottom of the player housing through its shaft, which permits compact construction. The outer motor shell contains the armature windings, which combines to serve as the drive flywheel.

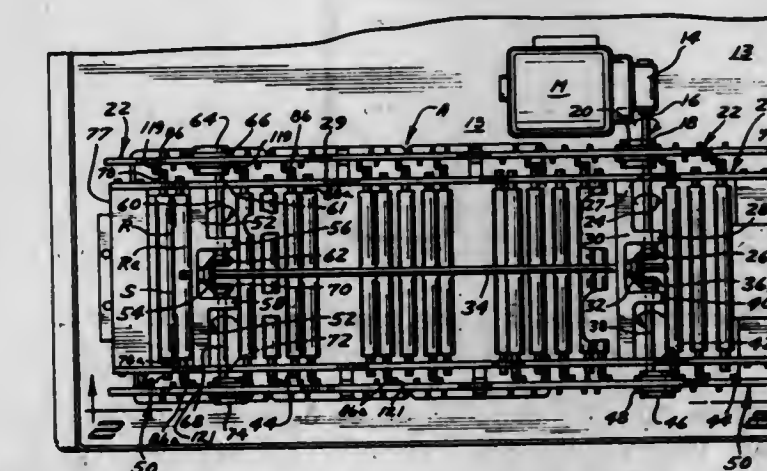
**3,520,461**  
**DRIVING DEVICE FOR A SERIES OF ROLLERS**  
 Edward H. Savels, Golden Valley, Minn., assignor to Pako Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Feb. 7, 1968, Ser. No. 703,576

Int. Cl. B65h 17/20

U.S. Cl. 226-188

9 Claims

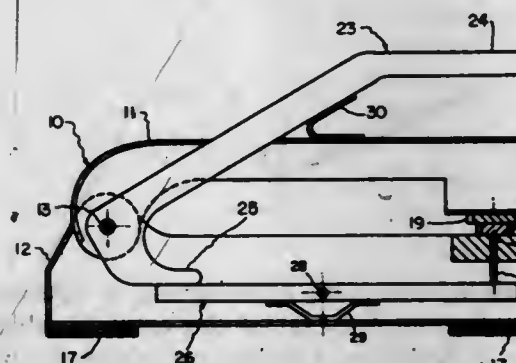


The disclosure relates to driving means for a series of rollers for transporting sheet material therebetween such as photographic film and includes a supporting structure on which is mounted a pair of spaced bearing plates. The bearing plates have a series of rollers rotatably mounted thereon and a drive plate is mounted adjacent each of the bearing plates. Eccentric means is provided for operating the drive plates in a rectilinear and rotary movement, the drive plates carrying motion transmitting pins for rotating the rollers through a crank arm on each of the rollers.

**3,520,462**  
**BUTTON STAPLER MACHINE**  
 Nile Gene Neeley, New Orleans, La.  
 (300 Ridgeland Drive, Apt. 107, Metairie, La. 70001)  
 Filed Dec. 19, 1966, Ser. No. 602,616  
 Int. Cl. A41h 37/00

U.S. Cl. 227-31

6 Claims



The present invention pertains to a button stapler machine comprising staple guide means wherein a U shaped staple is utilized for fastening a conventional four hole button to a base material. The clenching anvil is designed such that the U shaped staple is bent through two 90° angles whereby each end of the staple after an operation



faces in a direction 180° from its original position such that it passes through all four holes of the button which is strongly attached to the base material and has a finished and pleasing appearance. Frame means and staple driving means are also provided along with related components for performing the intended operation.

3,520,463

**FLUID-TIGHT CONTAINER**

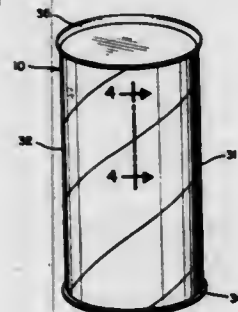
William L. Ahlemeyer, Louisville, Ky., assignor to Anaconda Aluminum Company, a corporation of Montana

Filed Mar. 4, 1968, Ser. No. 710,008

Int. Cl. B65d 3/00

U.S. Cl. 229-4.5

3 Claims



A container having a composite tubular body member and end closure members and method of making the container wherein a body ply web is wound into tubular form with its adjacent marginal edges defining a continuous seam therebetween and a metallic foil liner ply web is secured to the body ply web prior to the winding of the body ply strip into tubular form; the liner ply web has a coated surface which defines the interior surface of the body member and a marginal edge portion which extends beyond the corresponding marginal edge of the body ply web, overlapping the adjacent body ply seam and being secured to the surface of the adjacent liner ply web in a fluid-tight manner.

3,520,464

**LIFT AND PULL RING CONTAINER**

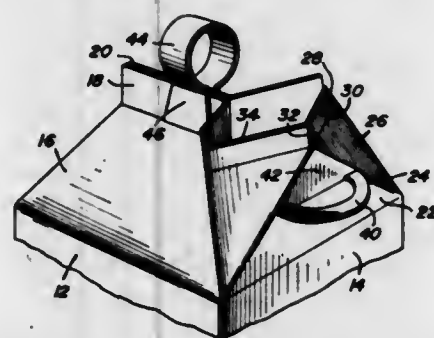
William A. Pugh, Sr., 5200 S. Harper Ave., Chicago, Ill. 60615

Filed Mar. 11, 1968, Ser. No. 711,964

Int. Cl. B65d 5/72, 25/28

U.S. Cl. 229-17

7 Claims



A container of the gable type having a pouring spout formed by unfolding one end of the gable in which a lift ring capable of receiving a finger or fingers is connected to the apex of the gable end of the container for use in decanting material from the container. A pull ring is associated with the pouring spout so that it may be moved to the pouring position without the necessity of engaging the edges of the pouring spout by grasping with the fingers thereby eliminating contamination of the products when poured from the pouring spout and eliminating soiling of the fingers when opening the pouring spout.

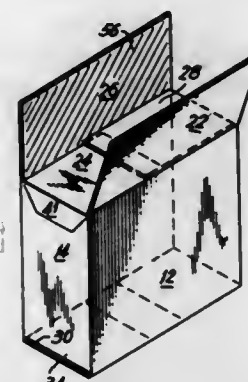
3,520,465  
**CARTON CONSTRUCTION HAVING A TEAR-AWAY END WALL AND BLANK THEREFOR**  
Robert Romaine Spiering and George Leroy Meyers, Menasha, Wis., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 30, 1968, Ser. No. 725,377

Int. Cl. B65d 5/54, 5/72

U.S. Cl. 229-17

7 Claims



A carton construction, and blank therefor, having a tear-away end wall. A pair of opposed sidewall end flaps are overlapped and adhesively secured together. A pair of opposed front and rear end flaps are attached to their respective main panels by an internal cut fold line and adhesively secured to each other and the secured side panel end flaps. A score line pattern in one side panel of the carton defines a removable panel with which the tearing action for the removable end wall may be instituted.

3,520,466

**RECLOSABLE CARTON**

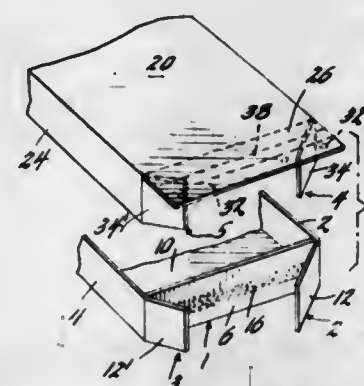
Frank Vokes and James A. Benzing, Hamilton, Ohio, assignors to U.S. Plywood-Champion Papers Inc., a corporation of New York

Original application Aug. 28, 1964, Ser. No. 392,799, now Patent No. 3,436,893, dated Apr. 8, 1969. Divided and this application Apr. 24, 1968, Ser. No. 796,238

Int. Cl. B65d 5/26, 5/54

U.S. Cl. 229-32

6 Claims



A reclosable package structure particularly useful in the paper industry or in any industry where packages of material pass from a manufacturer to a distributor and wherein the distributor inserts the labels or identifying indicia in the package before final sale.

3,520,467

**CONTAINER WITH FLANGED COVER**

Harry F. Druec, Prospect, and Allan E. Foote, Naperville, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Oct. 28, 1968, Ser. No. 770,973

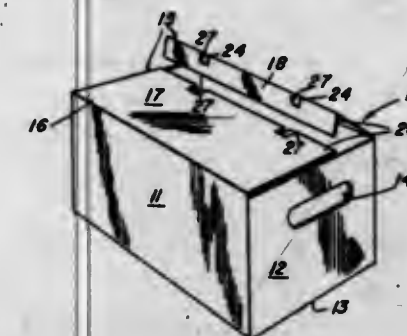
Int. Cl. B65d 5/66

U.S. Cl. 229-44

3 Claims

A container of relatively thick, foldable paperboard is formed with side walls, end walls, a bottom, and a cover; the cover having a top panel portion and a depending

flange portion separated from one another by a fold line located adjacent one edge of the cover. The flange portion is positioned at a predetermined angle with the panel por-



tion. Tab means extend between the portions in an underlying relationship with the fold line for retaining the flange portion at a predetermined angle with the panel portion.

3,520,468

**CONTAINER CLOSURE STACKING ALIGNMENT AND LATCHING STRUCTURE**

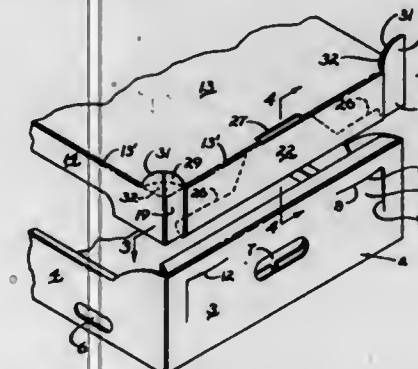
Ronald W. Wiemann, Claremont, Calif., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed Jan. 3, 1969, Ser. No. 788,750

Int. Cl. B65d 5/22

U.S. Cl. 229-45

5 Claims



Corners of a container closure are each formed with an upstanding corner-forming projection comprising a pair of tabs integrally connected together and to adjacent walls of the closure; the tabs being angularly related to facilitate alignment of containers in stacked relationship and to hold them against relative lateral shifting. Means is provided to latch the lid loosely to the tray to allow movement of the lid relative to the tray.

3,520,469

**TEAR TAPE**

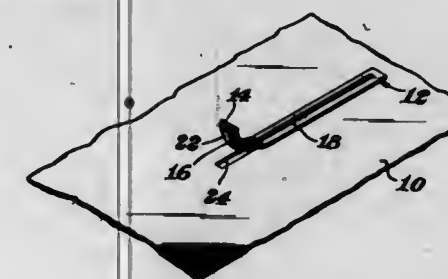
Heinz U. Marx, Parma, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Mar. 22, 1968, Ser. No. 715,413

Int. Cl. B65d 5/70; C09j 7/02

U.S. Cl. 229-51

9 Claims



This invention relates to a tear tape particularly suited for usage on highly stretchable polyethylene film and sheet materials. The tear tape is secured to the poly-

ethylene material by a heat activated adhesive which comprises a copolymer of ethylene and an ethylenically unsaturated carboxylic acid. The adhesive functions to diminish the stretchable qualities of polyethylene in the seal area such that a more controlled, smoother tearing action is obtained. Also, a superior bond between the film and the tear tape can be achieved such that frequently even contaminated film surfaces can be fitted with the unique tear tape construction disclosed.

3,520,470

**PLASTIC FILM BAG WITH CARRYING HANDLE**

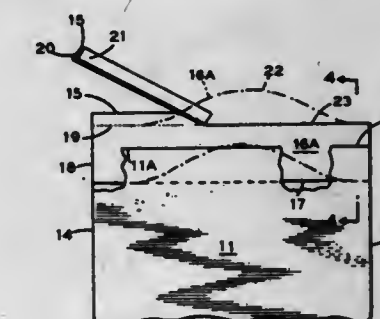
Meyer Korn, 418 Lafayette St., New York, N.Y. 10003, and Joseph H. Schlessel, 7A Sycamore Drive, Great Neck, N.Y. 11021

Filed Sept. 12, 1968, Ser. No. 759,396

Int. Cl. B65d 27/32, 33/06

U.S. Cl. 229-54

1 Claim



A plastic film bag construction having folded flap or gusset portions which may be optionally converted to a form providing handle means for carrying the bag; the bag being of generally conventional construction with a slight modification thereof to provide the optional handle feature.

3,520,471

**FLEXIBLE PLASTIC CONTAINER**

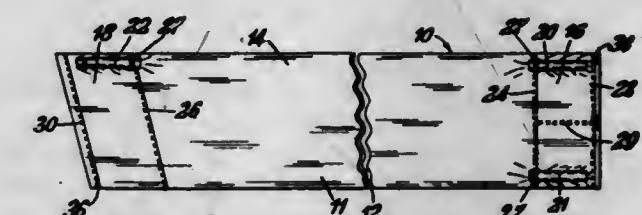
Clifford C. Faust, Riverside, Ill., assignor to Union Carbide Corporation, New York, N.Y., a corporation of New York

Filed Oct. 9, 1968, Ser. No. 766,147

Int. Cl. B65d 31/12, 33/16, 33/38

U.S. Cl. 229-56

6 Claims



A sealed flexible plastic film container for storing a viable fluid such as blood comprises three compartments, a fluid storage compartment disposed between two sealed end compartments. Each of the end compartments respectively envelopes a fluid collecting conduit and a fluid dispensing conduit, and the conduits extend into the storage compartment. Access to the conduit is obtained by removing the end seals in each end compartment.

3,520,472

**TAMPER-PROOF ENVELOPE**

Zdzislaw Kukulski, 2101 Bridgeway, Sausalito, Calif. 94965

Filed July 5, 1968, Ser. No. 742,664

Int. Cl. B65d 27/30

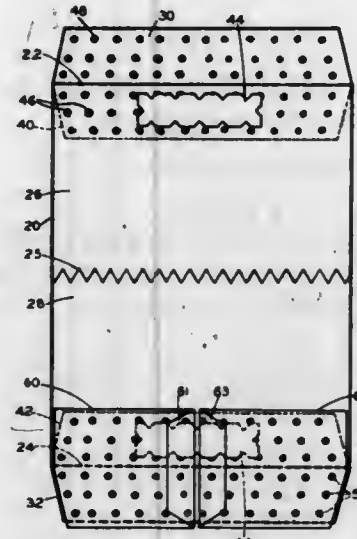
U.S. Cl. 229-80

7 Claims

Envelope of transparent plastic, with opacifying liner divided in two parts by a zig-zag heat seal, and having flaps at both ends with adhesive protected by release



sheet, the envelope when folded, adapted to make a tight fit in a further envelope for mailing, the construction be-

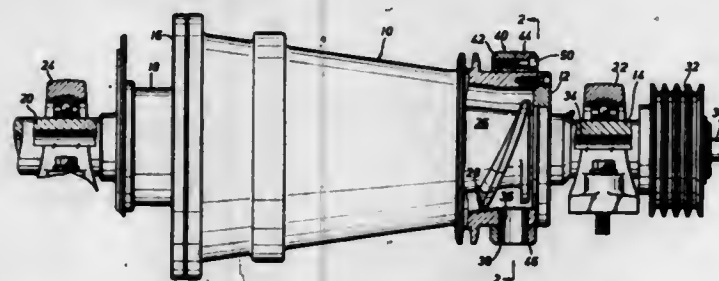


ing proof against tampering without leaving evidence of such.

**3,520,473**  
**CENTRIFUGAL SEPARATOR WITH REPLACEABLE DISCHARGE OUTLET BUSHINGS**  
Lafayette E. Gilreath, 7623 Arnim, Houston, Tex. 77017  
Filed June 10, 1968, Ser. No. 744,280  
Int. Cl. B04b 11/00

U.S. Cl. 233-47

4 Claims



A discharge bushing or nozzle arrangement for centrifugal apparatus in which centrifugally separated material is discharged generally radially through openings which move circumferentially with the rotating apparatus. The apparatus has discharge bushings or nozzles in the discharge openings which are disposed in angular relation to radii along which the separated material moves, so that the outer ends of the bushings are disposed in circumferentially offset relation to the inner ends of the bushings in a direction opposite to the direction of rotation of the apparatus, whereby the material is caused to move in a substantially straight path away from the outer ends of the bushings, to prevent the wear or cutting away of the trailing outer edge portions of the bushings which takes place when the axes of the bushings are positioned radially relative to the axis of rotation of the apparatus.

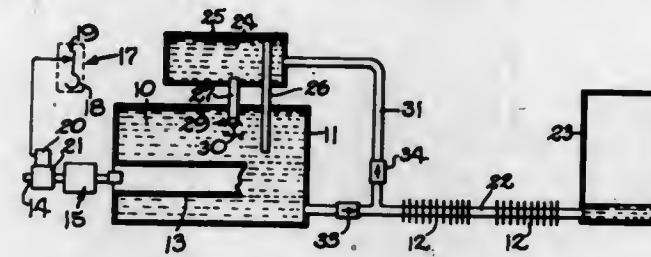
**3,520,474**  
**LIQUID HEATING SYSTEM**  
Richard T. Pfleger, Rockford, and Kenneth E. Null, Winnebago, Ill., assignors to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois  
Filed Oct. 28, 1968, Ser. No. 770,911  
Int. Cl. F24d 3/02

U.S. Cl. 237-64

7 Claims

Liquid heated in a boiler by a burner is forced into a conduit and through a radiator by the vapor pressure

generated in the boiler and then is delivered to a storage reservoir. After the liquid in the boiler has dropped to a predetermined level and as the burner continues to heat the liquid, a supply of relatively cool liquid is dumped into the boiler from an accumulator tank to cool and condense the vapor in the boiler and to create a vacuum



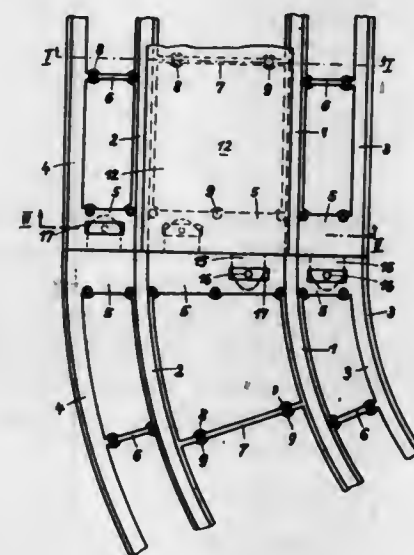
therein for returning the liquid reversely through the conduit from the reservoir and back into the boiler through the tank. The returning liquid which remains after refilling of the boiler is used to refill the tank to create another supply of relatively cool liquid for dumping into the boiler during the next operating cycle.

**3,520,475**  
**TRACK TOY, ESPECIALLY AUTOMOBILE TRACK TOY**  
Max Ernst, Lohengrinstr. 14, Nuremberg, Germany  
Filed May 23, 1968, Ser. No. 731,372  
Claims priority, application Germany, May 24, 1967, E 34,043

U.S. Cl. 238-10

Int. Cl. A63h 19/30

5 Claims



A track toy, especially for toy automobiles, which includes a plurality of track sections having the top side thereof provided with guiding slots for receiving endless driving bodies, said track sections having bores and having cover plates connected thereto which define said guiding slots and are provided with molded-on studs extending into and frictionally engaging said bores to thereby connect said cover plates to said track sections.

**3,520,476**  
**ELECTRONIC SOIL MOISTURE AND TEMPERATURE SENSING DEVICE**  
Howard C. Schmid, 2700 Queen St., Missoula, Mont. 59801  
Filed July 19, 1967, Ser. No. 654,662  
Int. Cl. A01g 25/00; G01n 27/12

U.S. Cl. 239-63

4 Claims

An improved device responsive to the temperature and moisture content of soil for controlling irrigating systems.

The electrical resistance of a fibrous material decreases or increases, respectively, as the material is compressed or expanded due to the thermal contraction or expansion of

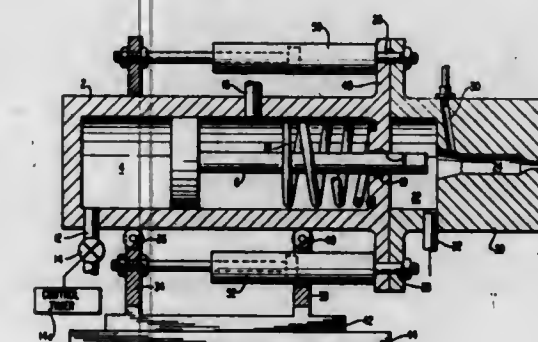


restraining members situated about the material; or as the material absorbs more or less moisture from the surrounding soil, the associated irrigation system being activated on low current through the material.

**3,520,477**  
**PNEUMATICALLY POWERED WATER CANNON**  
William C. Cooley, Bethesda, Md., assignor to Exotech Incorporated, Rockville, Md.  
Continuation-in-part of application Ser. No. 612,945, Jan. 31, 1967. This application Feb. 23, 1968, Ser. No. 707,751  
Int. Cl. B05b 1/08

U.S. Cl. 239-101

3 Claims



A device for compressing liquid to extremely high pressures and discharging it in the form of pulsed jets from a nozzle by means of a reciprocating piston in a cylinder. Liquid is supplied under constant pressure to a separate extrusion chamber which communicates with an end face of the cylinder. The free piston is provided with a cylindrical rod having an impact surface. The rod extends through one of the end faces of the cylinder apertured for this purpose and communicates with the extrusion chamber to which the liquid is supplied. Pneumatic means is provided to actuate the free piston driving the same to cause the extension rod to impact the liquid in the extrusion chamber and thereby force a pulsed jet from a nozzle located therein.

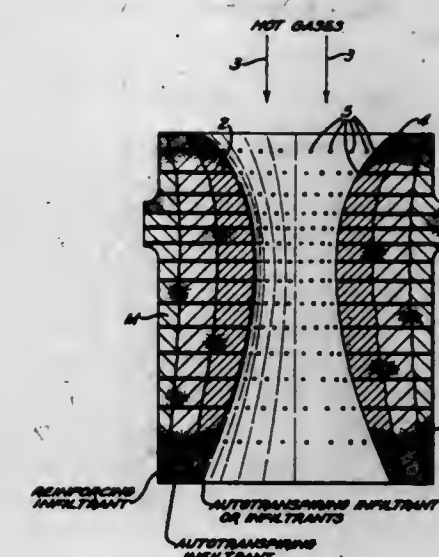
**3,520,478**  
**ROCKET NOZZLES**  
Amos J. Shaler, State College, Pa., assignor to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania  
Filed June 6, 1966, Ser. No. 555,273  
Int. Cl. B64d 33/04

U.S. Cl. 239-265.15

5 Claims

Rocket nozzles and nozzle inserts of the autotranspirational cooling type comprise a porous body of refractory

material, for example, graphite, refractory metal, or a refractory metal carbide. Hot propellant gases pass through a bore which provides a flame-contacting face. The outside of the body forms its back face. In accordance with the invention the body is provided with an array of closely spaced passages, or holes, radially disposed relative to the nozzle axis; they extend from the flame face to the back face. The porosity and passages are infiltrated in the region of said back face to a depth between one-

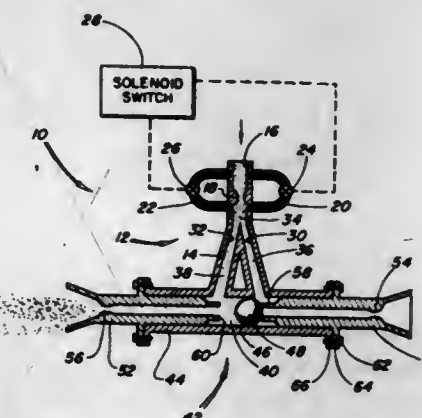


tenth and one-quarter of the thickness of the body at its throat with a substance that is solid, non-volatile and of low coefficient of thermal expansion at the operating temperature of the back face of the insert and which acts to reinforce the body against stresses due to the differential expansion during firing, and the passages and remaining porosity are then infiltrated with a metal which melts above about 1000° F., exerts high vapor pressure at the flame temperature and is non-reactive with the refractory body at temperatures, the latter reaches in service.

**3,520,479**  
**FLUID OPERATED VALVE AND NOZZLE ARRANGEMENT**  
Humbert G. Jacquin, Cupertino, and Paul A. Galvan, San Jose, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed Aug. 5, 1968, Ser. No. 750,228  
Int. Cl. B64c 15/14

U.S. Cl. 239-265.23

6 Claims



A fluid operated valve and nozzle arrangement including a Coanda Effect fluid amplifier having its outlet passages fluidly connected to a plenum chamber in which a







### 3,520,488 SPINNING REEL

Marcel Vouthier, Cluses, France, assignor to Ets. Carpano & Pons, Cluses, France, a company of France

Filed Nov. 1, 1968, Ser. No. 772,544  
Claims priority, application France, Jan. 15, 1968, 136,049

Int. Cl. A01k 89/00

U.S. Cl. 242—34.21

5 Claims



This spinning reel has a line pick-up means rotated about a reciprocated spool to wind line thereon in an even manner. The pick-up means is rotated by crank operated gearing having an eccentric engaging a follower on a flat rod carrying the spool to reciprocate same. The pick-up means includes a drum having diametrically opposite projections serving to rotatably mount a wire-like, pick-up bail for movement between casting and winding positions. The configuration of projections and bail are such that when the bail is manually shifted to casting position, its ends are spread apart creating stress which returns the bail to winding position by coaction between a stationary abutment and one end of the bail when the pick-up means is rotated. The spool is mounted on a flat rod by slotted support means clamped to said rod by an adjustable nut which also serves to regulate a torque limiting friction connection between the spool and support. The pick-up means and its associated driven gear are inserted through a front casing opening and held in assembled condition by cooperating retaining means on the casing and pick-up means.

### 3,520,489 TRANSMISSION WIRE STRINGING DEVICE

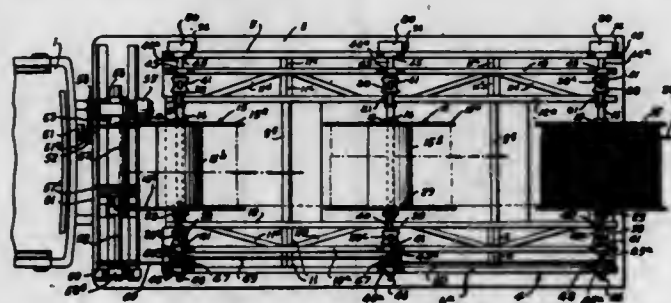
Lawrence L. Flowers, P.O. Box 311, Hillsboro, Tex. 76645

Continuation-in-part of application Ser. No. 648,870, June 26, 1967. This application Mar. 1, 1968, Ser. No. 709,671

Int. Cl. B65h 75/40

U.S. Cl. 242—86.5

14 Claims



A device for stringing transmission lines comprising a vehicular mounted support frame with aligned upwardly facing bearing slots whereby shafts with spools mounted thereon may be raised from or lowered into the bearing slots. A quick release coupling and clutch are provided for connecting the spool shafts to drive and braking means.

### 3,520,490 TEXTILE YARN CARRIERS WITH ANODIZED SURFACES

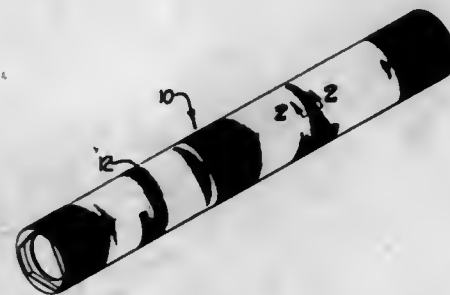
Thomas C. Williams, Charlotte, N.C., assignor to Piedmont Plating & Anodizing Co., Charlotte, N.C., a corporation of North Carolina

Continuation-in-part of application Ser. No. 612,904, Jan. 31, 1967. This application May 7, 1968, Ser. No. 744,237

Int. Cl. B65h 75/10, 75/14

U.S. Cl. 242—118.32

7 Claims



The yarn engaging portions of textile yarn carriers are protected against nicking and scratching damage, such as might otherwise occur during handling, storage or removal of residual amounts of yarn therefrom through the use of a sharp instrument, by a very hard layer of anodically produced oxide. The layer of oxide has a scratch hardness of approximately 9 on the Mohs' scale, and a density and thickness within predetermined ranges of values.

### 3,520,491 SPOOL SUPPORTING DEVICE

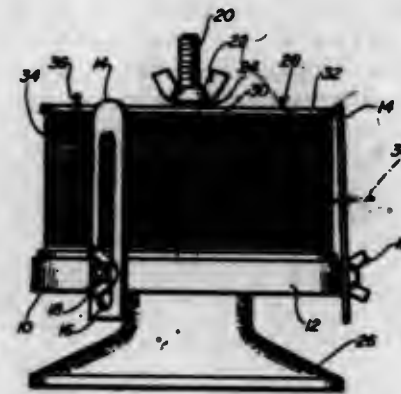
Peter P. Hollack, 15 Douglas St., Windsor, Conn. 06095

Filed Sept. 16, 1968, Ser. No. 762,273

Int. Cl. B65h 49/00, 49/36

U.S. Cl. 242—129.8

11 Claims



A spool supporting device comprises a base member, a shaft extending upwardly therefrom and a finger also extending upwardly from the base member and spaced from the shaft. The shaft is insertable into the axial passageway of a spool of material and the finger and shaft are spaced a sufficient distance apart to seat the spool therebetween with the finger bearing thereagainst.

### 3,520,492 ANTISLIPPAGE MEANS FOR WIRE TENSIONING APPARATUS

Maurice H. Brown, Palos Heights, Ill., assignor to Azonic Products, Inc., Palos Heights, Ill., a corporation of Illinois

Filed Apr. 4, 1968, Ser. No. 718,775

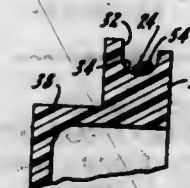
Int. Cl. B65h 59/16

U.S. Cl. 242—155

2 Claims

An apparatus for applying tension to a continuous wire as the wire is unwound from a reel and wound onto coils or the like, including a band brake wire tensioning

assembly having a pulley with a groove formed around its periphery to receive one or more loops of the wire. The width of the groove is considerably greater than the diameter of the wire and has a generally concave base and located alongside the wire so as to contact the wire and prevent slippage of the wire during winding operations.



surface. An elastic band is positioned in the groove in tight engagement with the concave surface thereof and located alongside the wire so as to contact the wire and prevent slippage of the wire during winding operations.

### 3,520,493 GUIDE FOR A MOVING TEXTILE STRAND

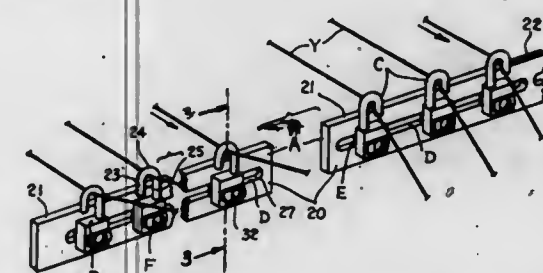
Robert L. Carroll, 408 McIver St., Greenville, S.C. 29601

Filed Oct. 18, 1968, Ser. No. 768,731

Int. Cl. B65h 57/00, 57/24, 57/26

U.S. Cl. 242—157

4 Claims



A guide for a textile strand includes a bar having a strand guiding surface across the moving strand, a support carried by the bar positioning a strand guiding loop across the strand, said loop being carried on one end by the support, a trackway carried by the bar accommodating a guide on the support for lateral adjustment, and means spacing the loop from the bar.

### 3,520,494 DWELL CLUTCH FOR FILAMENT WINDING APPARATUS

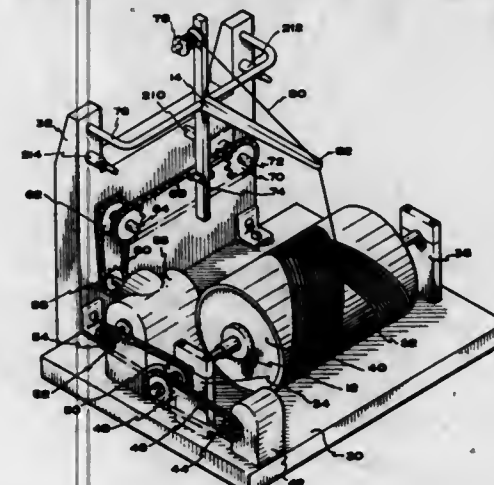
John C. Anderson, Salt Lake City, and Robert L. Skinner, Sandy, Utah, assignors to Engineering Technology, Inc., Salt Lake City, Utah, a corporation of Utah

Filed Aug. 24, 1967, Ser. No. 663,147

Int. Cl. B65h 54/28, 57/28, 54/64

U.S. Cl. 242—158

9 Claims



A filament winding apparatus with a carriage, for positioning filament on a mandrel, propelled by drive means including a dwell clutch which is disengaged at the end of each carriage pass over the mandrel. The dwell clutch has coating clutch plates with detent pins in one plate and detents in the other plate which are programmed to coact and drive the carriage only when the detent pins and detents are aligned.

### 3,520,495 TAPE CARTRIDGE AND DRIVING MECHANISM FOR THE TAPE

Tadashi Sotani, 21-1 5-chome, Denenchofu, Ohta-ku, Tokyo, Japan

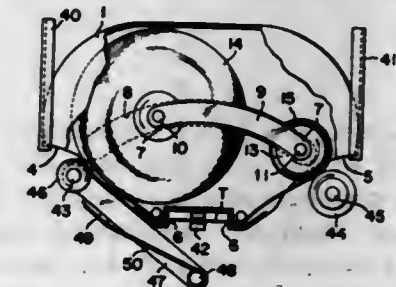
Filed Oct. 18, 1967, Ser. No. 676,161

Claims priority, application Japan, Oct. 29, 1966, 41/71,030, 41/99,735; Aug. 8, 1967, 42/67,836

Int. Cl. G11b 15/32, 23/10

U.S. Cl. 242—192

4 Claims



A tape cartridge having two spools connected together for movement in a spaced relation to each other there-within, and a tape driving mechanism for winding the tape onto the take-up spool, the driving means including capstan means engaging the periphery of the take-up spool to wind the tape thereon and pressure means engaging the periphery of the feed spool and being effective through the feed spool and spool connector means to urge the take-up spool against the capstan means.

### 3,520,496 SERPENTUATOR

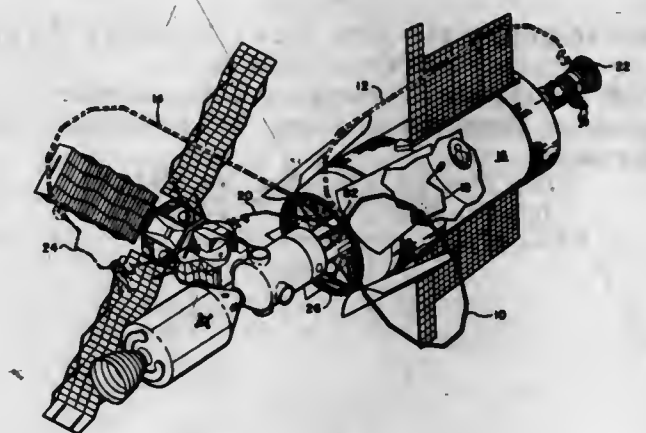
Hans F. Wuenschel, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Feb. 1, 1968, Ser. No. 702,396

Int. Cl. B64g 1/00

U.S. Cl. 244—1

9 Claims



A "Serpentuator" is a system for an orbital space station that includes internal and external serpentine devices for performing physical operations such as positioning personnel and tools around the space station. Each device consists of a plurality of cylindrical links pivotally connected at their ends and includes servo-actuators connected between adjacent links for controlling the angular relationships of the links relative to one another. The external device has one end mounted to the space station and the internal device has a clamping means on one end for attachment to various parts of the space station or to the unattached end of the external device.



3,520,497

**FRAMEWORK FOR A HELICOPTER**  
 Buford J. Schramm, Mesa, Ariz., assignor to Rotorway, Inc., Mesa, Ariz., a corporation of Delaware  
 Filed June 5, 1968, Ser. No. 734,638  
 Int. Cl. B64c 1/06  
 U.S. Cl. 244—17.11

10 Claims



This invention relates to a framework for a helicopter. The framework of the invention includes a pair of forward airframe members and a pair of rearward airframe members all of which are bent tubing with leg sections forming an obtuse angle and joined by an arcuate medial section. The framework is generally symmetrical relative to a direction and axis of forward motion. The obtuse angle of the forward airframe member faces upwardly, and that of the rearward airframe member faces downwardly. The forward legs of the forward and rearward airframe members are attached to each other, as are the rearward legs so as to form two side members. The side members are structurally joined together by cross members. A landing gear member is attached to each of the rearward side members and projects therefrom. A tail boom member is attached to each of the rearward airframe members and projects rearwardly therefrom. A brace member joins the rearward legs of the side frame member so as to form a rigid triangular structure for each pair of forward and rearward airframe members.

According to preferred but optional features of the invention, a rotor mounting plate is mounted to and interconnects the forward airframe members, and a power plant mount is attached to and interconnects the rearward airframe members.

3,520,498

**STABILIZATION OF AIRCRAFT ROTORS HAVING CYCLIC PITCH**

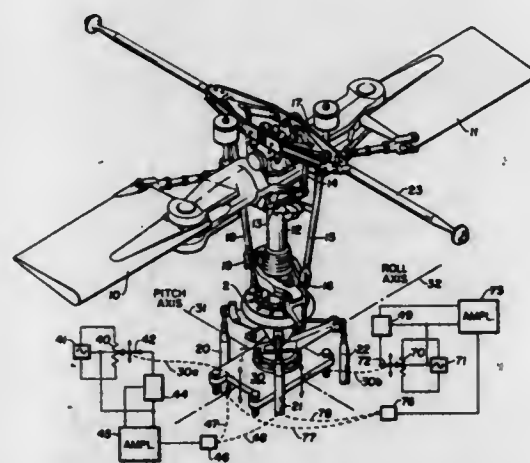
Milford R. Murphy, Arlington, Tex., assignor to Bell Aerospace Corporation, Hurst, Tex., a corporation of Delaware

Filed Dec. 20, 1967, Ser. No. 692,191

Int. Cl. B64c 27/70, 27/74, 27/76

U.S. Cl. 244—17.27

12 Claims



An aircraft pylon, having a rotor accommodating cyclic pitch and mounted on a shaft for driving the rotor, is

provided with sensor means to generate an output signal dependent upon the rate of change of the position of the shaft axis relative to a first axis perpendicular to the shaft axis with means for introducing cyclic changes in blade pitch on a second axis mutually perpendicular to the first axis and the shaft axis in dependence upon the rate signal.

3,520,499

**FLIGHT CONTROL SYSTEM**

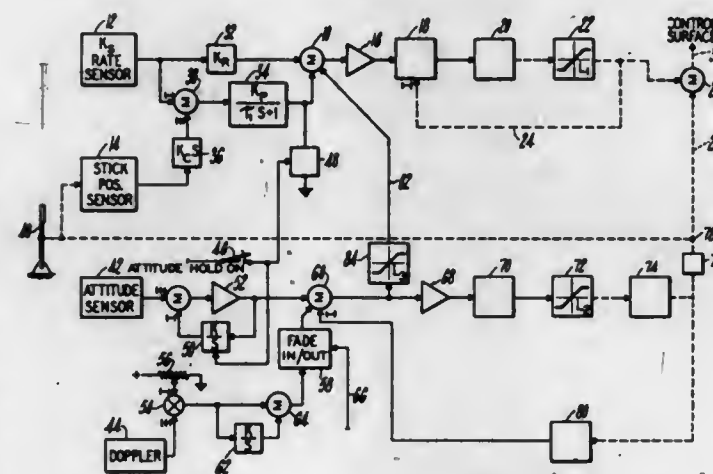
Henry R. Ask, Wapping, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed May 29, 1968, Ser. No. 732,907

Int. Cl. B64c 13/18

U.S. Cl. 244—77

10 Claims



This invention relates to an aircraft control system which contains an inner control loop for short-term stabilization and an outer control loop for long-term holding functions. A limited authority high response actuator translates the stabilizing commands from the inner loop to the aircraft control surfaces and a slow response, full authority actuator in series with the limited authority actuator is provided to translate the long-term commands from the outer loop to the control surfaces. In order to improve the outer loop response and still maintain the safety aspects of the slow responding full authority actuator, the outer loop feedback error is cross fed from the outer loop to the inner loop actuator.

3,520,500

**AIRCRAFT EJECTION SYSTEM**

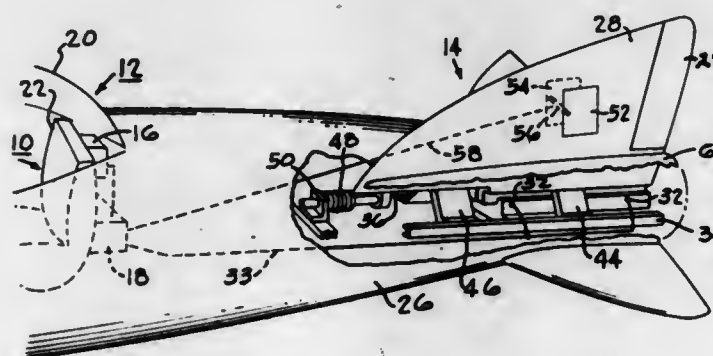
James Mulligan, 112 E. Broad St., Palmyra, N.J. 08065

Filed Aug. 2, 1968, Ser. No. 749,678

Int. Cl. B64c 1/32, 9/02; B64d 25/10

U.S. Cl. 244—122

6 Claims



An aircraft ejection system employs a tail assembly slidably mounted on tracks, which is actuated to be de-

3,520,503

**OMNIDIRECTIONAL MULTIPLE IMPACT LANDING SYSTEM**

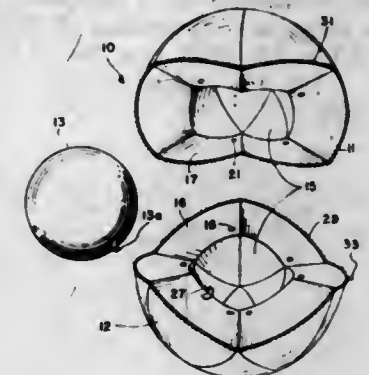
John R. McGehee, Newport News, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Mar. 5, 1968, Ser. No. 710,562

Int. Cl. B63b 7/08; B64d 1/08; F16d 63/00

U.S. Cl. 244—138

4 Claims



A protective landing system having stowable, omnidirectional, energy-dissipating and multiple-impact capabilities for facilitating soft landing of instrument packages or the like.

3,520,504

**CABLE HANGER FOR ABOVE-GROUND CABLES**

Nils Rune Axelsson, Kallhall, and Sven Gunnar Wretmark, Stockholm, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed June 20, 1968, Ser. No. 738,500

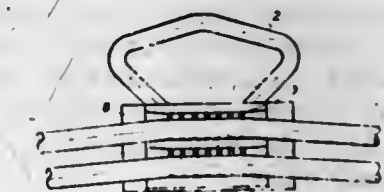
Claims priority, application Sweden, July 6, 1967,

10,354/67

Int. Cl. F16l 3/00; H02g 7/00

U.S. Cl. 248—58

5 Claims



A cable hanger for an above ground or aerial cable formed of two or more twisted together insulated cable cores or conductors has an elongate bracket with wedge-shaped grooves into which the cable conductors spread apart are lengthwise inserted with a pressure fit. The bracket is suspended from a pole by means of a yoke secured to the bracket at a point thereof midway to the grooves in opposite sides of the bracket.

3,520,505

**GARBAGE CAN RACK**

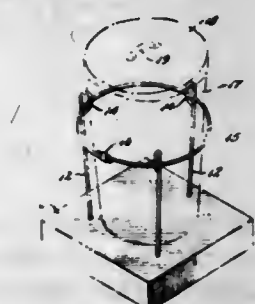
Johnny G. Allen, 603 Cedar Ave., Albany, Ga. 31701

Filed Oct. 3, 1968, Ser. No. 764,698

Int. Cl. B65f 1/14

U.S. Cl. 248—146

2 Claims



A simple, inexpensive and practical garbage can rack having a heavy base such as a concrete slab, an oversized

tached from the aircraft when the ejection-seat system is actuated in an emergency. Special surfaces on the tail are effective to propel the tail assembly.

3,520,501

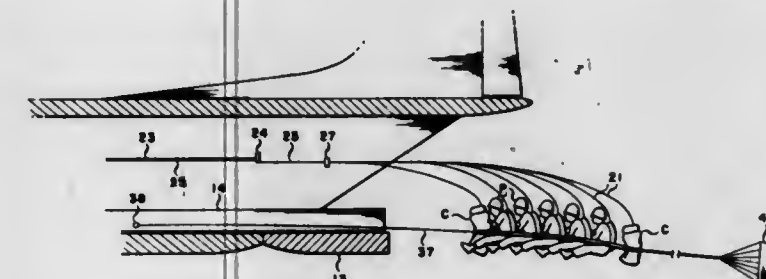
**AERIAL DELIVERY APPARATUS FOR AIRCRAFT**  
 Carl E. Brown, Atlanta, and Charles N. Crow and Charles W. Miller, Marietta, Ga., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Oct. 4, 1968, Ser. No. 765,129

Int. Cl. B64d 9/00

U.S. Cl. 244—137

10 Claims



An aerial delivery system is provided to airdrop multiple objects, either pieces of cargo or paratroopers or a combination of both, quickly and within a predetermined, limited surface target area. Means is included to join the several troopers or cargo pieces in a "stick" for extraction as a unit from the aircraft and subsequent separation one from another to allow individual freedom of movement thereof to some predetermined degree. Knock-down structure within the aircraft hold is provided to facilitate movement of each "stick" therefrom into the airstream to permit rapid reconversion of the aircraft to conventional transport or cargo condition.

3,520,502

**CARGO LAUNCHING AND RECOVERY APPARATUS FOR AIRCRAFT**

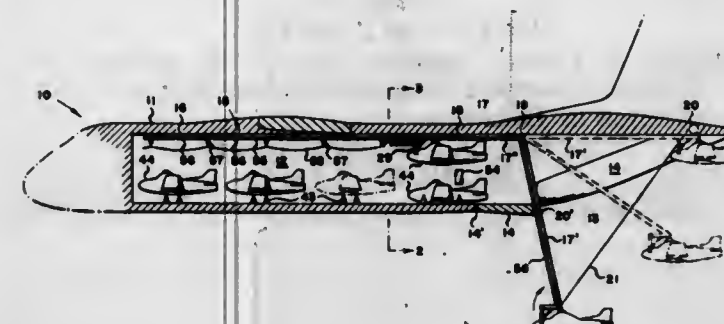
Rollo G. Smethers, Jr., Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Nov. 12, 1968, Ser. No. 774,651

Int. Cl. B61b 5/02; B64d 1/10

U.S. Cl. 244—137

10 Claims



Utilizing an aerial delivery type aircraft with aft doors, parasite aircraft (manned or drone) are flown to and from the parent aircraft in flight. The small aircraft is taken on and off the carrier aircraft by means of a power driven carriage riding on an overhead track in the parent aircraft. The aftmost part of this track extends to the end of the parent aircraft and is pivotable so that when the aft doors are open it can be swung through the doorway and into the airstream below the parent aircraft. The carriage is provided with connecting and hoist means to releasably engage one parasite aircraft at a time and deliver it to and from remote stations, one a parking station within the parent aircraft and the other a launching and retrieving station at the aft extremity of the overhead track.



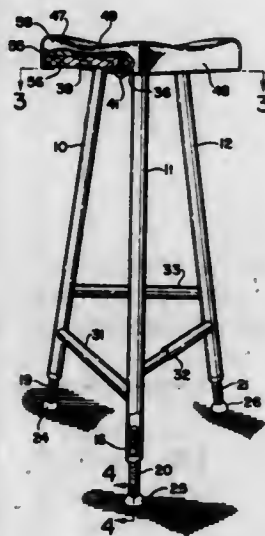
can receiving and retaining ring, and a series of upright posts having intumed upper ends in which said ring is floatingly received to yield to facilitate application and removal of a garbage can.

### 3,520,506 WORK STOOL

Zoltan Szohatzky, Mentor, and Emery J. Zahuranec, Solon, Ohio, assignors to Crawford Fitting Company, Solon, Ohio, a corporation of Ohio  
Filed Mar. 13, 1968, Ser. No. 712,644  
Int. Cl. F16m 11/16

U.S. Cl. 248—188

7 Claims



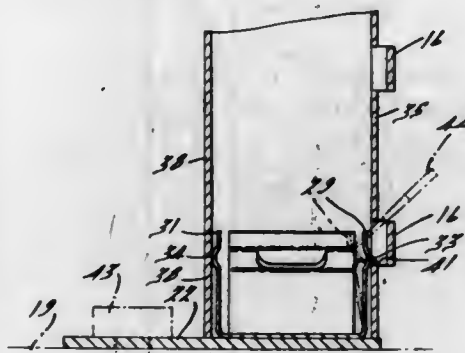
A work stool having three elongated upwardly converging legs of substantially equal length. A triangular bracket secures the upper ends of the legs equidistant from one another and a generally triangularly-shaped seat is attached to the bracket. The triangular-shaped seat has each of its corners positioned directly vertically above the point at which the lower end of an associated leg engages the floor or other support surface. Rungs of different height from the floor connect the lower portions of the legs to each other.

### 3,520,507 REMOVABLE FOOT FOR ADJUSTABLE STORAGE RACK

Dale R. Strong, Detroit, Mich., assignor to Palmer-Shile Company, Detroit, Mich., a corporation of Michigan  
Filed June 21, 1968, Ser. No. 738,904  
Int. Cl. F16m 11/20

U.S. Cl. 248—188.8

2 Claims



An adjustable beam type storage rack having columns with vertically spaced pressed-out slots for beam retention. A removable foot for each column can be snapped into the bottom of the column any of four positions 90° apart, coacting with the lowermost slot and is removable with a screwdriver.

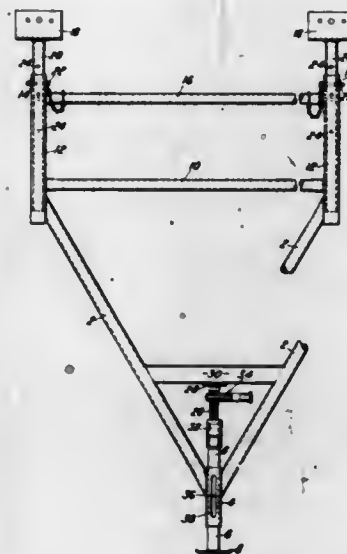
### 3,520,508 CONCRETE FORMWORK

John Barrington Sewell, Brookman's Park, and Jack Raymond Tooley, Surrey, England, assignors to Acrow (Engineers) Limited, London, England, a British company

Filed Aug. 7, 1967, Ser. No. 658,706  
Claims priority, application Great Britain, Apr. 6, 1967, 15,847/67  
Int. Cl. E04g 11/56

U.S. Cl. 249—18

4 Claims



The formwork panel adjustable support has two spaced apart support brackets connected by a single ground engaging member through main framework. A screw jack is operatively connected between the ground engaging member and a point on the framework which is movable relatively to the ground engaging member to enable adjustment in the height of the support brackets to be made on operation of the jack or the like. The basic shape of the framework is triangular, the apex of the triangle being connected to a sleeve surrounding the ground support member, and the base of the triangle being connected to the brackets.

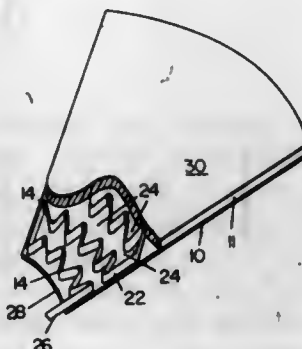
### 3,520,509 FRANGIBLE MOLDS

Donald F. Carey, Brigham City, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed July 17, 1967, Ser. No. 653,691  
Int. Cl. B28b 7/34

U.S. Cl. 249—61

2 Claims



A frangible mold for forming radial slots in a hollow body is made by driving nails through a rigid sheet, winding a tape about the nails, molding a plastic on the sheet so that the tape is embedded therein, and removing the sheet and nails.

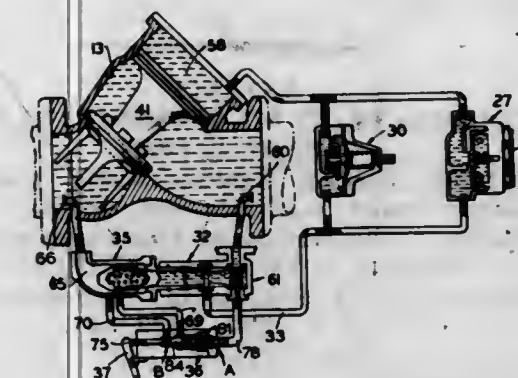
### 3,520,510

#### FLOW CONTROL VALVE

Richard C. Slawinski, Murray Hill, and William Meyer, East Orange, N.J., assignors to Emco Wheaton, Inc., Union, N.J., a corporation of New Jersey  
Continuation-in-part of application Ser. No. 536,551, Mar. 7, 1966, which is a continuation-in-part of application Ser. No. 511,091, Dec. 2, 1965. This application May 8, 1969, Ser. No. 837,981  
Int. Cl. F16k 31/143

U.S. Cl. 251—24

8 Claims



A fast acting venturi assisted valve wherein the line pressure is utilized to effect both the opening and closing of the valve including a fluid operated pilot valve for the main valve, controlled by a manual operated pilot valve.

### 3,520,511

#### PULSE OPERATED VALVE

Eugene Harold Warne, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company

Filed Feb. 14, 1968, Ser. No. 705,444  
Int. Cl. F16k 31/06

U.S. Cl. 251—30

4 Claims

A valve comprising a body, a member within the body, the position of the member determining direction or ability for flow to take place through a passage, the position of member being maintained by fluid pressure on the ends of the member respectively, and two valves controlling entry of fluid to the body at alternative sides of the member in response to reception of respective signal pulses, and initiating movement of the member from one of its positions to the other.

### 3,520,512

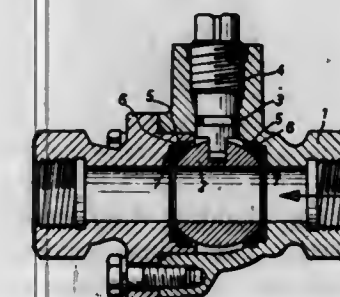
#### SPHERICAL PLUG COCKS

Richard Huber, Modling, Vienna, Austria, assignor to Istag A.G. Suhr/AG, Suhr, Aargau, Switzerland  
Filed Sept. 5, 1967, Ser. No. 665,454

Claims priority, application Austria, Sept. 5, 1966, A 8,386/66  
Int. Cl. F16k 5/06

U.S. Cl. 251—172

15 Claims



The ball plug of the cock according to the invention is mounted between two pairs of rings engaged in the cock

casing and surrounding the inlet and outlet passages on the upstream side and on the downstream side of the ball. Each pair of rings comprises a seat ring for the ball and a resiliently yielding sealing ring arranged adjacent that side of the seat ring which is facing away from the ball; the outer rim of the sealing ring is in sealing engagement with the casing and the inner rim thereof bears with an initial tension against the ball. Preferably, the outer rim portion of the sealing ring is of cylindrical shape, while the inner rim portion is conical with the conicity directed towards the ball plug.

### 3,520,513

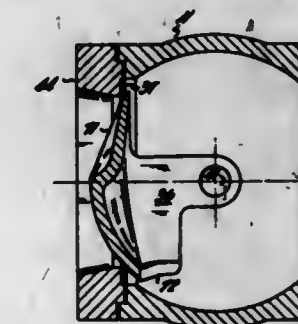
#### MODULATING BALL VALVE

Charles L. Okerblom, Warwick, R.I., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware

Filed Sept. 29, 1967, Ser. No. 671,648  
Int. Cl. F16k 5/10, 1/16

U.S. Cl. 251—208

7 Claims



A modulating ball valve comprising a rotatable plug supported by trunnions journaled along an axis transverse to the line carrying the fluid to be controlled. The surface of the ball plug has a triangular indentation formed therein so that as the plug moves across the face of an orifice plate a pair of apertures are uncovered between the plug and the orifice plate through which the fluid then flows at a controlled rate.

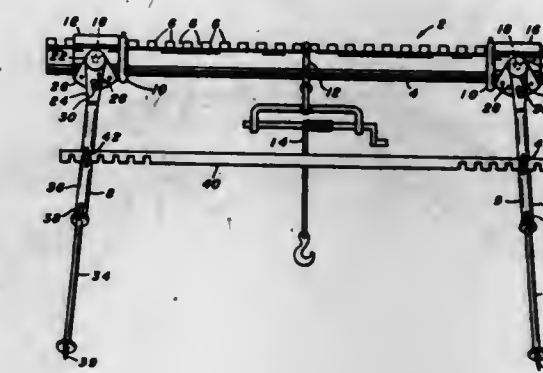
### 3,520,514

#### ADJUSTABLE GANTRY

Julius B. Evans, Chicago, Ill., assignor to United States Steel Corporation, a corporation of Delaware  
Filed Apr. 8, 1968, Ser. No. 719,306  
Int. Cl. B66c 23/60

U.S. Cl. 254—139

1 Claim



An adjustable gantry designed for use on level or sloping ground. The main parts of the gantry are a cross beam and legs for supporting the cross beam that are easily adjustable in length, position along the beam, and



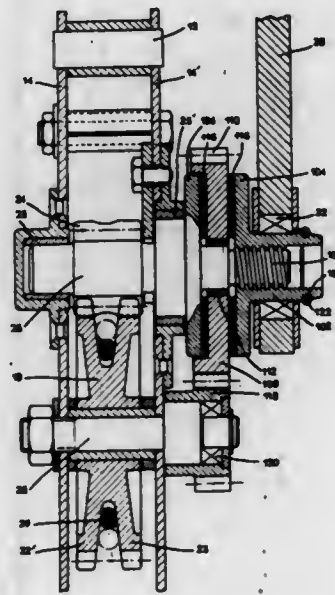
angular relation to the beam. The gantry is of a light-weight, sturdy construction and all parts are easily assembled or disassembled, for ease in transporting the gantry from one location to another.

### 3,520,515 MANUALLY OPERATED WINCH EMPLOYING A TOOTHED PULLEY

Jean Pomagalski, La Tronche, and Marcel Durand, Grenoble, France, assignors to Jean Pomagalski S.A.  
Filed Dec. 11, 1967, Ser. No. 689,612  
Claims priority, application France, Dec. 28, 1966, 5,033; May 12, 1967, 106,408  
Int. Cl. B66d 1/00

U.S. Cl. 254—167

3 Claims



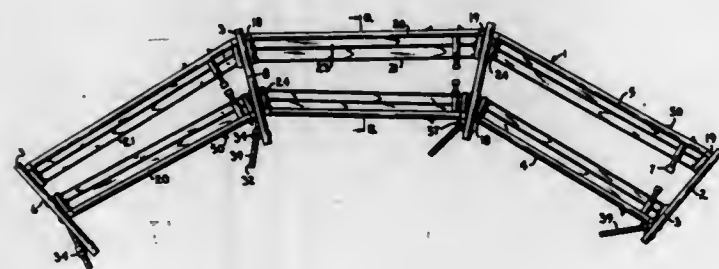
A winch is provided with a grooved pulley capable of raising or hauling heavy loads whereby the two flanks defining the groove of the pulley are toothed and meshed with a sprocket coupled to a pivoting lever by the intermediary of a one-way coupling device. A disc braking device prevents the backwards rotation of the pulley and allows the lowering of the load.

### 3,520,516 ADJUSTABLE CROWDING ALLEY

Murle F. Webster, Dodge City, Kans., assignor to W. W. Manufacturing Company, Dodge City, Kans., a corporation of Kansas  
Filed Aug. 28, 1967, Ser. No. 663,779  
Int. Cl. E04h 17/16

U.S. Cl. 256—26

6 Claims



An adjustable crowding alley for moving livestock such as horses, sheep, and cattle into branding, spraying, dipping, vaccinating, cutting, dehorning, feeding stations, and the like, said alley having a plurality of longitudinally spaced frames with fixed side panels connecting same at one side and laterally adjustable side panels connecting the

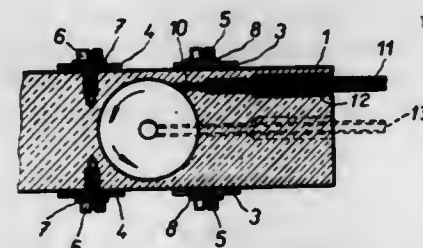
other side of said frames. The alley preferably has a one-way gate adjusted to various widths, as for example, from a wide entrance to a narrow exit or to a uniform width depending on size of the cattle being processed and the reason for moving the livestock. The panels each have an upright and a lower portion inclined downwardly and inwardly whereby the alley is narrower at the bottom than at the top. Each side panel has a plurality of closure members adjacent the bottom thereof whereby the lower portion is solid and the livestock are prevented from turning around or lying down.

### 3,520,517 THROUGH-FLOW MEASURING CELL FOR PHOTOMETERS

Jiří Hrdina, Prague, Czechoslovakia, assignor to Československá akademie věd, Prague, Czechoslovakia, a corporation of Czechoslovakia  
Filed Oct. 5, 1965, Ser. No. 493,037  
Claims priority, application Czechoslovakia, Oct. 8, 1964, 5,572/64  
Int. Cl. G01n 1/10

U.S. Cl. 356—246

6 Claims



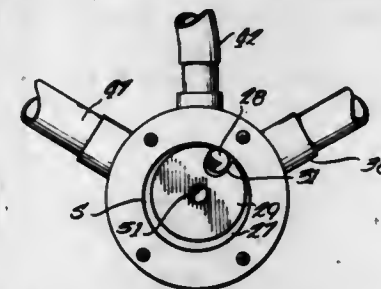
A flow through cell for measuring extinction of fluids in chromatographic processes. The cell and its inlet and outlet passages are shaped to cause turbulence in the fluid passing through the cell. The turbulence introduced in the cell overcomes the effect of frictional drag along the walls of the passage. Specifically, the cell is substantially cylindrical and the inlet and outlet passages are offset from the central axis of the cell in order to produce a helical flow pattern through the cell.

### 3,520,518 FLUID BLENDING PUMP

Omar S. Knedlik, Coffeyville, Kans., assignor to Omar Knedlik Enterprises, Inc., Montgomery County, Kans., a corporation of Kansas  
Filed Aug. 12, 1968, Ser. No. 751,771  
Int. Cl. B01f 7/14

U.S. Cl. 259—7

7 Claims



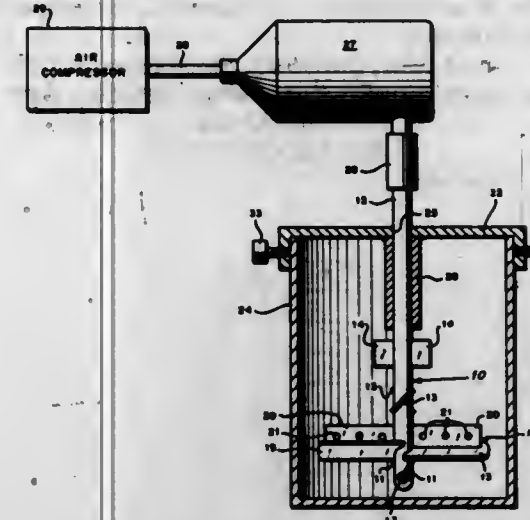
Pump apparatus for blending fluid streams including a casing with an axially extending opening therethrough and cover plates sealingly engaged therewith. The casing is provided with recesses and radial inlet and outlet ports which cooperate with the recesses. Impeller members are disposed in the recesses and a shaft slidably mounted in the axially extending opening is provided for actuating the impellers to convey the fluids from the inlet ports to the outlet port.

### 3,520,519 AGITATOR FOR MIXING HIGH VISCOSITY MATERIALS

Charles A. Cross, South Toms River, N.J., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Sept. 30, 1968, Ser. No. 763,737  
Int. Cl. B01f 7/16

U.S. Cl. 259—122

10 Claims



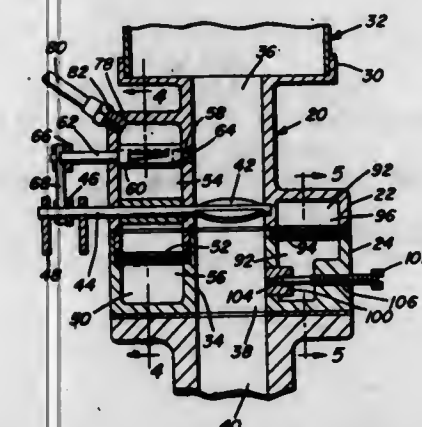
A rotary agitator having two sets of lifting blades and two sets of mixing blades radially disposed and axially aligned along the rotational axis of a shaft member for mixing and liquifying materials of high viscosity.

### 3,520,520 CHARGE FORMING DEVICE

Robert L. Cheskey, Cochran, Pa., assignor of forty percent to C.H. & C.R. Enterprises, Inc., a corporation of Pennsylvania  
Filed Sept. 18, 1968, Ser. No. 760,485  
Int. Cl. F02m 19/04

U.S. Cl. 261—41

6 Claims



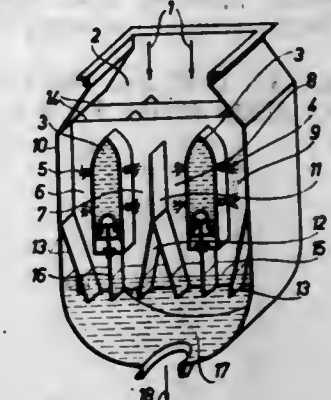
A body defining an air and fuel mixture passage extending therethrough with variable air valve means operatively associated with the passage for controlling the flow of air through the passage. A liquid fuel chamber is supported from the body and includes a fuel inlet and a fuel outlet opening into the air and fuel mixture passage. Also, a metering sleeve is disposed in the fuel chamber with one outlet end portion registered with and opening into the inlet end of the fuel outlet passage and a tubular fuel jet is rotatably disposed in the sleeve. The tubular fuel jet and sleeve are provided with longitudinally extending and registrable openings formed through wall portions thereof and liquid fuel flow from the fuel chamber into the air and fuel mixture passage through the outlet passage of the fuel chamber leading into the air and fuel mixture passage is controlled by variable registry of the openings formed in the sleeve and the fuel jet.

### 3,520,521 HEAVY DUTY CONDENSER

László Heller, László Forgó, and Árpád Bakay, Budapest, Hungary, assignors to Komplex Nagyberendezések Export-Import Vállalat, Budapest, Hungary, a firm  
Continuation of application Ser. No. 506,622, Nov. 3, 1965. This application Jan. 21, 1969, Ser. No. 796,287  
Claims priority, application Hungary, Nov. 6, 1964, HE 449  
Int. Cl. F28b 3/04

U.S. Cl. 261—118

8 Claims



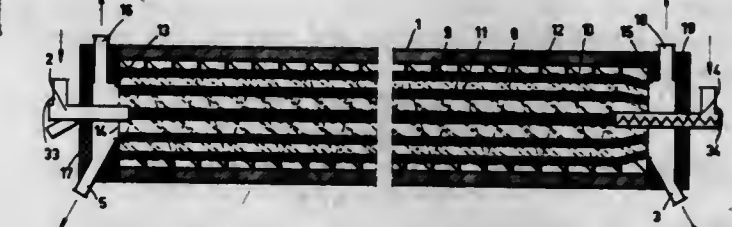
A heavy duty condenser divided into a plurality of steam channels and having a gas abducting means at the downstream extremity of each of said steam channels.

### 3,520,522 SCREW CONVEYOR FOR HEAT TREATING BULK FEED

Paul Schmalfeld, Bad-Homburg vor der Höhe, and Roland Rammier and Guglielmo Schultz, Frankfurt am Main, and Gerd Schwinn, Heusenstamm, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany  
Filed Sept. 18, 1968, Ser. No. 760,439  
Claims priority, application Germany, Sept. 21, 1967, 1,583,472  
Int. Cl. F27b 7/14

U.S. Cl. 263—33

25 Claims



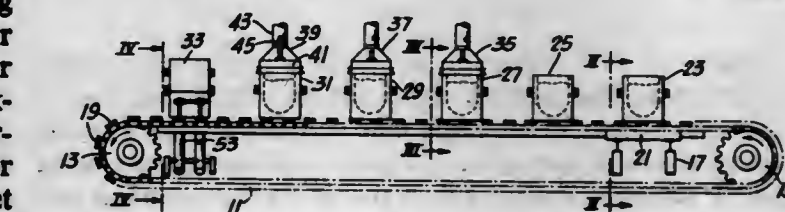
Raw bulk feed is charged into one end of a rotary tube and hot heat carrier material into the other end of the tube. Two oppositely pitched conveyors in the tube move the bulk feed and heat carrier material in countercurrent flow whereby they are mixed and the bulk feed heated.

### 3,520,523 SCRAP PREHEATING AND CHARGING APPARATUS

Stanley T. Szerba, McKeesport, Pa., assignor to Koppers Company, Inc., a corporation of Delaware  
Filed May 22, 1968, Ser. No. 731,144  
Int. Cl. C21c 5/00

U.S. Cl. 266—13

5 Claims



A plurality of scrap charging buckets move along an endless conveyor belt. They are successively charged with



scrap metal; they are moved through a plurality of preheating zones; and, finally, they are tilted upwardly to dump the preheated scrap into a basic oxygen furnace.

it in position. The blowpipe has a refractory lining and a plurality of longitudinally extending external fins that dissipate heat.

### 3,520,524 PRODUCTION OF MAGNESIUM UTILIZING A TUBULAR CONDENSER

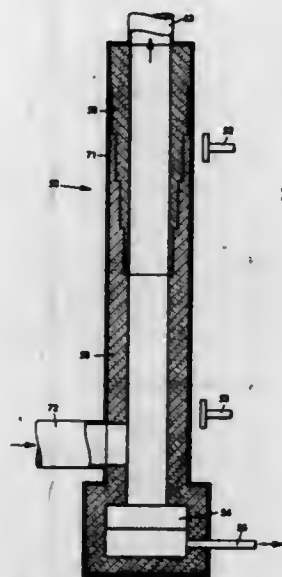
Edmund A. Stawarz, Morristown, Robert W. Schnepf, Berkeley Heights, Benjamin Eisenberg, Parsippany, and Richard P. Rhodes, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 17, 1967, Ser. No. 675,973

Int. Cl. C22b 45/00; F27d 1/12

U.S. Cl. 266—34

4 Claims



A thermal apparatus for the production of magnesium metal at substantially atmospheric pressure which comprises heating an alloy mixture in a reaction zone at a temperature in the range from about 2850° to 3100° F., removing a gaseous mixture of hydrogen and magnesium vapor from the reaction zone and thereafter utilizing a tubular condenser to remove and recover the magnesium as a liquid.

### 3,520,525 APPARATUS FOR DELIVERING AIR TO A BLAST FURNACE

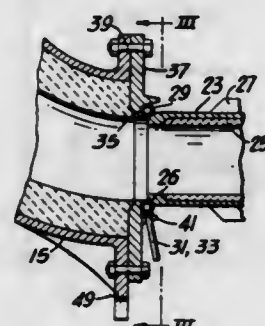
Robert E. Zimmermann, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Nov. 15, 1967, Ser. No. 683,326

Int. Cl. C21b 7/16

U.S. Cl. 266—41

5 Claims



Apparatus for delivering air from a bustle pipe to the tuyeres of a blast furnace comprises an elbow that has an end with a plurality of arms that cooperate with a bridge assembly and a face plate to which is mounted a sealing ring of material that is conformable to the rounded end of a blowpipe extending between, and cooperating with, the sealing ring and the tuyere. A plurality of spring biased bridges exert a force on the blowpipe to frictionally hold

### 3,520,526 CONTAINER HAVING A COMPOSITE REFRACTORY WALL

Francis Henry Aldred, Wirral, and John Savage, Worcester, England, assignors to Morganite Crucible Limited, Norton, Worcestershire, England, a corporation of the United Kingdom

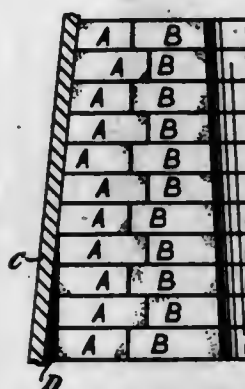
Filed Mar. 24, 1967, Ser. No. 625,728

Claims priority, application Great Britain, Apr. 1, 1966, 14,693/66

Int. Cl. C21b 7/06

U.S. Cl. 266—43

8 Claims



Apparatus for containing material at high temperature, for example a blast furnace, has a composite refractory lining comprising an inner layer, facing the apparatus interior, of conventional refractory material and an outer layer, backing the inner layer and in thermal contact therewith, of refractory material having a higher thermal conductivity than the conventional material of the inner layer. Cooling of the inner, exposed surface of the lining is thus more effective, the consequent temperature reduction giving longer lining life.

### 3,520,527 QUICK-CHANGE VISE

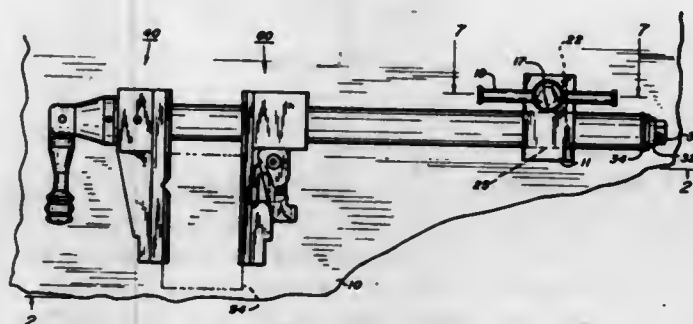
Henry Persson, 224 Glenwood Ave., Bloomfield, N.J. 07003

Filed July 30, 1969, Ser. No. 846,146

Int. Cl. B25b 1/12, 1/22

U.S. Cl. 269—73

4 Claims



A quick-change vise is provided with a pair of jaws which are adapted to rest on a machine tool table. The vise has a tubular member upon which one of the jaws is moved for adjustment and clamping of a workpiece. A clamp block holds the vise on the table and is adapted to permit a sliding adjustment of the tubular member. The vise may be clamped to the table by bowing the tubular member to lock the vise to the table. This quick-change vise is somewhat similar to my vise shown in U.S. Pat. 2,724,295, issued Nov. 22, 1955, however in the present vise there is a simplified shaft clamp for the

tubular member. Quick-change adjustment of the movable jaw is by a lead screw engaged by a lever-operated lead screw engaging half-nut. A safety stop is provided to prevent accidental disengagement of the half-nut from the lead screw when clamping pressure is applied to the movable jaw.

### 3,520,528

#### SPIKE INSERTING MACHINE

Karl Thürauf, Winterbach, Kreis, Waiblingen, Germany, assignor to Firma OKU Automatik Otto Kurz, Winterbach, Kreis, Waiblingen, Germany

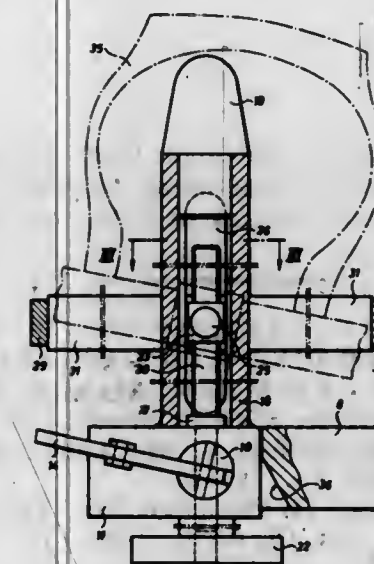
Filed Mar. 1, 1968, Ser. No. 709,720

Claims priority, application Germany, Mar. 7, 1967, O 12,352

Int. Cl. B23q 3/00; B25e 7/00

U.S. Cl. 269—289

8 Claims



An apparatus for holding a vehicle tire of any size or type and for adjusting it to different angular or rotary positions to permit spikes to be inserted at any desired points of the tread surface of the tire.

### 3,520,529

#### OPERATION TABLE FOR BIG DOMESTIC ANIMALS

Nils J. Obel, % Royal Institute of Veterinary Art, Stockholm, Sweden

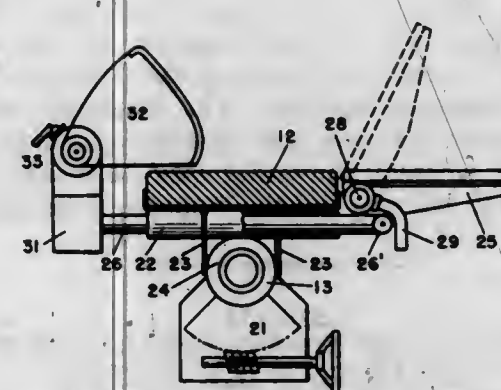
Filed Nov. 1, 1967, Ser. No. 679,797

Claims priority, application Sweden, Nov. 7, 1966, 15,168/66

Int. Cl. A61d 3/00; A61g 13/00

U.S. Cl. 269—325

7 Claims



An operating table for large animals has a main table and an auxiliary table with means for elevating one or the other of said tables with respect to the other. Side supports are removably mounted on said auxiliary table and are adjustable to any suitable position to accommodate the body of the animal undergoing surgery.

### 3,520,530 DECOLLATOR WITH IMPROVED FRICTION FEED MEANS

Edward William Gill, London, England, assignor to Moore Business Forms, Inc., Niagara Falls, N.Y., a corporation of Delaware

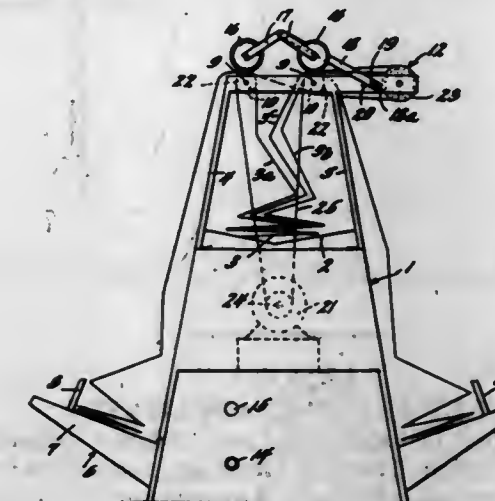
Filed Aug. 15, 1967, Ser. No. 660,713

Claims priority, application Great Britain, Aug. 16, 1966, 36,653/66; Mar. 13, 1967, 11,646/67

Int. Cl. B65h 41/00

Int. Cl. 270—52.5

1 Claim



A decollator is provided with a plurality of idler pressure rollers adapted to bear upon portions of a plurality of webs which are passing around a plurality of frictional drive rollers.

### 3,520,531

#### PHOTOSENSITIVE SHEET MATERIAL FEEDING DEVICE

Mataichi Tajima and Toshio Kuboya, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan

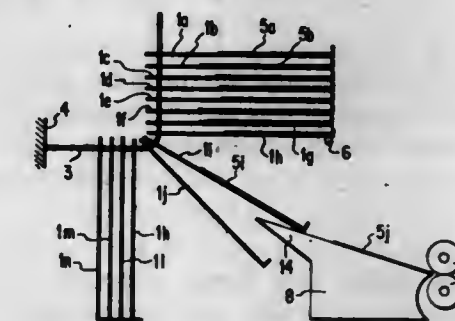
Filed Mar. 19, 1968, Ser. No. 714,292

Claims priority, application Japan, Mar. 20, 1967, 42/17,333

Int. Cl. B65h 3/44

U.S. Cl. 271—9

7 Claims



Sequential gravity feeding of sheets individually carried by a plurality of stacked sheet receiving plates onto an inclined support by releasing the lowermost plate and edge pivoting the same.

### 3,520,532

#### DOCUMENT HANDLING MECHANISM

Delbert D. Towne, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 11, 1968, Ser. No. 744,231

Int. Cl. B65h 3/04, 1/00

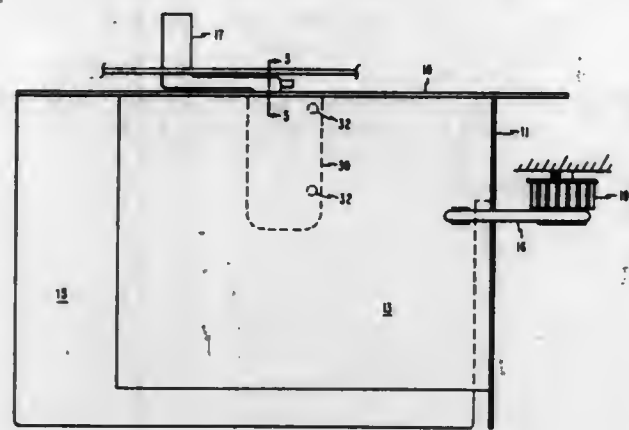
U.S. Cl. 271—34

5 Claims

A document handling mechanism which includes a hopper for supporting documents to be processed and a separator assembly for removing documents serially from the top of a deck supported within the hopper. A vacuum restraint device is provided to cause the last document of a deck supported in the hopper to have increased resistance to movement with respect to the document sup-



porting surface and thereby prevent jams occasioned by premature movement into the separator mechanism



of the last document or the last few documents of the deck.

3,520,533

### SHEET FEEDING APPARATUS

Konrad Phleps, Deisenhofen, and Günter Schnall and Hermann Ullrich, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

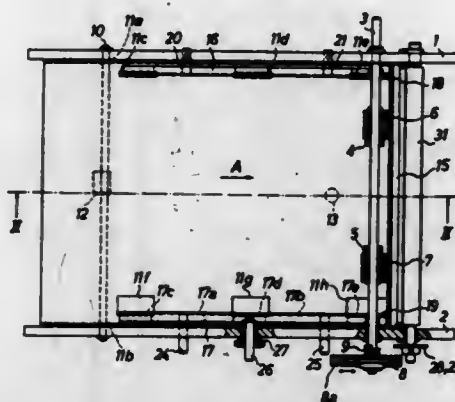
Filed Apr. 15, 1968, Ser. No. 721,523

Claims priority, application Germany, Apr. 15, 1967, A 55,461

Int. Cl. B65h 1/08

U.S. Cl. 271—39

12 Claims



A sheet feeding apparatus wherein the rear portion of the feed table is tiltably supported between two upright walls of the frame. The front portion of the table is biased upwardly by a spring so as to maintain the topmost sheet of the stack on the table in abutment with two intermittently driven feed rolls mounted in the frame at a level above the feed table. The frame supports a stationary front stop which abuts against the front face of the stack and two corner separators which are slightly spaced from the top face of the topmost sheet. The corner separators are mounted on the frame by way of two side rails which are adjacent to the side faces of the stack and at least one of which is movable toward or away from the other side rail.

3,520,534

### RIDABLE BOUNCING BALL RECREATIONAL DEVICES

Reginald Thomas Bennett, 8 Moat Walk, Pound Hill, Sussex, Crawley, England, and John Edward Orme, Mason's Close, Hayway, Rushden, Northamptonshire, England

Filed Apr. 8, 1968, Ser. No. 719,377

Claims priority, application Great Britain, Jan. 27, 1968, 4,371/68

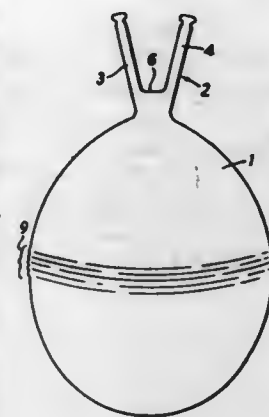
Int. Cl. A63b 5/16

U.S. Cl. 272—57

3 Claims

The recreational device is a resilient ball surmounted by a handle. The device is intended to be used by a person sitting on the ball with the handle projecting up-

wardly between his/her legs and with the handle being gripped by both hands, whereupon the person can bounce along on the ball. The preferred embodiment of the device is inflatable. The device may be moulded on a rotat-



ing moulding machine wherein there are several stations for the complete operation. Multiple moulds are used so that several devices may be moulded at each operation.

3,520,535

### TETHERED RING GAME APPARATUS

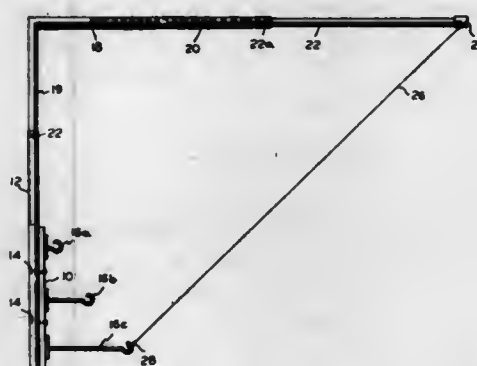
Richard A. Dubbs, 15 E. Main St., Macungie, Pa. 18062; Francis S. McGlade, 6540 Chesterfield Ave., McLean, Va. 22101; and William G. McGlade, 405 Hoodridge Drive, Pittsburgh, Pa. 15234

Filed Mar. 14, 1968, Ser. No. 713,079

Int. Cl. A63b 67/06

U.S. Cl. 273—99

7 Claims



A tethered-ring game apparatus is provided including adjustable suspension means for rotatably mounting a number of different hook-playing surfaces, adjustable mounting means for the hooks on the playing surfaces, and fastening means for attaching the tether to both the ring and suspension member. The fastening means includes a member for causing a variable force to be applied to the tether whereby the tether may be made rotatable with respect to the ring and the suspension member.

3,520,536

### COUNTING GAME BOARD APPARATUS WITH MARKER STORAGE RECESS

Stephen E. Kindelan, 85 Chestnut St., Weston, Mass. 02193

Filed Aug. 11, 1967, Ser. No. 660,074

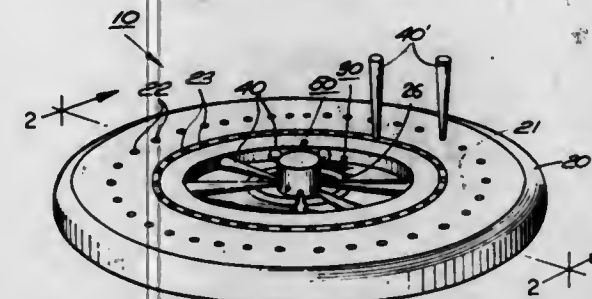
Int. Cl. A63f 1/18, 3/02

U.S. Cl. 273—134

8 Claims

A game structure in the form of a wheel with an apertured rim and removable spokes that are disposed within a central recess and extending radially from a depressible hub which engages the inner ends of the spokes. A suitable

fulcrum is positioned under the spokes so that when the hub is depressed the outer ends of the spokes are lifted out of the recess so that they are easily removed from storage. The spokes removed from storage are inserted into apertures on the rim, where they are used for playing a counting game. The hub may be made of a depressible material, or it may be supported by a coil spring. A fixed or stationary hub may be used if the inner ends of the spokes are held by suitable clamps.



In one method of using an apertured game structure for playing a counting game, each player is assigned one or more spokes which are advanced periodically over the apertures of the rim. The extent of each advance is established by converting a selected sequence of letters or numbers encountered during travel, as on the license plates of passing automobiles, into a numerical value. This value gives the number of apertures by which the player's spoke is moved. The player whose spokes first reaches a pre-assigned position is declared the winner.

3,520,537

### THIN WALLED MOLDED CHECKER

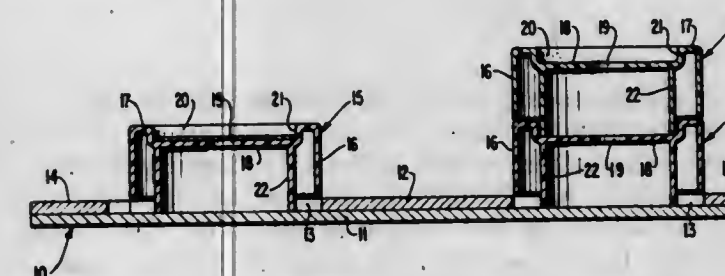
David Meade Peebles, 325 Marcy Ave., Oxon Hill, Md. 20021

Filed Nov. 19, 1968, Ser. No. 776,874

Int. Cl. A63f 3/02

U.S. Cl. 273—137

1 Claim



A checker or like game apparatus including a game board having relief portions on its playing surface to positively locate the checkers or like movable game pieces. The checkers are provided with a thin exterior annular wall, an interior annular wall having a projection axially below the lower end of the exterior wall, an annular top wall bridging the exterior and interior walls, and a depressed central top wall spanning the diameter of the interior wall. The central top wall has a central aperture which can receive a tool to aid in the removal of an indicia disc which can be disposed in the recess defined in the top wall.

3,520,538

### ODDS DEVICE FOR HORSE RACE GAME

George O. Baumrucker, 30 S. County Line Road, Hinsdale, Ill. 60521

Filed Sept. 16, 1968, Ser. No. 762,204

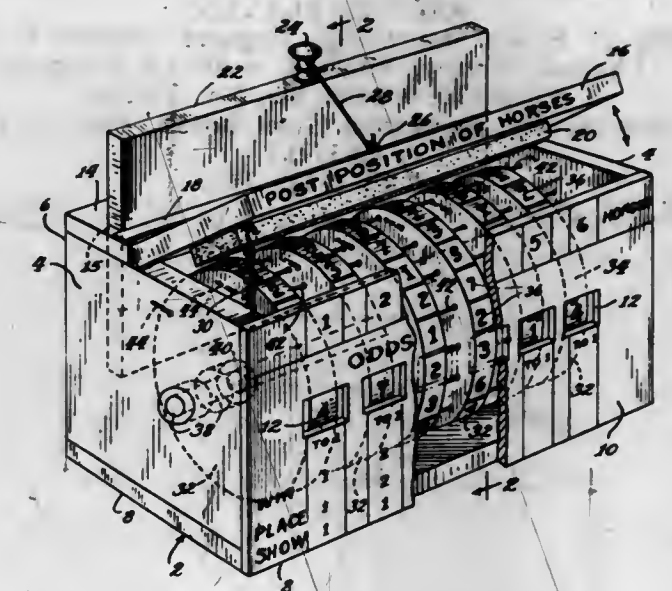
Int. Cl. A63f 1/18

U.S. Cl. 273—143

10 Claims

A housing having a pivotally mounted cover portion contains a plurality of wheels mounted on a transverse shaft within the housing for independent rotation. The

wheels, having a plurality of radially spaced pins, are activated by a vertically reciprocally movable member mounted transversely within the housing in guide rails. A row of spaced pins on the reciprocal member, one for each wheel, engages the radially spaced pins on the wheels for spinning the wheels when the reciprocal member is moved. The cover portion, which is connected to the reciprocal member by a line member such as a string, has



a material such as sponge rubber mounted on its underside so as to frictionally engage a portion of the peripheral surface of the wheels for braking purposes when the cover portion closes, which closing is aided by a spring. The peripheral surface of each wheel, as well as that exterior portion of the housing located adjacent to windows in the housing, are provided with number indicia the readout of which indicates odds for a horse race game or the like.

3,520,539

### GLOVE TO AID IN GRIPPING THE CLUB HANDLE

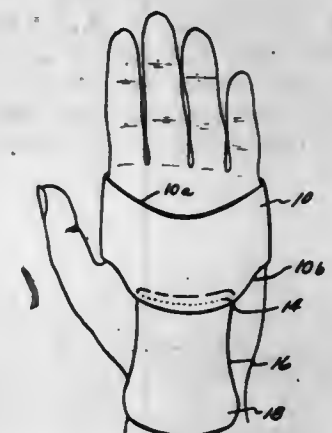
Eugene P. Haws, 52466 Shelby Road, Utica, Mich. 48087

Filed Sept. 14, 1967, Ser. No. 667,806

Int. Cl. A63b 69/36

U.S. Cl. 273—166

4 Claims



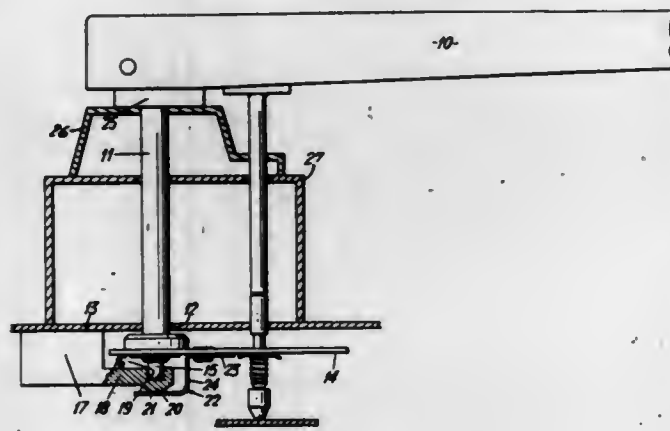
A flat closed band formed of leather is adapted to surround and be supported on the left-hand of a right-hand golfer, or vice versa, so as to encompass the extended palm and back of the hand below the fingers. The band contains an elongated section attached to one edge in the palm area and extending therefrom, generally normally to the band, toward the wrist. The extending section has a length greater than the developed perimeter of the grip



of a golf club to be supported. The free end of the extending section is brought into contact with a point of the club grip and the club is rotated so as to roll the extending section about it. The section fully encompasses the club and locks the position of the club with respect to the golfer's palm.

### 3,520,540 PICKUP ARM SPINDLE BEARINGS FOR RECORD PLAYERS

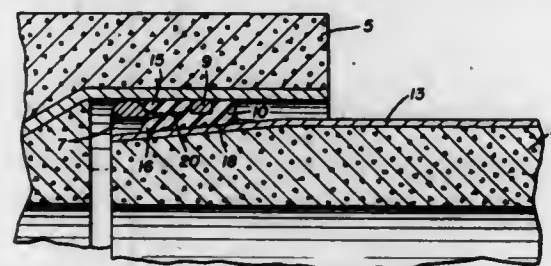
Phillip H. Evans, Stourbridge, England, assignor to BSR Limited, Warley, England, a British company  
Filed Feb. 9, 1968, Ser. No. 704,360  
Claims priority, application Great Britain, Feb. 11, 1967, 6,637/67  
Int. Cl. G11b 3/10  
U.S. Cl. 274—23 5 Claims



In a record player having a base plate and a pickup arm carried on a vertical spindle a support means for the vertical spindle to reduce friction in the support means. The support means comprising an arm carried below the base plate of the record player and having a recess in which the lower end of the vertical spindle is engaged, and there being a Z-shaped leaf spring acting between the undersurface of this arm and the spindle. There is a support for the upper end of the vertical spindle which prevents only a lateral movement thereof.

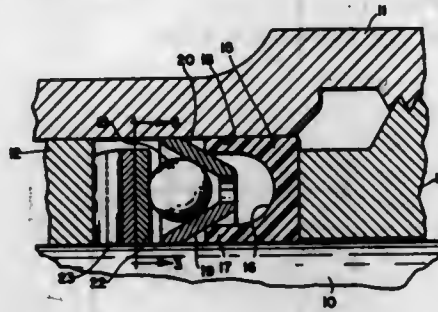
### 3,520,541 GASKETED PIPE

Amir Rohani, % Teheran Regional Water Board, P.O. Box 5, Teheran, Iran  
Continuation of application Ser. No. 614,882, Feb. 9, 1967. This application Jan. 31, 1969, Ser. No. 798,250  
Int. Cl. F16j 15/00, 15/26; F16k 41/00  
U.S. Cl. 277—11 3 Claims



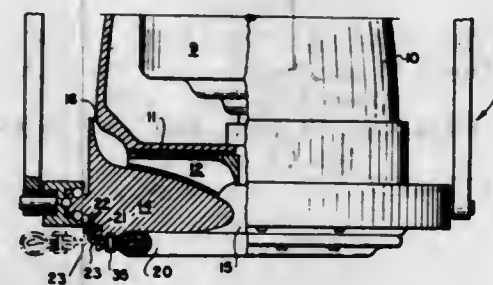
An anti-blowout ring is used with a clothespin-type gasket in the telescoping portions of two pipe sections to maintain the gasket in its position between the pipe sections.

3,520,542  
DOUBLE WEDGE SEAL  
Waldo Gerhard Fruehauf, Kalamazoo, Mich., assignor to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware  
Filed Feb. 16, 1966, Ser. No. 527,971  
Int. Cl. F16j 15/32  
U.S. Cl. 277—118 5 Claims



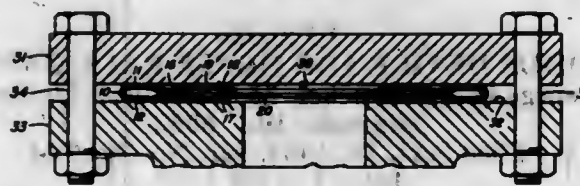
A seal ring of U-shape cross section with wedge rings angularly bearing against the resulting inner and outer sealing lips for wedging them apart. The rings are loaded axially to provide such wedging by a plurality of balls and a spring backing the same.

3,520,543  
SEAL FOR SUCTION TYPE ANCHORS  
Robert J. Etter, Silver Spring, and John O. Scherer, Jr., Laurel, Md., assignors to Hydronautics, Inc., Howard County, Laurel, Md., a corporation of Maryland  
Filed Sept. 19, 1967, Ser. No. 668,965  
Int. Cl. F16j 15/02  
U.S. Cl. 277—205 5 Claims



A sealing means including a torus seal having a rigid pressure plate forming the upper portion of the torus from which there is subtended a U-shaped yieldable but substantially non-stretchable member of elastomer defining the side walls and bottom of the torus. The U-shaped member having an inner chamber confining a non-compressible liquid, and rigid means extending exterior of the torus from the pressure plate and upwardly therefrom to attach the torus to the anchor and provide a barrier therebetween.

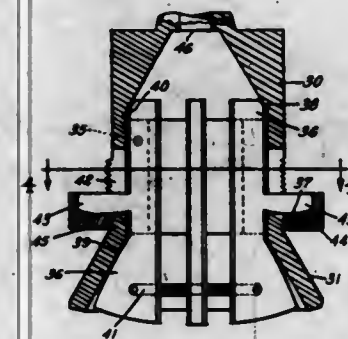
3,520,544  
Y-RING SEAL  
Dudley D. Taylor, Greenbelt, Md., assignor to Pressure Science, Inc., Beltsville, Md., a corporation of Maryland  
Continuation of application Ser. No. 553,361, May 27, 1966. This application Nov. 6, 1968, Ser. No. 774,603  
Int. Cl. F16j 15/08  
U.S. Cl. 277—206 2 Claims



A one-piece sealing ring of approximate Y-shape in radial section is disclosed. The arms of the Y include inwardly facing concave portions and outwardly facing

concave portions, each arm of the Y projecting inwardly from parallel portions forming the stem of the Y. An internal line contact is formed in the seal when the seal is stressed.

3,520,545  
CHUCKS  
Guy H. Tripp, 209 N. Columbian Road, Bay City, Mich. 48706  
Filed Oct. 21, 1966, Ser. No. 604,089  
Int. Cl. B23b 31/16  
U.S. Cl. 279—56 3 Claims



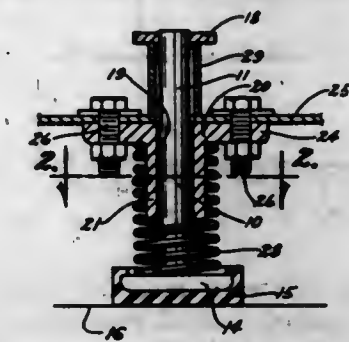
This invention relates to a chuck of the self-centering type which can be employed with tools having both tapered and cylindrical shanks.

3,520,546  
SKI  
Claude Joseph, 74 Sallanches, France  
Filed Mar. 11, 1968, Ser. No. 712,289  
Claims priority, application France, Mar. 16, 1967, 5,079  
Int. Cl. A63c 5/04  
U.S. Cl. 280—11.13 2 Claims



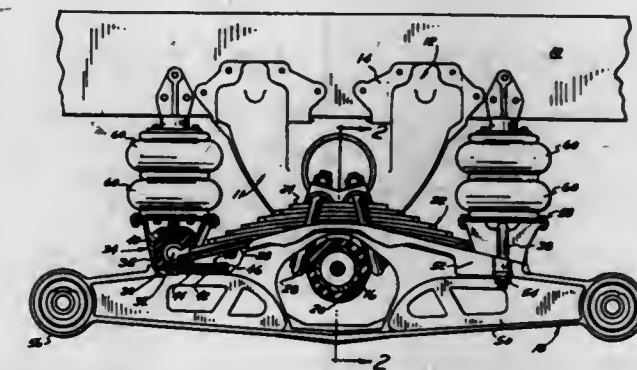
A ski adapted for use on snow having various surface conditions has a continuous smooth running surface which is divided by the longitudinal center line of the ski or by transverse lines into adjacent substantially equal areas having different frictional surface characteristics.

3,520,547  
DEVICE FOR AXIALLY LOCKING A SHAFT  
Tad B. Anthony, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware  
Filed Jan. 11, 1968, Ser. No. 697,141  
Int. Cl. B62d 21/18  
U.S. Cl. 280—43.24 18 Claims  
A device is disclosed for axially locking a biased axially movable shaft member responsive to the application of a torsional force on the axially movable shaft member to create a binding or frictional force between the shaft and



for assuming and being locked in a position determined by the engagement of the other three legs with a supporting surface.

3,520,548  
SUSPENSION  
Donald J. McGee, 3871 Woodman Drive, Troy, Mich. 48064  
Filed Mar. 18, 1968, Ser. No. 713,761  
Int. Cl. B60g 11/46, 5/00  
U.S. Cl. 280—104.5 9 Claims



This invention relates to a suspension for tandem axles of a truck. A trunnion tube is fixed to the frame of the truck. A multi-leaf spring is fixed near its center to a bearing journaled on the trunnion tube. The spring is journaled at its end to pins fixed on a beam. Twin axles of the truck are attached to the ends of the beam. A pair of air bags is provided between the frame of the truck and the beam, being at a distance from the trunnion tube. A pair of ledges is provided underneath the spring near each of its ends for discrete seating of the ends of the spring, at two different positions. By monitoring the air pressure in the air bags, the parameters of suspension can be selectively varied either discretely or continuously over a broad range of values corresponding to different loads on the truck.

3,520,549  
STEERING TRANSMISSION FOR AN AUTOMATIC  
BODY STEERING AXLE  
Manford S. De Lay, 414 N. Pine, Republic, Mo. 65738  
Filed Aug. 12, 1968, Ser. No. 751,798  
Int. Cl. B62d 13/06  
U.S. Cl. 280—81 12 Claims

A steering mechanism is provided for an automatic body steering axle assembly which has a load-carrying frame mounted above a steerable movable wheel assembly. The transmission is used for transferring the steering control from a steering arm forward of the turning axis of the wheels to a steering arm rearward of the turning axis of the wheels. It includes a locking means slidably mounted under the load-carrying frame and interconnecting the forward steering arm and the rearward



steering arm. The locking means is movable from a forward position holding the forward steering arm against lateral movement with respect to the frame and allowing the rearward steering arm to move freely with respect to



the frame to a rearward position holding the rearward steering arm against lateral movement with respect to the frame and allowing the forward steering arm to move freely with respect to the frame.

3,520,550

### ENERGY ABSORBING STRUCTURE FOR A MOTOR VEHICLE

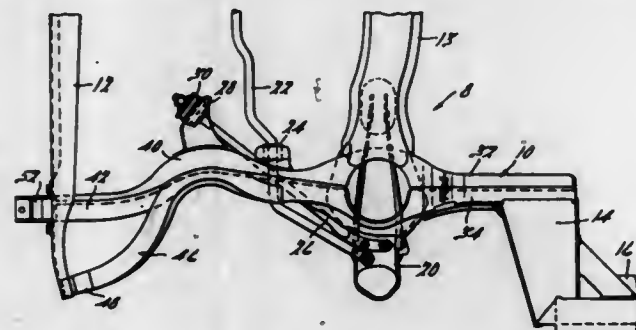
Klemence E. Dysarz, Huntington Woods, and Alex Rhodes, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Jan. 15, 1968, Ser. No. 697,943

Int. Cl. B62d 21/00

U.S. Cl. 280-106

10 Claims



A frame structure for the chassis of a motor vehicle having a construction designed to dissipate energy by deformation of the frame components. The frame has front side rails that are formed with a generally ogee configuration and a rigid cross member interconnecting the side rails. The cross member is situated directly behind the bumper. The contour of the frame side rails is such as to permit their controlled collapse.

3,520,551

### VEHICLE FRAME STRUCTURE

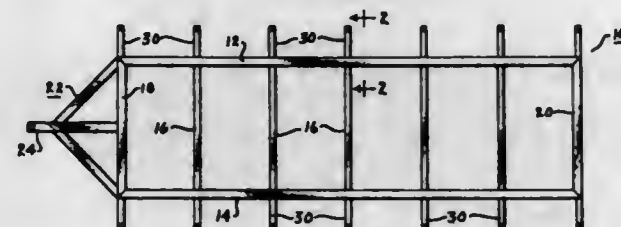
Howard E. Sellers, Syracuse, Ind., assignor to Sellers Manufacturing, Inc., Wakarusa, Ind., a corporation of Indiana

Filed Jan. 18, 1968, Ser. No. 698,743

Int. Cl. B62d 21/00

U.S. Cl. 280-106

9 Claims



An outrigger structure for use with a mobile home, trailer or similar vehicle consisting of a vertically positioned, triangular-shaped panel having a diagonally disposed rib extending inwardly and downwardly between the upper edge and the lower edge of the panel and intersecting the inner vertical edge thereof. The panel has a free lower edge and a horizontally, laterally extending flange on the upper edge.

3,520,552

### FRAME STRUCTURE FOR A MOTOR VEHICLE

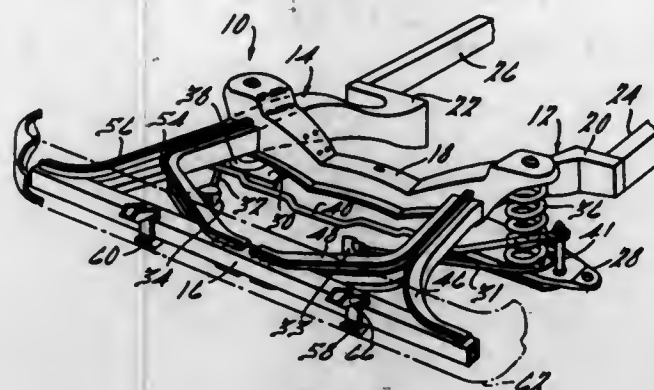
James W. Graham, Detroit, Charles F. Maddox, Livonia, Jerry L. Powledge, Southfield, and Jonas Valukonis, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Feb. 21, 1968, Ser. No. 707,196

Int. Cl. B62d 21/00

U.S. Cl. 280-106

13 Claims



A frame structure for the chassis of a motor vehicle having a construction designed to dissipate energy by deformation of frame components. The frame has front side rails each of which comprises a pair of girder members that have their rearward ends welded together and their forward ends split apart in a diverging fashion. A frame cross member is situated directly behind the vehicle bumper and is rigidly connected to one of the girder members of each of the side rails. The contour of the frame side rails is such as to permit controlled collapse for energy absorption.

3,520,553

### MOTOR VEHICLE REAR SUSPENSION SYSTEM HAVING CORRECTIVE STEERING

William D. Allison, Grosse Pointe Farms, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

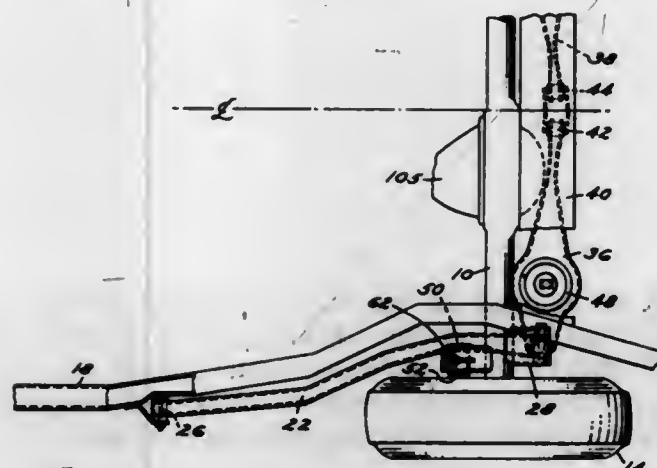
Original application Dec. 14, 1967, Ser. No. 690,594.

Divided and this application June 26, 1968, Ser. No. 740,187

Int. Cl. B60g 9/00

U.S. Cl. 280-124

7 Claims



A motor vehicle suspension system having a solid rear axle housing with a pair of trailing suspension arms pivotally connected to the vehicle chassis and the axle. A pair of lateral arms have their inner ends pivotally connected to the chassis and their outer ends linked to the axle housing. This structure permits lateral displacement of the vehicle body with respect to the axle housing. The trailing arms are angled forwardly and outwardly so that when the lateral displacement occurs in response to a lateral force, the axle housing will cant in the direction of understeer.

3,520,554

### VEHICLE WHEEL SUSPENSION

Raymond A. Ravenel, Sceaux, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a company of France

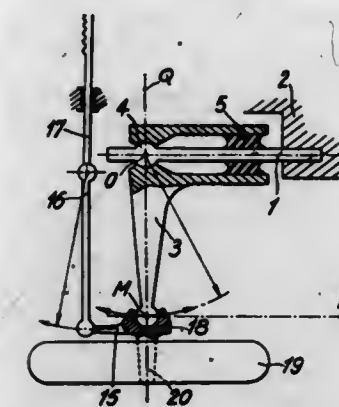
Filed July 15, 1968, Ser. No. 744,712

Claims priority, application France, July 27, 1967, 115,565; May 17, 1968, 152,337

Int. Cl. B60g 11/22

U.S. Cl. 280-124

19 Claims



This longitudinal-flexibility suspension for vehicle wheels, wherein one of the oscillating members supporting the wheel is pivoted to a substantially horizontal and longitudinal shafts rigid with the frame of the vehicle, with the interposition of a bearing located in the vicinity of the transverse vertical plane containing the center of the wheel, and abutment means, is characterized in that said bearing is a spherical, non-elastic bearing. In addition, the aforesaid flexible socket constituting said abutment means may have a different flexibility according to the radial directions of the stress applied to said socket.

3,520,555

### BALE PACK TIE DOWN

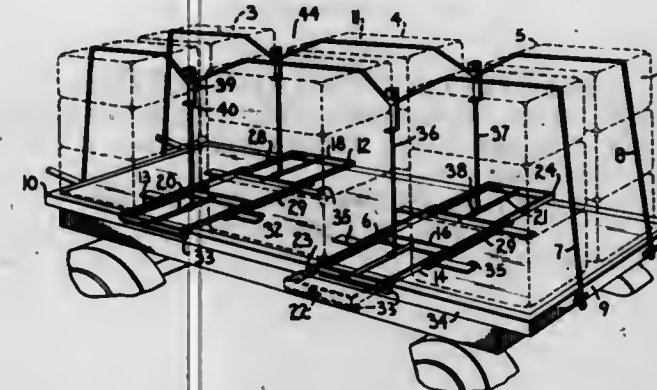
Calvin B. Blair, Barnard, Kans., assignor to United Manufacturers, Inc., Barnard, Kans., a corporation of Kansas

Filed June 11, 1968, Ser. No. 736,158

Int. Cl. B60p 7/10

U.S. Cl. 280-179

3 Claims



A bale pack tie down, for installation on a flat bed vehicle adapted for transporting a plurality of spaced stacks of bales, has a plurality of bale binder lines attached to opposite ends of the vehicle bed. The tie down includes an adjustable frame having crank structures for winding tie down ropes each attached to a pulley adapted to engage a respective bale binder line. The tie down frame is adjusted to the vehicle bed and mounted thereon between adjacent stacks of bales. Tension is adjusted and maintained in the respective bale binder lines by drawing the respective lines, by means of the tie down ropes, into the space between the stacks of bales.

3,520,556

### LOAD-STABILIZING TRAILER HITCH

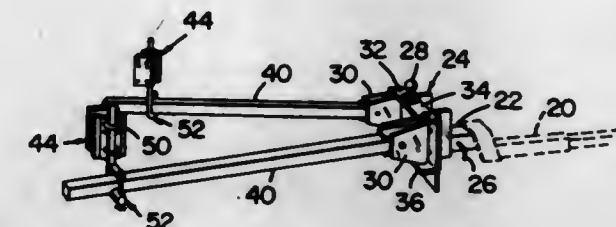
Richard E. Warner, Lodi, Calif., assignor to Valley Tow-Rite, Inc., Lodi, Calif., a corporation of California

Filed Jan. 17, 1968, Ser. No. 698,593

Int. Cl. B60d 1/00; B62d 53/00

U.S. Cl. 280-406

3 Claims



A load-stabilizing trailer hitch of the type having a pair of elongate spring bars pivotally mounted on either side of the ball mount. The spring bars are notched at their free ends for engagement with a J-shaped bar mounted on the tongue frame of the trailer, the J-bar acting with the notch to increase flexure of the spring bars to resist swaying of the trailer. The J-bar permits infinite vertical adjustment of the position of the spring bar to regulate loading of the bar.

3,520,557

### FIFTH WHEEL COUPLER WITH ROTARY DAMPING

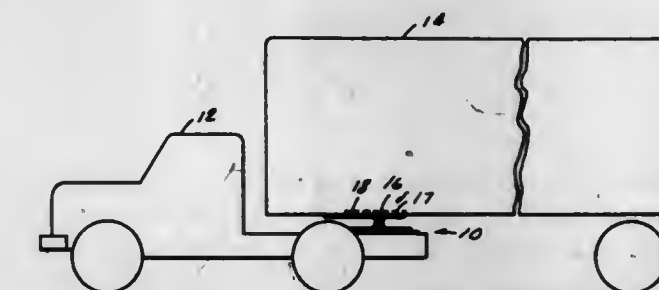
Gordon W. Kamman, Buffalo, and Paul E. Gies, Amherst, N.Y., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan

Filed Oct. 26, 1967, Ser. No. 685,722

Int. Cl. B62d 53/08

U.S. Cl. 280-432

16 Claims



A vehicle control apparatus for controlling the relative pivotal movement between a coupled trailer and tractor, comprising a mounting plate attached to the tractor frame, a viscous damper carried thereby, a rotating plate having a rigidly attached downward protruding shaft attached to the rotatable member of the viscous damper, a fifth wheel plate adapted to receive a trailer king pin, and a pinned hinge axis connecting the fifth wheel plate and the rotating plate, whereby the fifth wheel plate turns with the trailer and is damped by the viscous damper.

3,520,558

### SEMITRAILER AND TRACTOR FIFTH WHEEL

Keith W. Tantlinger, Grosse Pointe Shores, Mich., assignor to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan

Original application July 13, 1967, Ser. No. 653,164, now Patent No. 3,464,719. Divided and this application May 14, 1969, Ser. No. 824,416

Int. Cl. B62d 53/08

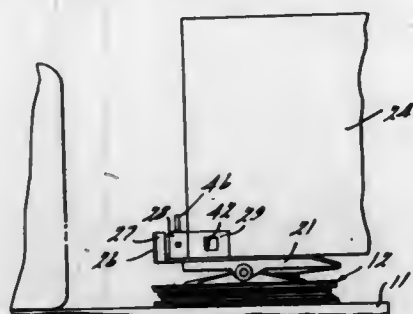
U.S. Cl. 280-434

9 Claims

The fifth wheel of the present invention has a ball bearing base for rotation about a vertical axis. A skid plate is mounted on the base for tilting movement about a



horizontal axis. A bolster is mounted on the forward end of the skid plate of a length substantially equal to the width of the trailer. A locking pin is mounted on each end of the bolster which projects into apertures in sockets



at the forward bottom corners of the trailer which when rotated locks the bolster to the trailer. The bolster on the fifth wheel stabilizes the forward end of the trailer in all angular positions of the tractor relative thereto.

3,520,559

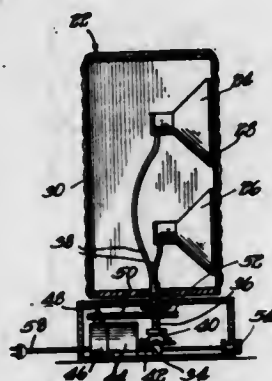
## ROTATING LOUDSPEAKER

Charles A. Ross, Chanute, Kans., assignor to Kustom Electronics, Inc., Chanute, Kans., a corporation of Kansas

Filed Dec. 9, 1966, Ser. No. 600,521  
Int. Cl. H04r 1/20, 1/28

U.S. Cl. 181-31

1 Claim



The entire loudspeaker enclosure, including the loudspeakers therein, rotates relative to a fixed base. Rotation of the loudspeakers produces a Doppler effect, and hence a true frequency effect vibrato. The vibrato effect is enhanced by visual observation of the rotation.

3,520,560

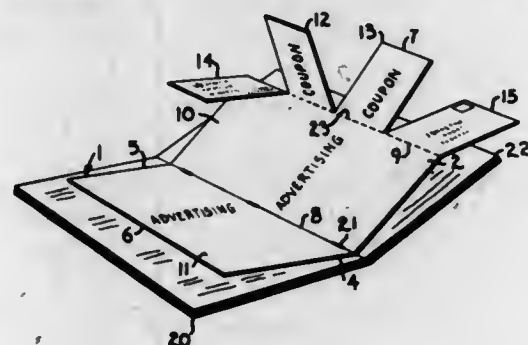
## INSERT ADVERTISING SHEET

Theodore N. Isaac, Shawnee Mission, Kans., assignor to Consumers Circulation Company, Inc., Shawnee Mission, Kans., a corporation of Kansas

Filed Sept. 4, 1968, Ser. No. 757,243  
Int. Cl. B42d 15/00

U.S. Cl. 283-56

3 Claims



The present invention relates generally to an advertising sheet with removable coupons and postal cards, which may be inserted into a magazine and carried therewith

or between inner and outer sections of newspapers, or folded inside a section of a newspaper. The sheet of paper is rectangular and has a main advertising front face and back and folded slightly off-center, and the larger section, or central section, has attached thereto by perforated lines a plurality of tabs consisting of coupons or return address postal cards or the like.

3,520,561

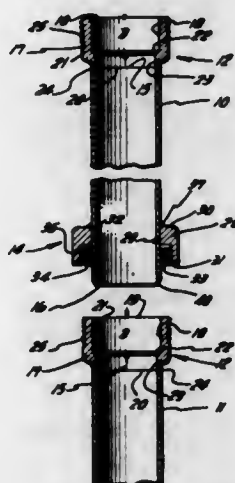
## PIPE COUPLING

Paul R. Rininger, Woodland Hills, Calif., assignor to Global Marine Inc., Los Angeles, Calif., a corporation of Delaware

Filed July 22, 1968, Ser. No. 746,382  
Int. Cl. F16l 55/00

U.S. Cl. 285-24

11 Claims



A tubing coupling having male and female components secured to adjacent ends of a pair of aligned lengths of pipe or oil well casing, for example. The female component is internally threaded and is spaced along the exterior of its section of tubing from the tubing end. The end of the tubing protruding beyond the female component seats within the externally threaded male component which is mounted to the end of its section of tubing. The pipe extending beyond the female coupling component guides the components into alignment with each other so that the coupling can be rapidly and accurately assembled without cross-threading.

3,520,562

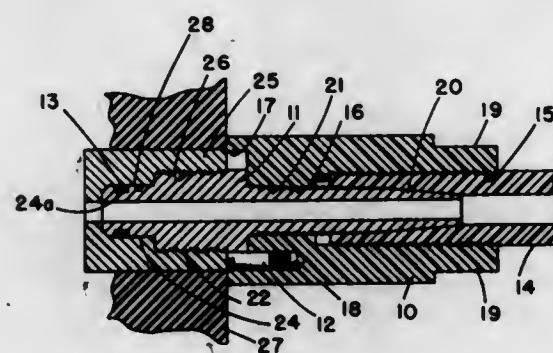
## HOSE FITTING AND CONNECTION

Albert H. Moos, Indianapolis, Ind., assignor to Ransburg Electro-Coating Corp., Indianapolis, Ind., a corporation of Indiana

Filed Sept. 15, 1967, Ser. No. 668,149  
Int. Cl. F16l 33/00

U.S. Cl. 285-39

9 Claims



A hose fitting capable of withstanding high pressure for an electrostatic coating system includes a metallic inner member forming a passageway of fluids at high pressure and an outer sleeve of insulating material having

serrations at one end. Upon assembly of the hose fitting to the hose the inner member forces the hose into the serrations of the outer sleeve providing a seal between the hose fitting and the hose and retaining the fitting on the hose. The inner member includes a straight threaded connector portion projecting from the fitting upon assembly and carrying a resilient seal. When the fitting is connected to the fitting receptacle, the resilient seal is supported between the fitting and fitting receptacle and seals the connection.

3,520,563

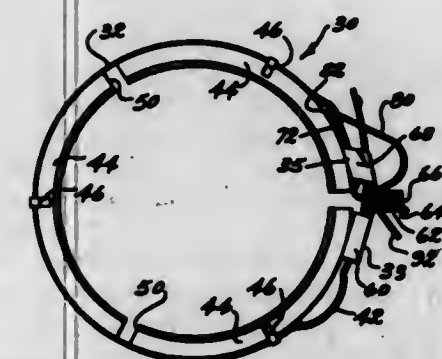
## TORQUELESS CLAMP BAND

Maurice S. Decker, Jr., Columbus, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio

Filed Feb. 7, 1969, Ser. No. 797,539  
Int. Cl. F16l 23/00, 55/00

U.S. Cl. 285-87

16 Claims



A clamping band for being tensioned with a predetermined amount of tension around an object such as the coaxially aligned adjacent ends of a conduit. The connectable ends of the band have a preliminary locking position and a final locking position. Projections are provided on the band ends whereby they may be manually drawn towards each other into the preliminary locking position and then further drawn together by means of pliers into final locking position. A hasp holds the ends in final locking engagement and prevents them from becoming separated.

3,520,564

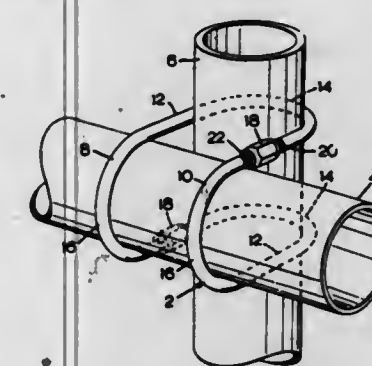
## CLAMP FOR PIPES AND THE LIKE

Svend Peterson, 425 Deloraine Ave.,  
Toronto 12, Ontario, Canada

Filed Jan. 6, 1969, Ser. No. 789,322  
Int. Cl. F16b 7/04

U.S. Cl. 287-49

3 Claims



A clamp for clamping together two pipes which cross at 90 degrees. The clamp has two identical clamping members, each member having a straight centre portion and a hooked bite portion at each end of the centre portion. The bite portion at one end of each member lies in a plane at 90 degrees to the plane of the bite portion at the other end of such member. The tips of the bite portions are threaded, and opposing such tips are drawn together by turnbuckles to clamp the pipes.

3,520,565

## CONNECTING OF TAPERED SPIGOTS AND SOCKETS

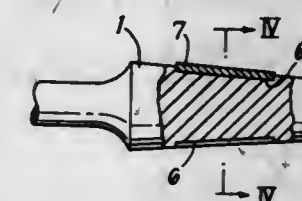
Michael John Henry Fowler, Ndola, Zambia, assignor to Padley & Venables Limited, Dronfield, near Sheffield, Yorkshire, England, a British company

Filed Oct. 25, 1967, Ser. No. 678,088  
Claims priority, application Great Britain, Oct. 28, 1966,  
48,360/66

Int. Cl. F16b 2/00

U.S. Cl. 287-126

6 Claims



A tapered spigot or socket member which carries on its tapered portion ductile material secured thereto by an adhesive, by an interference fit or by location in a complementary recess in the member and the material being disposed symmetrically around the perimeter of the tapered portion; the ductile material standing proud of the tapered surface by a thickness of between 1.5% and 4.5% of the largest dimension in cross-section of the spigot or socket at the mid position of the taper and the exposed area of the ductile material not exceeding 50% of the area of the tapered portion.

3,520,566

## MACHINE FOR TYING FISHING HOOKS

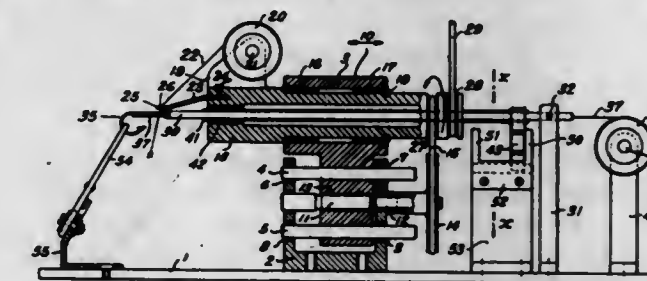
Marcel Bovigny, 2 Rue Battolrs,  
1205 Geneva, Switzerland

Filed Oct. 28, 1968, Ser. No. 771,137  
Claims priority, application Switzerland, Oct. 28, 1967,  
15,162/67

Int. Cl. B65h 69/04

U.S. Cl. 289-17

7 Claims



A machine is provided for tying fishhooks wherein a stationary central bar holds both the hook and a leader line while an eccentrically mounted thread guide is rotationally and reciprocally driven to coil a tie wire about both the hook and leader line. A closing mechanism is also provided to complete the tying operation.

3,520,567

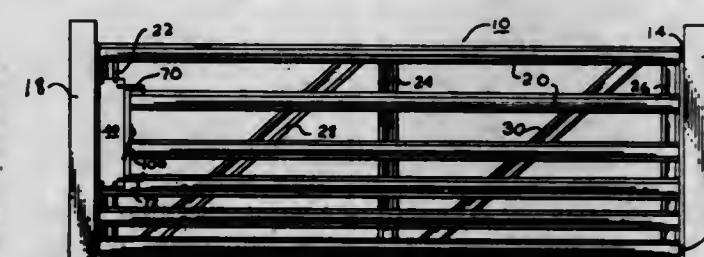
## GATE LATCH

Carl W. Van Gilst, Goshen, Ind., assignor to Bangor Punta Operations, Inc., New York, N.Y., a corporation of New York

Filed Jan. 5, 1968, Ser. No. 695,901  
Int. Cl. E05c 1/04

U.S. Cl. 292-42

8 Claims



A gate latch having two spaced bolts connected by a bar for operating the bolts to and from their locked

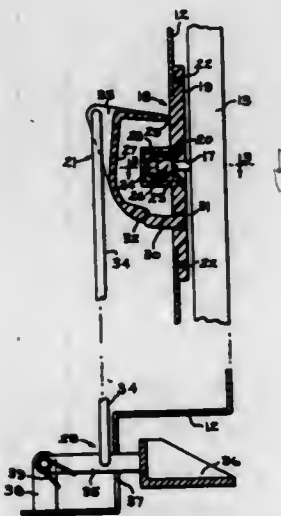


position. A lock mechanism retains the bolts in their latched position and is operable by the application of force in the direction opposite that of the force required to retract the bolts from their latched position.

### 3,520,568 DOOR LATCH FOR APPLIANCE CABINETS AND THE LIKE

Frederick M. White and Joel H. Gregg, Louisville, Ky., assignors to General Electric Company, a corporation of New York

Filed Apr. 2, 1969, Ser. No. 812,622  
Int. Cl. E05b 15/02; E05c 13/00; E05d 7/00  
U.S. Cl. 292-255 5 Claims



A latch assembly is provided having a door-mounted strike and a resilient cooperating cabinet-mounted keeper. Unitary means are provided for mounting the keeper on the cabinet member and for releasing the strike from the keeper. The unitary means comprises a rigid element supporting the keeper and an integral release arm connected by a flexible hinge at the juncture thereof. An opening is formed in the rigid element, through which a portion of the release arm may be extended when the release arm is rotated about the flexible hinge. A foot operated means is adapted to rotate the release arm about the flexible hinge and to extend the portion through the opening and into engagement with the door member. A biasing means is provided to normally maintain the release arm in such a rotary position relative to the flexible hinge that the portion is withdrawn from contact with the door member.

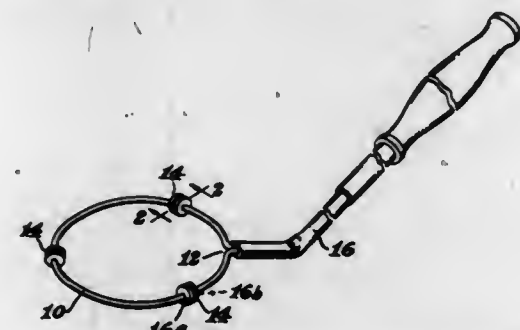
### 3,520,569 GOLF BALL RETRIEVER

Robert F. Anderson, 3613 13th St., Menominee, Mich. 49858

Filed Mar. 6, 1968, Ser. No. 710,797  
Int. Cl. B66f 11/00

U.S. Cl. 294-19

5 Claims



A golf ball retriever comprising a support which passes a golf ball, at least one frictionally engaging member extending inwardly from said support a distance such that a golf ball cannot pass freely through the remaining opening and a handle attached to the support.

### 3,520,570 BOTTLE CARRIER

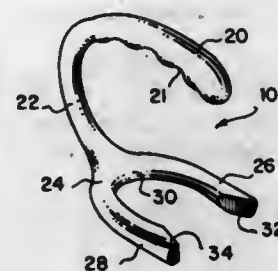
Garth D. Christopher, P.O. Drawer Z, Boerne, Tex. 78006, and Frank Offenhauser, Boerne, Tex. (11115 S. Virginia, Reno, Nev. 89502)

Filed July 12, 1968, Ser. No. 744,456

Int. Cl. A47j 45/07

U.S. Cl. 294-27

6 Claims



An integrally formed metal bottle carrier of simplified design comprising an upper handle member and a lower U-shaped yoke which securely engages an annular flange on the neck of the bottle for transportation purposes. The handle member is located in a vertical plane passing through the center of the yoke, so that the weight of the bottle being carried is taken in direct line with the shoulder. The yoke, when viewed in side elevation, slants gradually upwardly away from the horizontal plane passing therethrough for secure, non-slipping engagement of the carrier with the bottle.

### 3,520,571 FORKLIFT TRUCKS

Frank W. Rogers, Ipswich, Suffolk, England, assignor to Ransomes Sims & Jefferies Limited, Ipswich, Suffolk, England, a British company

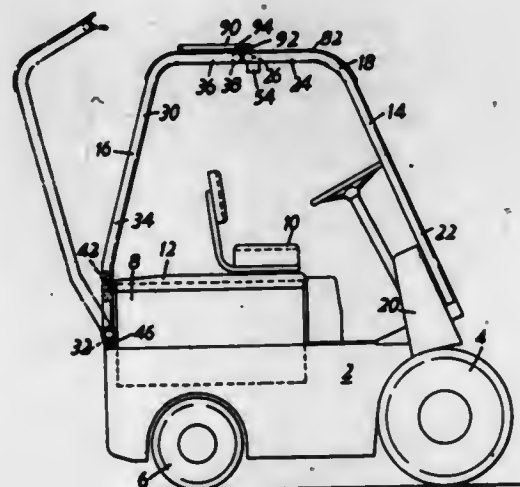
Filed Dec. 24, 1968, Ser. No. 786,689

Claims priority, application Great Britain, Dec. 28, 1967, 58,969/67

Int. Cl. B62d 25/06

U.S. Cl. 296-102

8 Claims



A canopy guard for a battery powered forklift truck comprises two frame parts each of which, in operation, is connected at its lower end to the truck and has at its upper end a portion of the shield of the guard, the frame parts being releasably connected together at their upper ends. At least one of the frame parts is hinged so that, upon release of the connection between the two frame parts, it can be swung away from the other frame part to allow of removal of the battery from the truck by means of an overhead hoist.

### 3,520,572 FOOTREST WITH ADJUSTABLE HEIGHT STANDARDS

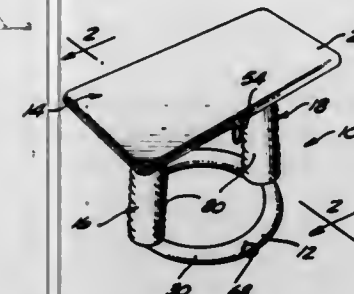
Fred M. Flaugh, 11881 Palmwood Drive, Garden Grove, Calif. 92640

Filed Aug. 29, 1968, Ser. No. 756,196

Int. Cl. A47c 9/12

U.S. Cl. 297-439

2 Claims



The rest has a top surface especially useful as a footrest or footstool. At least one upstanding standard supports the rest portion above a base. The standard is telescopic, preferably with three tubes and with latches which lock the three tube telescoping structure at the desired height. Limiting means prevents overextension of the telescoping members.

### 3,520,573 EXCAVATOR APPARATUS

Gary S. Neimast, Plano, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed July 5, 1968, Ser. No. 742,598

Int. Cl. E21c 35/02, 3/00

U.S. Cl. 299-1

11 Claims



The particular embodiments described herein as illustrative of one form of the invention utilize an apparatus for releasing an excavator bucket in the event the bucket encounters an unusually hard material within the material being excavated, so that the bucket can pivot out of contact with the material. Provisions are also made for utilizing a mechanism on the bucket to impart a jarring impact to such unusually hard materials.

### 3,520,574 TRACK CHAIN LINK FOR VEHICLES

Hagen Heinz Wiesner, Burg (Wupper), Germany, assignor to Diehl K.G., Remscheid, Germany

Filed June 21, 1968, Ser. No. 739,030

Claims priority, application Germany, June 23, 1967, D 53,414

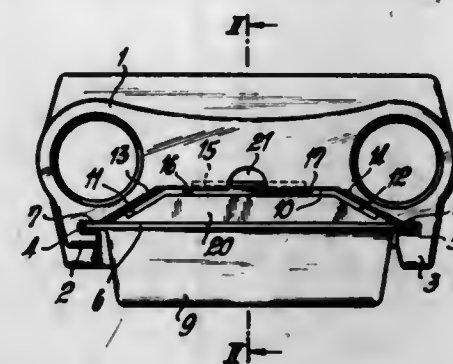
Int. Cl. B62d 55/26

U.S. Cl. 305-38

1 Claim

A track link unit comprising a track link with grooves forming a sliding path for receiving an insert comprising two plate members and a resilient rubber layer interposed between and connected to said plate members, one of said plate members having a ground engaging member connected thereto and being provided with lateral flange-like extensions forming sliding means engaging said grooves,

while said other plate member is provided with resilient latch means for locking engagement with recess means in



the track link when said insert has been fully inserted into said track link unit.

### 3,520,575 AUTOMATIC BRAKE CONTROL SYSTEM

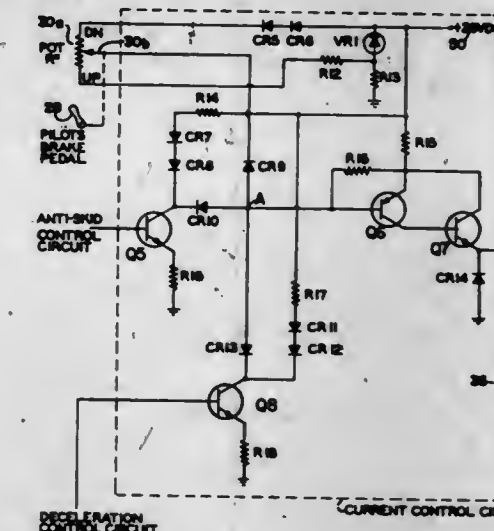
John R. Stelgerwald, Canton, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed July 12, 1968, Ser. No. 744,547

Int. Cl. B60t 8/08

U.S. Cl. 303-21

10 Claims



This invention relates to an anti-skid brake system preferably for a rotatable vehicle wheels and the like, and more particularly, is concerned with apparatus of this type in which mechanism is provided to allow a maximum braking pressure to be applied without producing a skid condition. This invention incorporates the features of electrically metering the hydraulic pressure to the brakes, limiting the vehicle deceleration rate to some predetermined maximums so that wheel support loading is not excessive, and providing a current control to insure a uniform and reliable anti-skid operation to the system.

### 3,520,576 ANTI-SKID APPARATUS FOR AUTOMOTIVE VEHICLES

Atutosi Okamoto, Toyohashi-shi, Koichi Taniguchi, Kariya-shi, and Yoshiaki Nakano, Gifu-shi, Japan, assignors to Nippon Denso Company Limited, Kariya-shi, Japan, a corporation of Japan

Original application Nov. 22, 1967, Ser. No. 685,118, now Patent No. 3,467,443. Divided and this application Mar. 6, 1969, Ser. No. 817,603

Claims priority, application Japan, Aug. 17, 1967, 42/53,041; Aug. 21, 1967, 42/53,626; Aug. 31, 1967, 42/56,006

Int. Cl. B60t 8/02, 15/02, 8/12

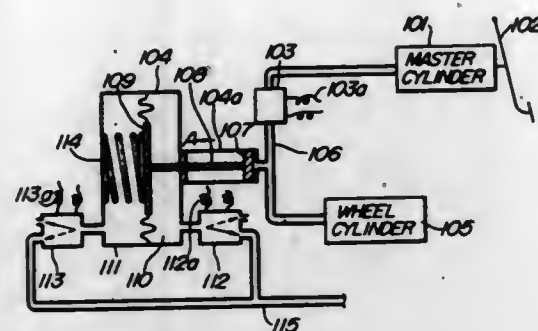
U.S. Cl. 303-21

1 Claim

An anti-skid apparatus for an automotive vehicle having a device for detecting the speed of the vehicle body.



The apparatus acts to prevent a loss of steerability or a gyrating movement of the vehicle body due to the locked



state of the wheel resulting from the impartation of a brake force to the vehicle when the vehicle is running on a slippery road surface or running at high speed.

3,520,577

**HYDRAULIC BRAKING SYSTEMS**

Gordon Haswell Moyes, Sutton Coldfield, England, assignor to Girling Limited, Birmingham, England, a British company

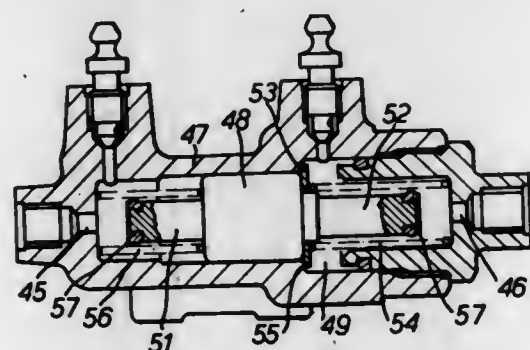
Filed Feb. 18, 1969, Ser. No. 800,091

Claims priority, application Great Britain, Feb. 20, 1968, 8,151/68; Aug. 31, 1968, 41,729/68

Int. Cl. B60t 17/18

U.S. Cl. 303—84

5 Claims



3,520,579

**HIGH-LOAD THRUST BEARING OF SMALL DIAMETER**

Kinpei Okano and Masanori Matsuo, Hitachi-shi, Masayoshi Isomoto, Ichikawa-shi, and Kengo Hasegawa, Narashino-shi, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Chiyoda-ku, Tokyo-to, Japan

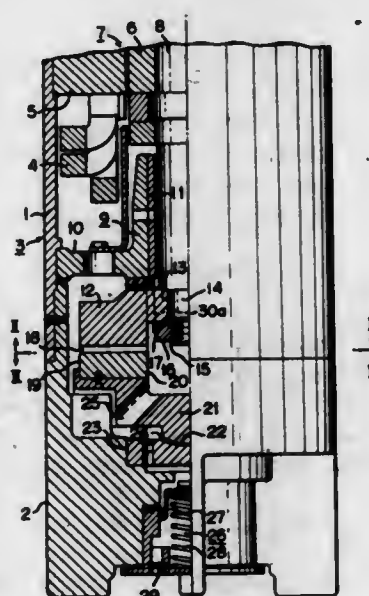
Filed Apr. 4, 1968, Ser. No. 718,662

Claims priority, application Japan, Apr. 7, 1967, 42/21,817; Oct. 23, 1967, 42/67,850, 42/89,426

Int. Cl. F16c 17/16

U.S. Cl. 308—160

11 Claims

**ERRATUM**

For Class 305—38 see:  
Patent No. 3,520,574

3,520,578

**JOURNAL BEARING**

Lazar Licht, San Mateo, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Dec. 5, 1968, Ser. No. 781,436

Int. Cl. F16c 17/16

U.S. Cl. 308—9

13 Claims

A turbine driven rotor is supported radially by flexible foil-bearings and constrained axially by an externally-pressurized, bidirectional thrust bearing. The foil is secured at three stations around the periphery of the jour-

nal to define three rotor-supporting foil segments. The foil is securely anchored at two stations and tension is applied to the free ends of the foil at the third station by means of weights. The foil is separated from the journal and from two foil-guides at the third station by external pressurization, in order to eliminate friction

in the process of tension equalization and rotor centering. When tension has been applied, the foil is locked at the third station. The external pressurization is also provided at the journal above for augmenting the self-acting film at low rotational speeds, as during starting and stopping of the rotor.

The sliding surface of a thrust runner of a thrust bearing in sliding contact with a thrust pad is provided with radial grooves for pumping and circulating a lubricant in

which the thrust bearing is completely immersed, the parts of the sliding surface between adjacent grooves being crowned, and the thrust pad being pivotally supported to provide an excellent lubricating film. As a further refinement, the thrust runner and (or) the pad are (is) made elastically flexible to adjust the thrust load transmission distribution to conform optionally to the relative sliding speed distribution and thereby to afford an even higher allowable load.

3,520,580

**PILLOW BLOCK WITH ANTI-FRICTION BEARINGS**

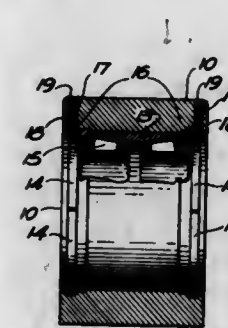
Charles F. Simmers, Canfield, Ohio, assignor to U.S. United Enterprises, Inc., Canfield, Ohio, a corporation of Ohio

Filed Sept. 12, 1968, Ser. No. 759,331

Int. Cl. F16c 35/06

U.S. Cl. 308—207

4 Claims



A solid pillow block in the form of a journal for a shaft having a self-contained compact bearing unit positioned therein by several ring segments engaging annular grooves in said solid pillow block and on either side of said bearing unit.

3,520,581

**CABINETS FOR REFRIGERATORS AND THE LIKE**

Giovanni Borghi, Comerio, Varese, Italy

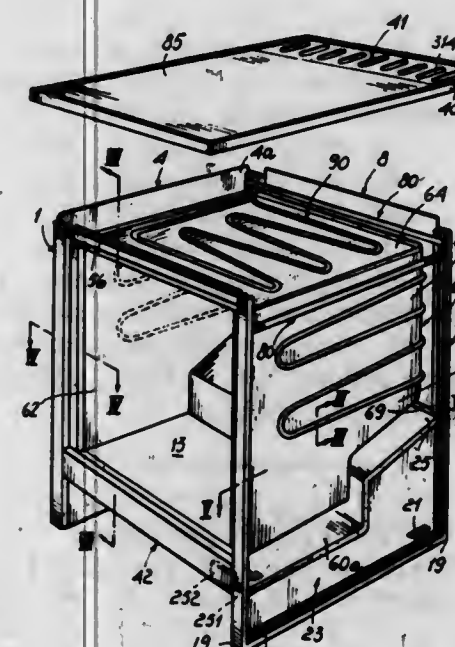
Filed Feb. 21, 1968, Ser. No. 707,212

Claims priority, application Italy, Mar. 6, 1967, 13,372/67

Int. Cl. F25d 23/00

U.S. Cl. 312—214

6 Claims



A cabinet for a refrigerator or the like. The cabinet includes edge frame sections formed with outer and inner grooves which are parallel to each other. Flat panels are

received at their edges in the outer grooves while one or more shaped bodies, which define the interior refrigerated chambers, have edges received in the inner grooves. These shaped bodies and the panels define between themselves gaps into which a foamable, thermally insulating plastic is injected to fill the gaps and thus provide therein the required thermal insulation, this insulation also acting as an acoustic insulation.

3,520,582

**PROJECTOR STAND AND STORAGE UNIT**

Richard Wilder, 21 French Road,

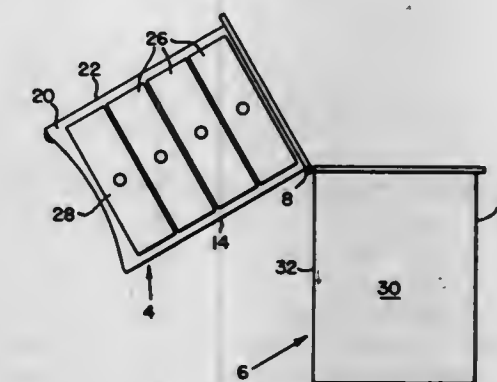
Rochester, N.Y. 14618

Filed Aug. 26, 1968, Ser. No. 755,029

Int. Cl. A47b 83/00

U.S. Cl. 312—237

15 Claims



The unit provides a storage cabinet in which a slide or movie projector is concealed and mounted and which cabinet can be simply and quickly converted into a stand for the projector during use thereof. In its normal storage orientation, the unit doubles as an attractive and useful piece of furniture.

3,520,583

**TOOL CABINET**

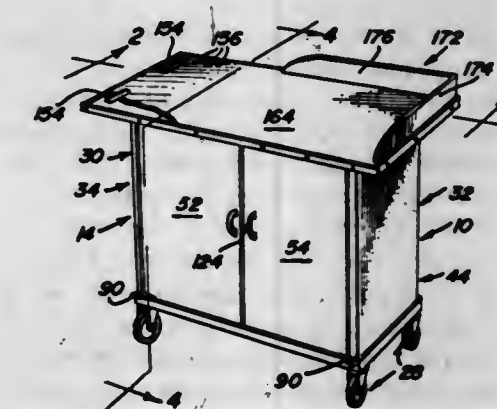
John J. Case, 1407 Lafayette, Ottawa, Ill. 61350

Filed Dec. 14, 1967, Ser. No. 690,454

Int. Cl. A47b 83/04

U.S. Cl. 312—277

14 Claims



A multisectional tool cabinet including a plurality of side-by-side cabinet sections removably supported from a single base and removably secured together, the cabinet sections including means therein defining a plurality of individual tool storing compartments and a unitary work bench defining top or cover for the tool cabinet removably secured over the upper ends of the side-by-side cabinet sections and including marginal edge portions projecting outwardly of corresponding sides of the cabinet sections as well as a removable fence structure.



**3,520,584**  
**METHOD AND APPARATUS FOR OBTAINING 3-DIMENSIONAL IMAGES FROM RECORDED STANDING WAVE PATTERNS**

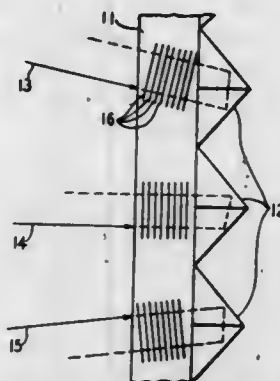
Herwig W. Kogelnik, Summit, Rudolf Kompfner, Middletown, and John R. Pierce, Warren, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Mar. 14, 1967, Ser. No. 623,099

Int. Cl. G02b 27/22

U.S. Cl. 350—3.5

5 Claims



Images having the parallax properties of three-dimensional images, optionally in full color, can be obtained from a recorded standing-wave pattern, formed with white-light illumination in a photographic emulsion backed by an essentially planar structure of tiny corner reflectors. The structure may include three-sided corner reflectors or may be transmissive dielectric spheres having reflective back hemispheres and a low-loss dielectric entrance medium of one-half the refractive index of the spheres. Formation of the image can be obtained by point source illumination along the line of view. Widening of angular limits for field of view and lessening of unwanted color overlap can be achieved by using the same three colors of monochromatic light both during exposure and viewing.

**3,520,585**  
**IMAGE OR CHARACTER RECOGNITION BY HOLOGRAPHIC TECHNIQUES**

John Yarnell, St. Albans, England, assignor to Hawker Siddeley Dynamics Limited, Hatfield, England  
 No Drawing. Filed July 21, 1967, Ser. No. 654,966  
 Claims priority, application Great Britain, July 21, 1966, 32,904/66

Int. Cl. G02b

U.S. Cl. 350—3.5

8 Claims

This invention is an improved system for character recognition by complex spatial filtering. Matched filters are holographically prepared, either simultaneously or successively, with the particular subject to which the filter is to be matched recorded in one exposure, while competing subjects are recorded in other exposures, with different time-phase relationships in the interfering beams used in recording the competing subjects from the ones used in recording the particular subject. The filter will reject to a certain degree the different competing subjects, whose exposure times are calculated in accordance with the maximum value of the cross-correlation of said competing subjects with the particular subject in a manner such as to result in a high degree of rejection of the competing patterns.

**3,520,586**  
**ENTRANT BEAM OPTICAL SCANNER**

Samuel Bousky, Woodside, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed June 20, 1966, Ser. No. 558,902

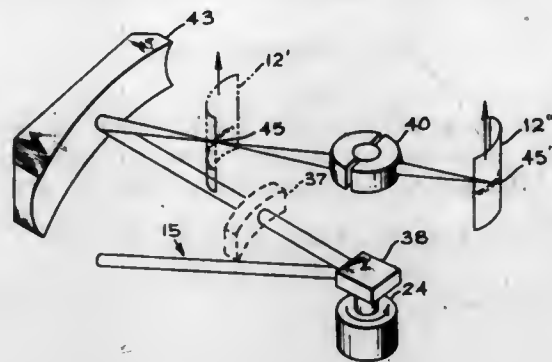
Int. Cl. G02b 17/00

U.S. Cl. 350—6

6 Claims

Light beam scanning apparatus including an entrant beam scanning system having an optical deflecting axis

wherein at least one entrant light beam is redirected, as a scan beam which is deflected (pivoted) through a selected scan angle via a rotatable deflecting means. The scan beam is redirected by fixed optical reflective means of the entrant beam scanning system, whereupon the redirected beam is directed substantially back towards the optical deflecting axis of the rotatable deflecting means.



The fixed optical reflective means provides apparatus which shapes and focuses the beam to define the scan beam having a scan spot which describes an arcuate line of length commensurate with the selected scan angle. In accordance with the invention, the scan beam pivots about a virtual center of beam rotation which is colinear with the optical deflecting axis.

**3,520,587**  
**STEREOSCOPIC ENDOSCOPE**

Toshio Tasaki and Teruo Ouchi, Tokyo, Japan, assignors to Olympus Optical Co., Ltd., Tokyo, Japan

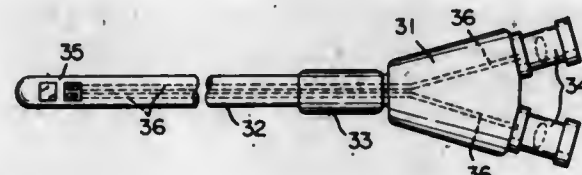
Filed Mar. 26, 1968, Ser. No. 716,178

Claims priority, application Japan, Mar. 29, 1967, 42/19,336

Int. Cl. G02b 21/20

U.S. Cl. 350—36

7 Claims



Stereoscopic endoscope having two elongated flexible fiber optical systems, an objective lens system being located in front of the forward end surface of each of said fiber optical systems for focusing an image of the object to be inspected thereon, an ocular being located behind the rear end surface of each of said fiber optical systems for viewing the image transmitted to the rear end surface thereof, the two light bundles incident to the respective objective lens systems from the object forming a parallax angle thereby creating a visual perception in three dimensions of the object when the images transmitted to the respective rear end surfaces of said two fiber optical systems are viewed simultaneously by an inspector through said oculars.

**3,520,588**  
**AUTOSTEREO PICTURE**

Walter L. Salyer and James E. Huffaker, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 26, 1967, Ser. No. 641,554

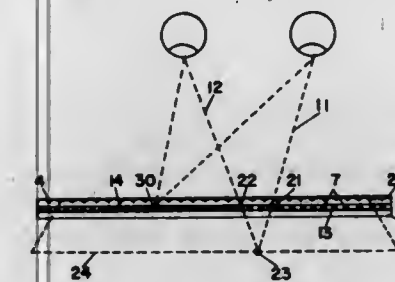
Int. Cl. G02b 27/22

U.S. Cl. 350—132

8 Claims

An autostereo picture composed of a plurality of separate picture images some of which contain parallax, thus giving a stereo illusion to the combined composite picture. Combinations may include images appearing at the

point of convergence (in the plane of the picture, support, or frame), in addition to others at various positions either behind or in front of the point of convergence. The final picture form may also include various special relationships between two and three-dimensional images, for example: (1) a two-dimensional in the plane of the point of convergence and a three-dimensional appearing behind that plane, and (2) a three-dimensional in front of the plane of the point of convergence, a three-dimensional behind that plane and a two-dimensional in that plane.



The method for the production of such autostereograms may include the conversion of at least one two-dimensional picture image into a lineiform record containing parallax. This can be accomplished by correctly focusing such a subject or object image upon the photosensitive layer or film of an autostereographic device and thereafter providing the relative motions within that device and with respect to the object image. Pictures thus formed are then combined with others or combinations of others, either similar in construction or of the two-dimensional type, to form a finished autostereographic picture.

**3,520,589**  
**OPTICAL RELAY FOR TELEVISION PURPOSES**

Yves Angel, Paris, Gerard Marie, L'Hay-les-Roses, and Raoul Geneve, Boulogne-sur-Seine, France, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

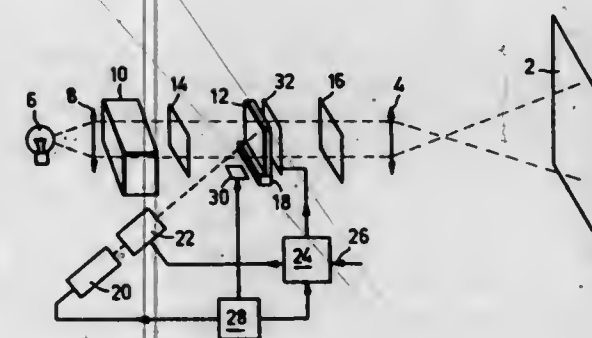
Filed Jan. 24, 1967, Ser. No. 611,306

Claims priority, application France, Jan. 26, 1966, 47,357

Int. Cl. G02f 1/28

U.S. Cl. 350—150

5 Claims



An optical relay especially for reproduction of televised images which includes a plate of electrically insulating material consisting of an acid salt enriched with deuterium disposed between a polarizer and an analyzer. One major face of the plate is scanned by an electron beam which releases secondary electrons which are collected by an anode. A variable electric field is applied across the plate with a direction parallel to the general direction of propagation of light in the optical path which includes the plate analyzer and polarizer whereby the light is variably transmitted in dependence upon the field. The temperature of the plate is stabilized in the

proximity of its Curie temperature so that it is ferroelectric and the light transmitted is greatly dependent upon the electric field.

**3,520,590**  
**DIGITAL LIGHT DEFLECTOR**

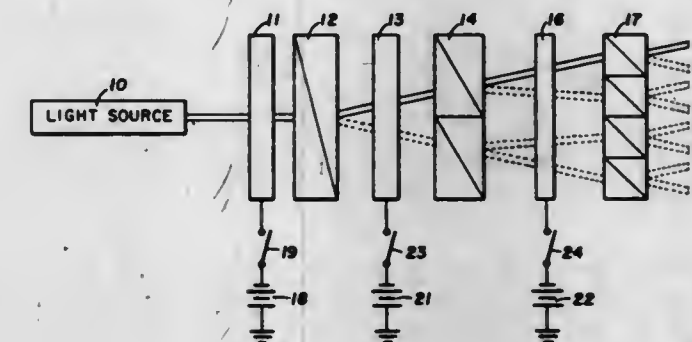
Henry John Caulfield, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Feb. 1, 1967, Ser. No. 613,207

Int. Cl. G02f 3/00, 1/26

U.S. Cl. 350—150

10 Claims



A digital light deflector having N deflecting stages each including an electro-optic switch and a prism for generating a beam of light at 2<sup>N</sup> possible positions. Each prism has at least two birefringent wedges of a material such as calcite, for angularly deflecting a polarized light beam incident thereon. The electro-optic switches control the plane of polarization of the light beam transmitted there-through and thereby control the angle of deflection through its associated prism.

**3,520,591**  
**MULTIPLE-PASS LIGHT DEFLECTOR**

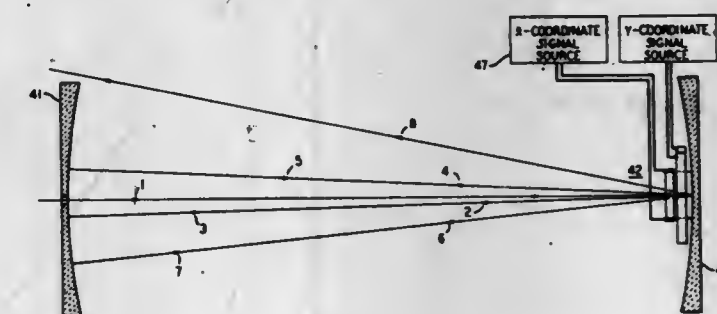
Edward A. Ohm, Eatontown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Apr. 17, 1967, Ser. No. 631,505

Int. Cl. G02f 1/26

U.S. Cl. 350—150

2 Claims



High-speed electro-optic deflection at substantial deflection angles is obtained by employing substantially confocal mirror arrangements providing multiple-pass operation in the deflector. Electro-optic crystals are mutually oriented for two-coordinate deflection and are positioned near one of the mirrors opposite a central aperture of the other mirror. They are separated by a half-wave plate and are driven through strip line arrangements that are out of the light beam paths. The deflection of the beam is increased during every pass between the mirrors; and the confocal relationship of the mirrors causes the deflected beam to return to the electro-optic crystals until it misses one of the mirrors. The apparatus is useful in optical transmission systems and is well-adapted for optical time-division multiplex systems.



### 3,520,592 OPTICAL FOCUSING SYSTEM UTILIZING BIREFRINGENT LENSES

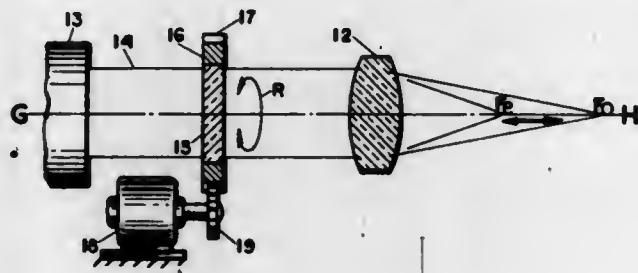
Kenneth G. Leib, Wantagh, and Richard S. Eng, Old Bethpage, N.Y., assignors to Grumman Corporation, a corporation of New York

Filed Sept. 14, 1967, Ser. No. 667,848

Int. Cl. G02f 1/26

U.S. Cl. 350—150

16 Claims



This invention is an optical system which uses polarized light in conjunction with a birefringent lens such that the focus of the system can be changed simply by a relative rotation of the plane of polarization of the light with respect to the optic axis of the birefringent lens. The relative rotation of the plane of polarization of the light with respect to the birefringent lens may be obtained by a rotation of the light source, if that source is a generator of plane-polarized light, or by rotation of the light polarization state by the polarization control means used in conjunction with the light source and the birefringent lens, or by rotation of the birefringent lens itself. Control of the polarization state may be accomplished by mechanical means or electronically by means such as an electro-optic cell. An increase in the number of focal points of the system can be obtained readily by incorporating additional lens and polarization control means. This invention can be utilized advantageously in laser-type welders and in an optical harmonic separator.

### 3,520,593 COPLANAR DECODING LIGHT BEAM DEFLECTION APPARATUS

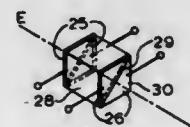
Joseph T. McNaney, 8548 Boulder Drive, La Mesa, Calif. 92041

Filed June 21, 1968, Ser. No. 739,123

Int. Cl. G02f 1/28

U.S. Cl. 350—160

3 Claims



Specified herein is an electro-optical light beam deflection system for effecting deflections, and thereby axial alignments, of individually character shaped light beams converging on and crossing an optical axis of the system from a plurality of off-axis positions. More particularly this deflection system is designed to deflect the beams from their initial convergent paths in relation to a point along the axis which is intersected by a common plane of the system, whereby any one of the beams may be deflected, before having crossed the axis, and directed along the axis. Moreover, this deflection system is designed to effect the direction of beams along the axis in response to coded information in the form of a plurality control voltages applied thereto.

### 3,520,594 PRISMATIC REAR VIEW MIRROR

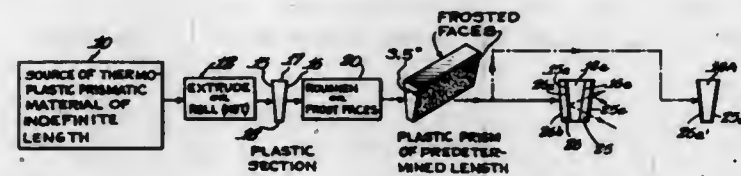
Arthur W. Kurz, Jr., Birmingham, Mich., assignor to Nelmor Corporation, Harper Woods, Mich., a corporation of Illinois

Filed Dec. 13, 1967, Ser. No. 690,260

Int. Cl. G02b 17/00

U.S. Cl. 350—281

6 Claims



The invention relates to a prismatic mirror having planar nonparallel optical surfaces between which is a prismatic shaped body of thermoplastic material. The prismatic plastic material is transparent to any desired degree and has its two major faces roughened or frosted. A reflecting surface is provided at the rear prism face and a surface having both reflecting and light transmitting characteristics is provided at or adjacent the front prism face. The optical surfaces may be part of the prism structure or may be part of ordinary glass support means of a laminated mirror structure.

### 3,520,595 OPTICAL BEAM ANGLE GENERATOR

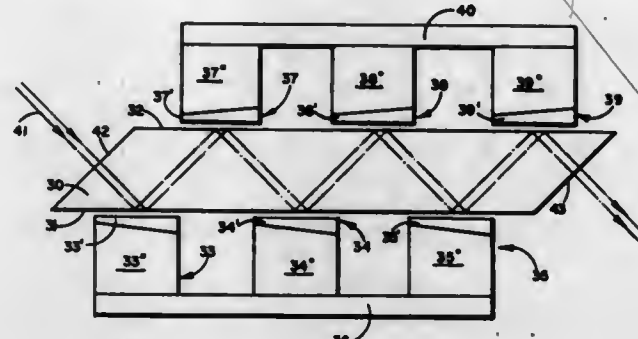
Robert L. Treuthart, Villa Park, Calif., assignor to North American Rockwell Corporation

Filed Feb. 29, 1968, Ser. No. 709,395

Int. Cl. G02b 17/00

U.S. Cl. 350—285

5 Claims



A light beam is directed into a block of glass or other appropriate material against which are disposed a number of angle generating heads; such that the light beam is reflected at each generating head position before being transmitted out of the block. At each generating head position, the beam is provided with either of two angles of reflection, depending upon whether or not that head is provided with an actuating signal. For a set of  $n$  heads,  $n$  signal inputs can provide  $2^n$  selections of angle.

### 3,520,596 PROJECTOR

Miles C. O'Donnell, Robert B. Johnson, John M. Moriarty, Robert W. Seebech and Frank D. Wollschlaeger, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Oct. 27, 1966, Ser. No. 590,067

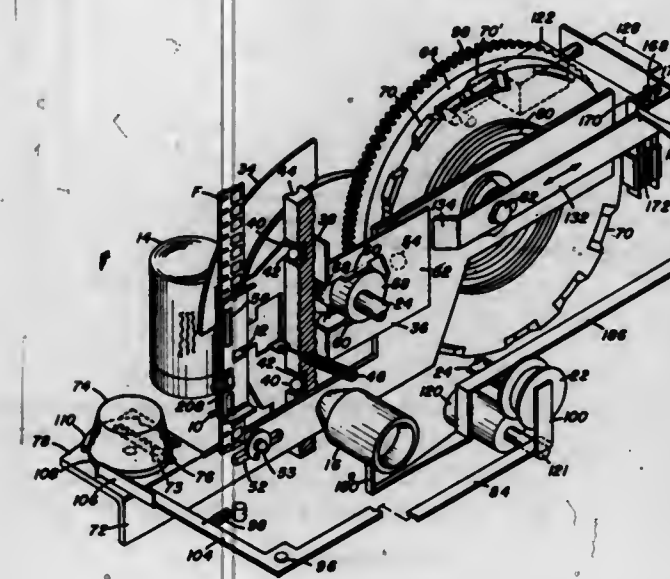
Int. Cl. G03b 21/38, 21/50

U.S. Cl. 352—92

31 Claims

A motion picture projector is provided with electrical controls permitting remote control of various operational modes. The projector is responsive to code markings on the film to automatically transfer from motion to still

projection. A timer can control the time of still projection. In addition to motion and still projection during either forward or reverse operation, the projector is capable of forward and reverse single frame modes of projection. The mode changes are synchronized with the



position of the film claw. Mechanical manual controls additionally provide for different projection rates. An adjustable lens with motion and still focus positions is automatically appropriately adjusted upon a change from motion to still projection, or vice versa.

### 3,520,597 CONTROL CIRCUIT FOR AUTOMATIC STOP DEVICE

Takashi Fujii, Nagoya, Japan, assignor to Elmo Company Limited, Nagoya, Aichi, Japan

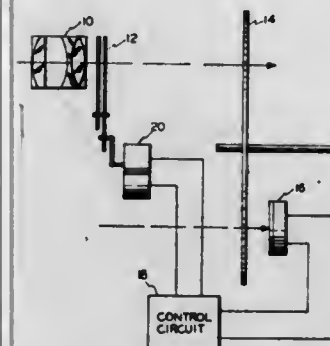
Filed Mar. 19, 1968, Ser. No. 714,198

Claims priority, application Japan, Mar. 29, 1967, 42/19,211

Int. Cl. G03b 19/18, 9/06

U.S. Cl. 352—141

2 Claims



In a cinematographic camera a photoelectric element is disposed to continuously receive a ray of light from an object to be photographed in the inoperative state of the associated shutter while it intermittently receives the ray of light in the operating state of the shutter. In the operation of the shutter, a capacitor is very rapidly charged through a transistor of emitter follower configuration in response to the incidence of light upon the photoelectric element and tends to be very slowly discharged through another transistor of emitter follower configuration upon the removal of light from the element. However before the capacitor is discharged to an appreciable extent, it is again charged due to the re-incidence of light on the photoelectric element. Thus a voltage across the capacitor closely approximates that developed in the inoperative state of the shutter. Then the voltage across the capacitor is applied to an ammeter to control a stop.

### 3,520,598 RELEASE DEVICE FOR MOVIE CAMERA

Tomoji Murata, 2306 Kanaoka-cho, Sakai, Japan; Keiichi Nomura, 18 Yamazaki-cho 3, Higashiumi-yoshi-ku, and Takeshi Ataka, 9 Kohama Nishino-cho, 3-chome, Sumiyoshi-ku, both of Osaka, Japan; and Isamu Kubota, % Minolta Camera Company's Second House, 312, 761 Mozu Akahata 5-cho, Sakai, Japan

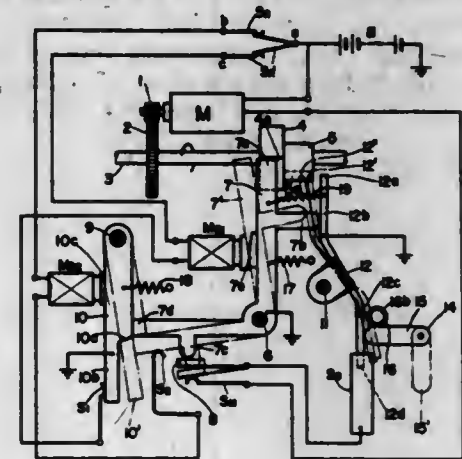
Filed Nov. 15, 1967, Ser. No. 683,324

Claims priority, application Japan, Nov. 15, 1966, 41/75,143, 41/105,347; Nov. 16, 1966, 41/75,363; Mar. 14, 1967, 42/16,024

Int. Cl. G03b 17/46

U.S. Cl. 352—169

2 Claims



A release device for a motion picture camera has a first pivotal lever which is spring biased into the path of rotation of a projection member on the shutter shaft. A first solenoid, when energized pivots the first lever out of the path of rotation so that the shutter shaft is driven by the drive motor of the camera. A second pivotal lever is spring biased to engage the first lever and maintain the first lever in a position out of the path of rotation of the shutter shaft. A second solenoid may be energized to pivot the second lever such that the first lever is released and returned to its blocking position. A third lever is attached to the first lever and provides a stop after one revolution of the shutter shaft when taking still pictures.

### 3,520,599 PROJECTOR FILM ADVANCE MECHANISM

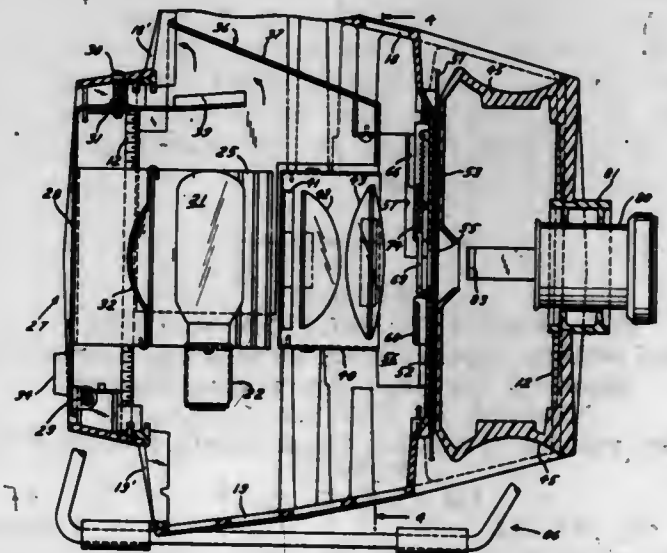
Eugene Martinez, Irvington, N.Y., assignor of one-half to Robert H. Reibel, Croton-on-Hudson, N.Y.

Filed Mar. 25, 1968, Ser. No. 715,621

Int. Cl. G03b 23/12

U.S. Cl. 353—26

7 Claims



A projector having a molded plastic outer case which is supported by a curved steel stand which also serves as an elevating device and carrying handle. The projector



can be tilted simply by sliding it up on the curved stand and locking it with two knobs. An electric lamp is mounted at a center location within the case and a pair of heat dissipating baffle plates are positioned on opposite sides of the lamp. A cover is positioned over the lamp and baffle plates to direct the cooling air rising adjacent the lamp toward the rear of the projector. A film advance mechanism is housed in the case and includes an arm which engages the film sprocket holes only during the advancing operation.

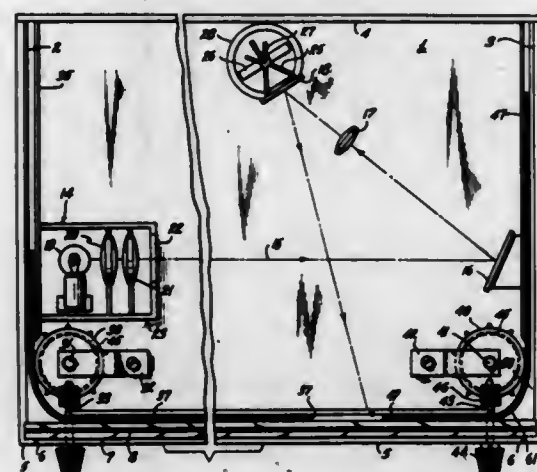
3,520,600

**INSTRUMENT WITH ADJUSTABLE INDEX**

Joseph Barbas, Jr., Newark, and William N. Watrous, South Plainfield, N.J., assignors to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware  
Filed Nov. 15, 1967, Ser. No. 683,322  
Int. Cl. G03b 21/00

U.S. Cl. 353-40

6 Claims



An indicating instrument has a translucent screen with a transparent strip and scale indicia in the front of the instrument. The movable indicator is a spot of light, directed by a movable mirror mounted on a D'Arsonval meter movement, projected onto the back of the screen. A film sprocket is rotatably mounted near one end of the screen and drives a colored transparent film. Guide members extend perpendicular to the screen to support, store and guide the film. A gear drive interconnects the film sprocket and a knob at the front of the instrument so that manually rotating the knob causes the film to be extended across the back of the screen. The end of the film can be adjusted to establish a visible index. A similar sprocket, guide and film apparatus can be mounted near the other end of the screen, providing two individually adjustable indexes. When the light spot is moved onto a region occupied by one film, the color of the spot changes. The film can be viewed through the transparent strip on the screen for initial adjustment.

3,520,601

**ROTATABLE PROJECTION ASSEMBLY**

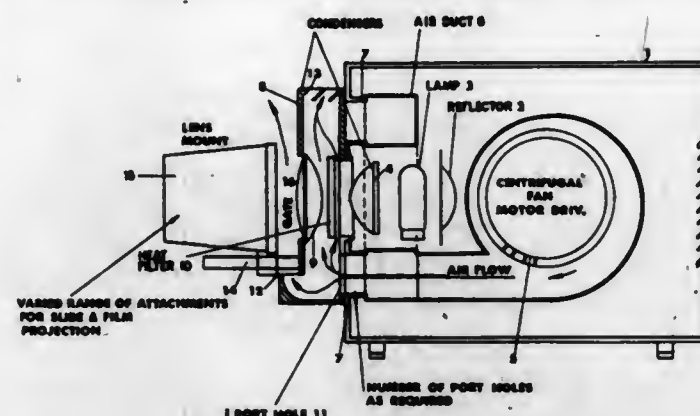
Donald Abbott, Acocks Green, Birmingham, England, assignor to The Rank Organisation Limited  
Filed Feb. 23, 1967, Ser. No. 618,116  
Claims priority, application Great Britain, Feb. 23, 1966, 8,019/66  
Int. Cl. G03b 21/16

U.S. Cl. 353-61

7 Claims

An optical projector for film strips, slides or other accessories comprising in combination a source of illumination, an optical lens system, and in association therewith, a hollow casing comprising a gate mounted to be rotatable about the optical path and providing a carrier

for the film strips, slides or other accessories. By rotating the casing an individual picture can be turned about a fixed axis, generally an axis passing through the center of the picture. A fan is provided to deliver cooling air to



a distributing duct which has outlets spaced angularly apart around the optical path so as to register with an inlet port in the rotatable casing in each of the positions in which the casing is designed to be held during projection.

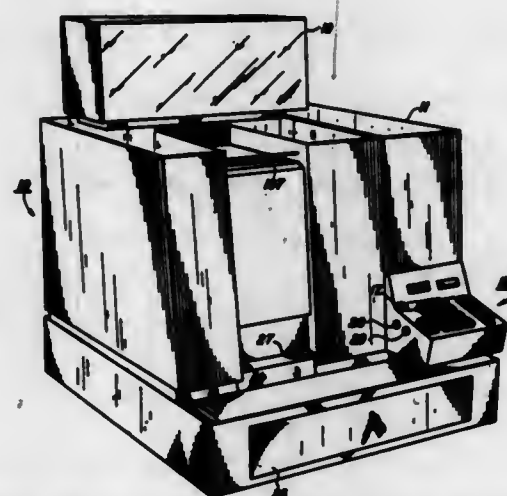
3,520,602

**GRAPHIC DISPLAY DEVICE**

Jack H. Terry and John A. Dimond, Pittsford, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York  
Filed Oct. 25, 1967, Ser. No. 677,956  
Int. Cl. G03d 7/00

U.S. Cl. 355-3

4 Claims



A graphic display device for supporting sheets bearing graphic information that is reproduced in an electrostatic-graphic recording machine with additional data in the form of a composite image. Strips of light absorbing material are positioned on the graphic display device in predetermined areas corresponding to the additional data portion of the composite image. Upon exposure of the graphic display device, light rays emanating therefrom are controlled to enable a composite image to be formed in the recording machine. Special slide members on the graphic display device enable inputs to be made to machine control for programming the operation of the recording machine.

3,520,603

**IMAGE TRANSFER MECHANISM**

Oliver W. Gnage, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 1, 1968, Ser. No. 741,386

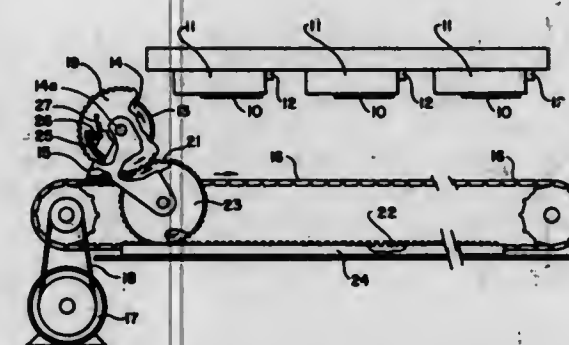
Int. Cl. G03g 15/00

U.S. Cl. 355-4

7 Claims

A transfer roller with a receiver sheet attached is moved across each of a plurality of photoconductive chips carrying an electrostatic toner image which is transferred

sequentially to the receiver. The transfer roller is normally driven by a drive gear through a pitch ring and rack. However, the transfer roller is rotatable relative to the drive gear from an initial rotationally aligned position so that the rotational speed of the receiver and hence the transfer roller is controlled by the frictional rolling engagement between the photoconductive chips and the receiver. The radius of the drive gear is larger than the sum of the radius of the transfer roller and the thickness



of the receiver. Thus during engagement between the photoconductive chips and the receiver, the transfer roller and the receiver are driven at a greater rotational speed than the transfer roller drive gear so that no relative motion exists between the chips and receiver along the line of transfer to avoid smearing. After transfer of the image from each chip, the roller is snapped back to its initial aligned position relative to the drive gear by a spring connected between the two for the next transfer.

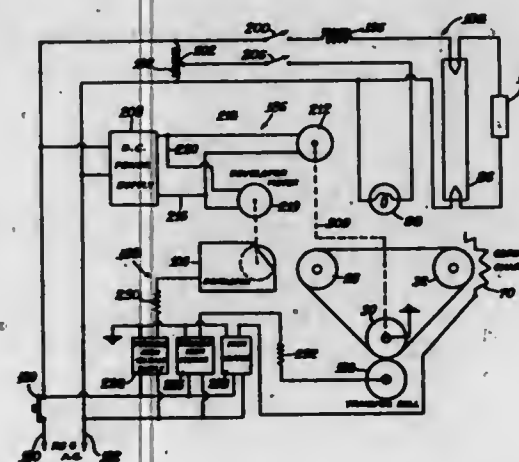
3,520,604

**PHOTOELECTROSTATIC COPIER**

Loren E. Shello, Palatine, Ill., assignor to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware  
Filed Oct. 16, 1967, Ser. No. 675,646  
Int. Cl. G03g 15/22

U.S. Cl. 355-16

14 Claims



A photoelectrostatic copying apparatus equipped with a reusable continuous belt coated with an organic photoconductive medium adapted to move in an orbital path. A series of processing stations are located adjacent the path of movement of the belt so that, in sequence, it moves past charging, exposing, developing and transfer stations producing a copy or multiple copies on plain paper. The organic photoconductive medium is reusable. It is ready immediately after a developed image is transferred to the copy sheet to receive a new image without preliminary mechanical or electrical cleaning of the photoconductive medium. The belt is carried on cantilever supported rollers with the processing stations on the outside of the belt path to permit easy removal or replacement of the belt.

3,520,605

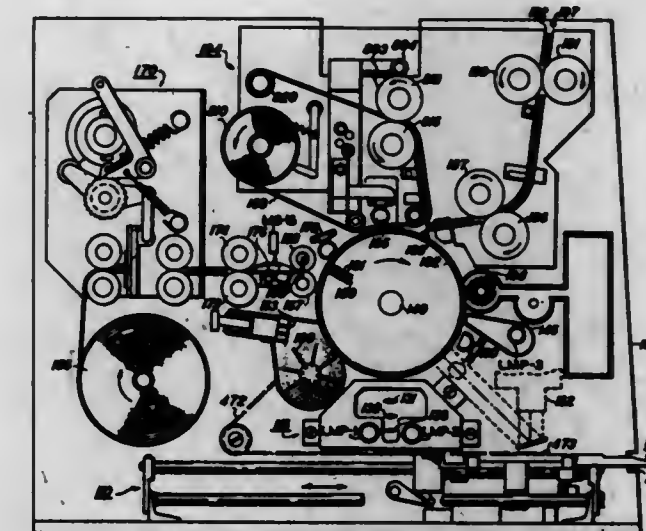
**DOCUMENT SCAN DRIVE AND RETURN APPARATUS**

Armistead Wharton, Henrietta, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 25, 1967, Ser. No. 677,958  
Int. Cl. G03b 15/00

U.S. Cl. 355-75

5 Claims



Document handling apparatus which transports a rigid platen board from a loading position into a recording machine for scanning and then returns the board to its starting position extending from the machine. The platen board is loaded onto a carriage which moves it past a scanning station for a required number of scans in a reciprocating drive motion. After the last scan, a control for the drive returns the carriage to its starting position with the platen board resting exterior to the machine.

3,520,606

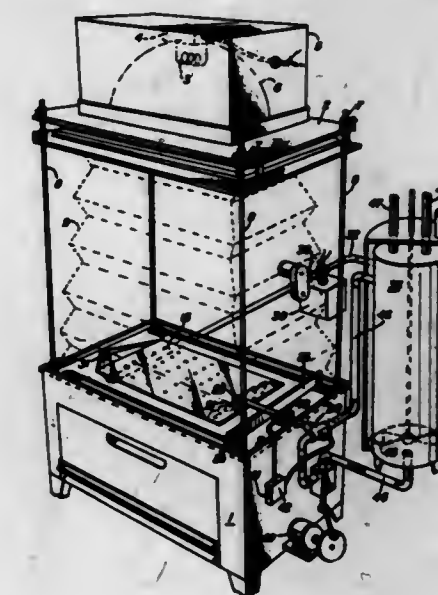
**APPARATUS FOR PREPARING A PRINTING PLATE FROM A PHOTSENSITIVE COMPOSITION**

Donald P. Gush, Hyattsville, Manuel C. Uy, Glen Burnie, and Einstein E. Calcedo, Silver Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Oct. 12, 1967, Ser. No. 674,772  
Int. Cl. G03b 27/30

U.S. Cl. 355-85

9 Claims



An apparatus for forming a developable printing plate from a liquid photosensitive composition comprising an enclosed housing having at one end an actinic light source



and at the other end a vacuum table adapted to receive thereon a liquid photosensitive composition in a mold on a support, which composition on exposure to the actinic light through an image bearing transparency becomes selectively insolubilized in the exposed portions thereof.

3,520,607

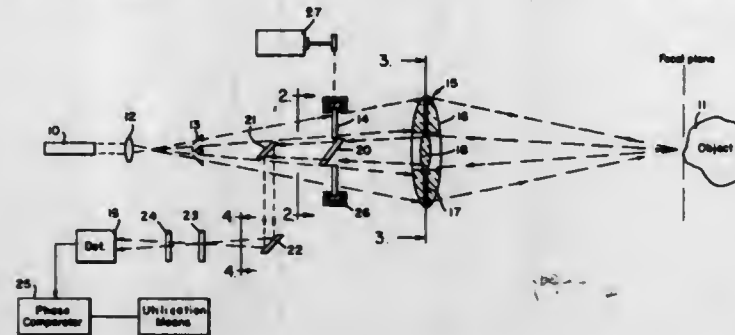
**PHASE SENSING LASER CONTOUR MAPPER**  
Robert M. Zoot, Thousand Oaks, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 17, 1967, Ser. No. 675,964

Int. Cl. G01b 11/00; G01c 3/08

U.S. Cl. 356—5

10 Claims



A noncontacting distance gauge and contour mapping apparatus utilizing a high intensity light source. A single light beam from the source is split into a plurality of secondary beams by an appropriate transmitting reticle. A rotating chopper sequentially interrupts the secondary beams. The beams are then focused upon the object, the distance to which, or contours of which, are being measured. At object-focal point coincidence the beams merge to form a single point image. When the surface of the object does not coincide with the focal point, multiple images are produced. Light reflected from the object is swept over a receiving reticle disposed in the optical path in front of an optical detector in synchronism with the rotating chopper. The changes in phase of the detector output is indicative of the deviation in distance from object-focal plane coincidence. A servomechanism and optical beam sweeping means can be used in conjunction with drive mechanisms to scan the light beams over the surface of the object to facilitate automatic contour measurements.

3,520,608

**TESTING TOUGHENED GLASS FOR INTERNAL STRESSES**

Henry B. Spencer, Coventry, England, assignor to The Triplex Safety Glass Company Limited, London, England, a British company

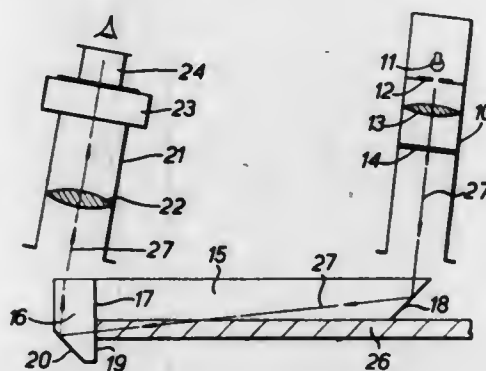
Filed Sept. 12, 1967, Ser. No. 667,166

Claims priority, application Great Britain, Sept. 13, 1966, 40,754/66

Int. Cl. G01b 11/16

U.S. Cl. 356—35

5 Claims



The invention provides a method and apparatus for determining the stresses at intermediate layers in toughened glass. A beam of polarized light is passed along a path

inclined at a small angle to one of the main surfaces of the glass, the path extending through this main surface and through an edge surface of the glass. The beam is polarized so that a first component is parallel with said main surface and a second component is at right angles to the first component. The emergent light is analyzed and provides a measure of the stresses at intermediate layers in the glass. The beam of light may be led into and from the glass by appropriate prisms.

3,520,609

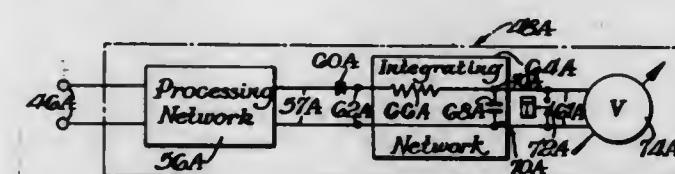
**METHOD AND APPARATUS FOR DETECTING AGGLUTINATION REACTIONS**

Kurt S. Lion, Belmont, Mass., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware  
Continuation-in-part of application Ser. No. 566,937, July 21, 1966. This application Apr. 12, 1968, Ser. No. 720,911

Int. Cl. G01n 33/16, 21/00, 71/00

U.S. Cl. 356—39

11 Claims



A specimen is scanned with a beam of energy, which is modulated by differences in the absorption of the beam within the reaction zone to produce a first signal. The first signal is differentiated to derive a second signal corresponding to the rate of change of the first. The second signal is integrated during a predetermined period of time and compared with a predetermined standard corresponding to substantial agglutination to determine if such is present in the reaction zone. The comparison is visually determined by a voltmeter or oscilloscope or electrically by a number displaying tube array or trigger circuit. The detecting apparatus is stationary with the specimens being moved relative to it, or the specimen is stationary and scanned by a moving beam. The specimen is directly or indirectly micro or macroscopically scanned. A semi-automatic apparatus projects a magnified image obtained from a microscope on a screen, which is manipulated by an operator to place the most significant portion over a scanning section.

3,520,610

**PARTICLE DISTRIBUTION READOUT USING HOLOGRAPHIC METHODS**

George B. Parrent, Jr., Carlisle, Brian J. Thompson, Chelmsford, and John H. Ward, Billerica, Mass., assignors to Technical Operations, Incorporated, Burlington, Mass., a corporation of Delaware

Filed Mar. 8, 1965, Ser. No. 437,876

Int. Cl. G06k 9/08; G01n 15/02; G02b 5/18

U.S. Cl. 356—71

6 Claims



Systems and methods of holographic photomicrography useful in the recording and reconstructing of volumes of stationary or moving particles are depicted. Recording is accomplished with pulsed laser illumination at a recording plane located in the far field of the individual particles in the object volume, but in the near field of the aperture defining the volume. Techniques are shown for removing background illumination during reconstruction.

3,520,611

**METHOD AND MEANS FOR INCORPORATING A THEODOLITE OR A TACHYMETER WITH A TELEMETER OR THE LIKE DISTANCE-MEASURING APPARATUS**

Claude H. Picou, Paris, France, assignor to Societe d'Etudes, Recherches et Constructions Electroniques (S.E.R.C.E.L.), Montrouge, Seine, France

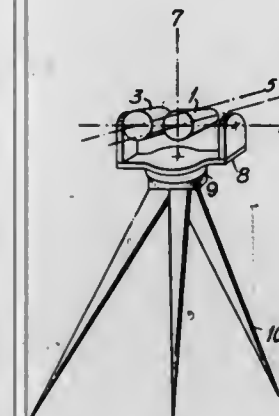
Filed Dec. 23, 1966, Ser. No. 604,210

Claims priority, application France, Jan. 10, 1966, 45,296

Int. Cl. G01c 3/08

U.S. Cl. 356—72

5 Claims



A combined theodolite and telemeter is provided with a telemetric transmitting station and a telemetric receiving station rigid with the transmitting station in side-by-side parallel relationship, the stations being adapted to pivot as to sight around an axis perpendicularly crossing the parallel longitudinal axes of the two stations, each station having a reflecting surface lying substantially at 45° with reference to the longitudinal axis thereof, luminous rays being conveyed into the transmitting station along said pivotal axis to be transmitted by the reflecting surface in said transmitting station along the longitudinal axis thereof and reflected at a remote point onto the reflecting surface of the receiving station, the duration of travel of said rays defining the distance of the remote point, the reflecting surface in one of the stations being displaceable into a collapsed inoperative position to allow said one station to operate as a theodolite.

3,520,612

**DEVICE FOR INTRODUCTION OF AEROSOLS INTO DIRECT CURRENT ARC**

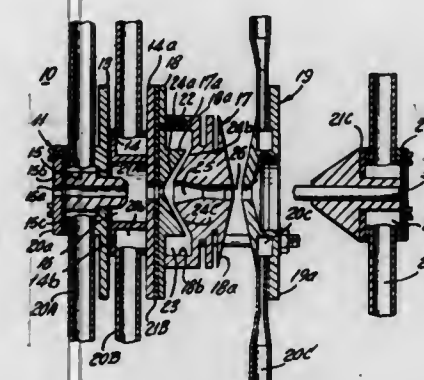
Erwin Hoffmann, Berlin, Germany, assignor to Deutsche Akademie der Wissenschaften zu Berlin, Berlin-Adlershof, Germany

Filed Apr. 11, 1966, Ser. No. 541,664

Int. Cl. H01j 17/26, 61/28

U.S. Cl. 356—86

8 Claims



The device comprises an aerosol injector unit disposed between the anode and an arc stabilizing disc. The injector unit consists of a central passage for the arc and of an annular conduit surrounding the passage. The annular

conduit has at its outer periphery a tangentially directed inlet for the aerosol stream to be analyzed, and its inner periphery is provided with a conical nozzle communicating with the central passage for whirling said stream while introducing the same tangentially into the arc.

3,520,613

**INTERFEROMETER WITH ENVIRONMENTAL CORRECTION COMPUTER**

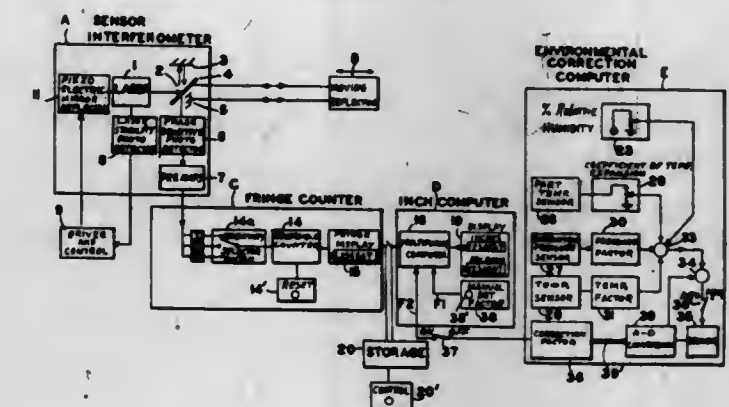
Anwar K. Chittayat, Plainview, N.Y., assignor to Optomechanisms, Inc., Plainview, N.Y.

Filed Nov. 14, 1966, Ser. No. 594,213

Int. Cl. G01b 9/02

U.S. Cl. 356—106

16 Claims



A laser interferometer having fringe counter output readout means. An inch computer is connected to the fringe counter. Environmental correction computer means are connected to inch computer and comprises part temperature responsive sensing means, barometric pressure sensing means, air temperature sensing means and means to combine the output of all said sensing means. The combined output of said sensing means is connected to modify said inch computer means.

3,520,614

**SPECTROPHOTOMETER AND PROCESS**

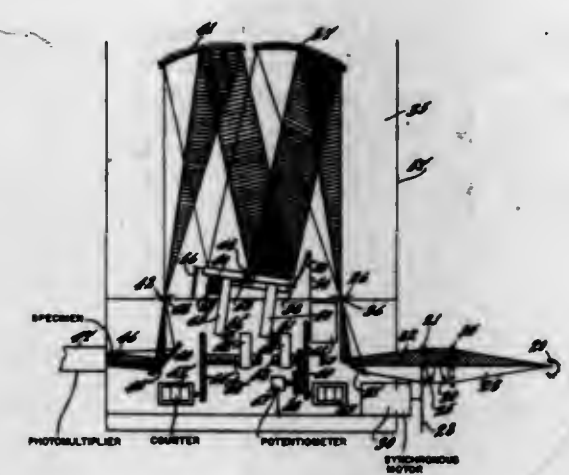
Jack M. Goldstein, Philadelphia, Pa., assignor to Phoenix Precision Instrument Co., Philadelphia, Pa., a corporation of Pennsylvania

Filed June 30, 1966, Ser. No. 561,794

Int. Cl. G01j 3/32, 3/42

U.S. Cl. 356—97

4 Claims



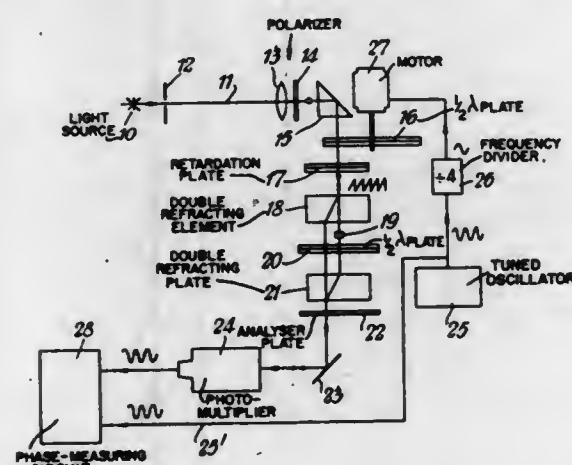
Distinctly different and novel mode of operation of a spectrophotometer in which both measure and reference beams are passed through a common specimen and which will cause accentuation of shoulders in a curve of absorbance or emission versus wavelength by changing them



into peaks corresponding to a first derivative of absorbance or emission with respect to the wavelength. Unlike a previous instrument (Chance dual wave length), the wavelengths of two beams differ from one another by a fixed very small difference in wavelength of the order of 0.1 to 10 millimicrons (preferably 2 millimicrons) and the two beams scan the specimen with constantly changing wavelengths. Unlike another previous instrument (C. S. French), here both emerging beams pass through a common specimen, and the beams are constantly maintained at a different wavelength. It is important that the instrument of the invention maintain constant sensitivity by automatic correction at least once a second (usually 60 times a second) and that the absorption be converted to a logarithmic function, namely optical density.

3,520,615

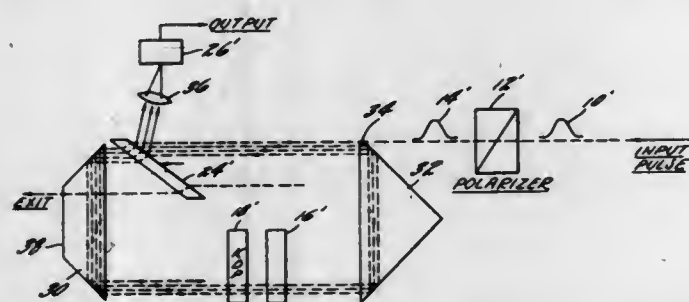
**OPTICAL PHASE MEASURING APPARATUS**  
Francis Hughes Smith, Surrey, England, assignor to Vickers Limited, London, England, a British company  
Filed Oct. 25, 1965, Ser. No. 505,156  
Int. Cl. G01b 9/02; G01n 21/40; G02b 21/06  
U.S. Cl. 356-106 8 Claims



Apparatus for the measurement of the phase difference between two mutually coherent beams of light in which the phase relationship is caused to vary periodically in a manner linearly related to time, means for converting the light intensity resulting from a vectorial summation of the beams into a cyclically varying first voltage and means for measuring the phase difference between this voltage and a second cyclically varying voltage of a frequency which is integrally related to that of the first voltage.

3,520,616

**OPTICAL PULSE MEASUREMENT SYSTEM**  
William H. Glenn and Michael J. Brienza, Vernon, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Filed Jan. 4, 1968, Ser. No. 695,743  
Int. Cl. H01s 3/10; G01f 15/34; G01n 21/40  
U.S. Cl. 356-114 26 Claims

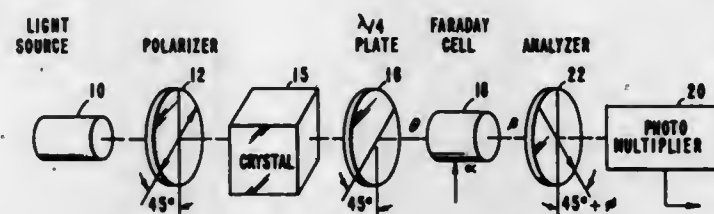


An optical pulse to be measured and a reference pulse coincident in time with the original pulse are continuously recirculated in an optical resonator. A birefringent crystal

in the resonator delays one pulse a fixed amount relative to the other during each circulation. An optical multiplier crystal inserted in the cavity responds to the coincidence between the circulating pulses in the crystal and produces for each circulation a second harmonic signal which is then reflected out of the resonator, square-law detected and integrated to produce a series of output pulses proportional to the correlation of the intensity of the original pulse.

3,520,617

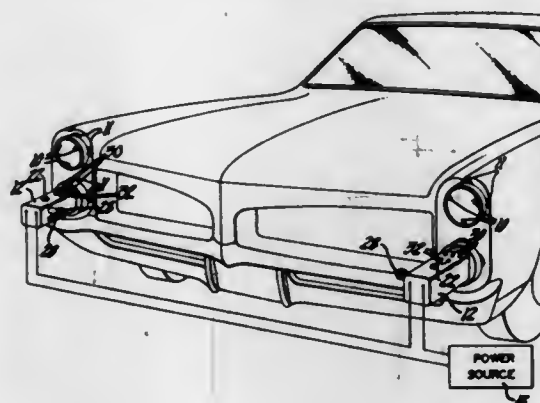
**POLARIMETER FOR TRANSIENT MEASUREMENT**  
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Alan R. Johnston, Los Angeles, Calif.  
Filed Feb. 15, 1967, Ser. No. 617,021  
Int. Cl. G01n 21/44  
U.S. Cl. 356-117 5 Claims



A polarimeter capable of measuring transient birefringence changes in electro-optic materials on a nano-second time scale, without the requirement for manual analyzer adjustment. An optical assembly is employed by means of which light polarized in a first plane is transmitted through the test material and a quarter wave plate. The output is light polarized in a plane rotated about the first plane by an angle, proportional to the transient birefringence changes. The output of a photomultiplier, which responds to the output light intensity of the polarimeter, is sampled at specific times, measured from the leading edges of field pulses applied to the material. The samples are used to produce an average error signal, used to drive a Faraday cell, forming part of a feed-back loop, such that the transient birefringence changes could be measured in terms of Faraday-cell current.

3,520,618

**HEADLAMP INSTRUMENT**  
Francis W. Bentley, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Apr. 21, 1967, Ser. No. 632,636  
Int. Cl. G01j 1/00  
U.S. Cl. 356-121 5 Claims

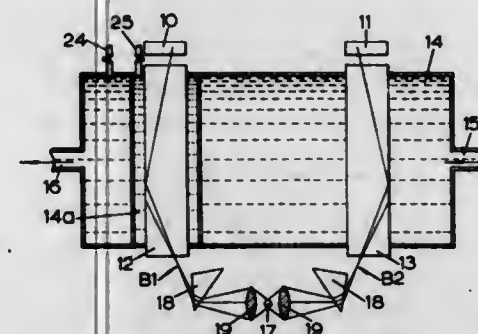


The headlamp aiming apparatus includes a pair of devices, each to be secured to a vehicle headlamp, electrical means including gravity sensing electrolytic transducers and indicating lamps indicating when each instrument has been leveled. A light beam from each device

illuminates one of a series of photocells on the other device and a circuit including indicating lamps and the photocells indicates when the instruments are parallel to the longitudinal axis of the vehicle and if not parallel, show the direction of error.

3,520,619

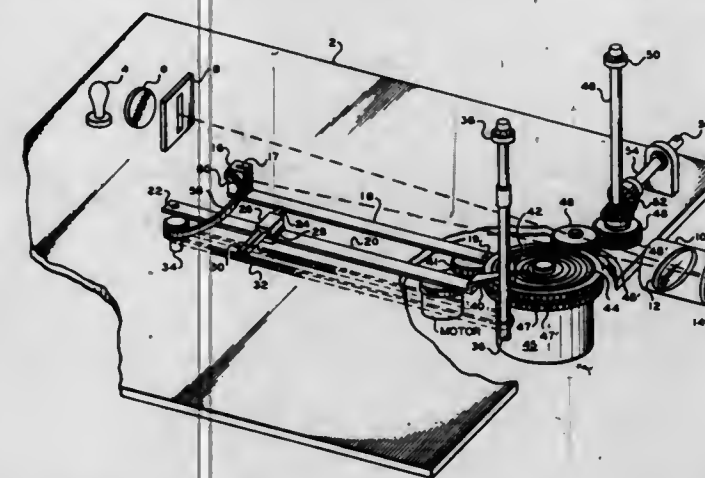
**APPARATUS FOR THE DETERMINATION AND/OR CONTROL OF THE PROPORTIONS OF THE CONSTITUENTS IN A FLUID MIXTURE OR EMULSION**  
Richard Ward, Worsley, England, assignor to Gollick Limited, Wigan, Lancashire, England, a British company  
Filed Jan. 23, 1967, Ser. No. 611,085  
Claims priority, application Great Britain, Feb. 12, 1966, 6,286/66  
Int. Cl. G01n 21/46  
U.S. Cl. 356-130 6 Claims



An apparatus for the determination or sensing of the proportions of the constituents in a fluid mixture, solution or emulsion (hereinafter referred to as the main fluid) comprises two refractometers one of which is responsive to a reference fluid and the other to the main fluid. Each refractometer includes a photo-cell so that the output from each refractometer is in the form of an electrical signal. The photo-cells are connected in an electrical system so that any unbalance or deviation between said signals will cause a change in current flow or potential in said system. This change in current flow or potential may be used to indicate a variation in the proportions of the constituents of the main fluid and/or adjust said proportions.

3,520,620

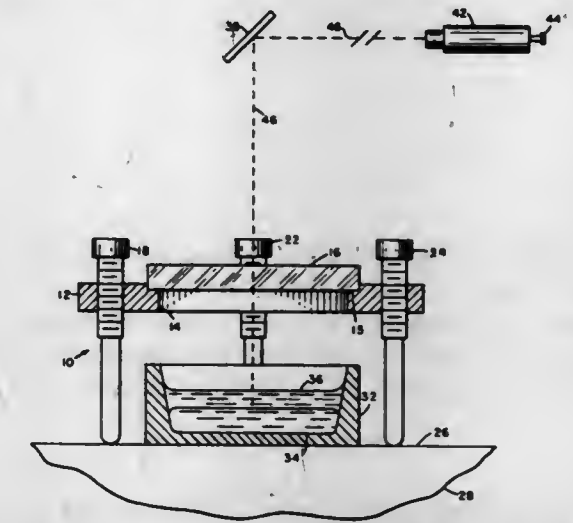
**DIFFERENTIAL REFRACTOMETER**  
Arthur B. Broerman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
Filed Dec. 5, 1966, Ser. No. 599,147  
Int. Cl. G01n 21/46  
U.S. Cl. 356-131 9 Claims



A differential refractometer with a refractometer cell having a cylindrical glass member with a glass prism fused thereto at an oblique angle and adjusting means with improved sensitivity.

3,520,621

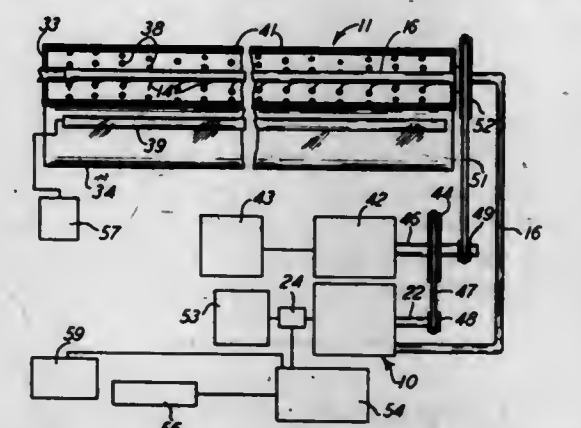
**REMOTE LEVELLING MEASUREMENT**  
Robert A. Blesch, Lisle, Ill., and Charles G. Porter, New York and Oliver S. Reading, Bellport, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission  
Filed May 12, 1967, Ser. No. 639,598  
Int. Cl. G01b 1/00; G01c 21/06  
U.S. Cl. 356-150 2 Claims



Apparatus which utilizes a collimated beam of light to indicate the roll and pitch of a device. The device is provided with a pool of mercury whose free surface is damped by high viscosity oil to establish a horizontal surface and also a plano-parallel optical flat which is partially silvered. The flat is parallel to the plane of the device whose level is to be indicated. A collimated beam is reflected by both the silvered surface and the free mercury surface, and the degree of separation of the reflected beams is an indication of the angular position of the optical flat.

3,520,622

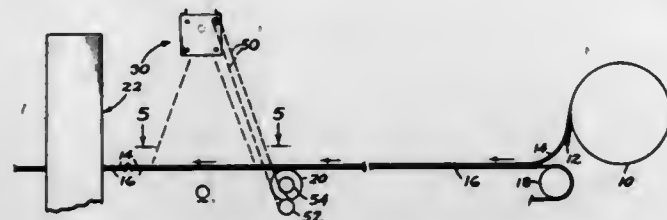
**METHOD AND MEANS FOR OPTICAL SCANNING**  
James W. Fargo, Kenosha, Thomas W. Fargo, Racine, and James J. Wolak, Brookfield, Wis., assignors to Custom Control Products, Inc., Racine, Wis., a corporation of Wisconsin  
Filed June 19, 1967, Ser. No. 646,946  
Int. Cl. G01b 11/28  
U.S. Cl. 356-158 16 Claims



An optical scanner having fiber optic rods extending from an exposure location to a scanner for detecting the presence of objects at the exposure location. A photocell registers the presence of light in the fiber optic rods passing through the scanner, and means for generating a pulse is provided and is synchronized with the scanning of the fiber optic rods. Rollers are shown for conveying a sheet-like object between the rollers at the exposure end of the fiber optic rods, and the fiber optics are arranged out of sequence at the exposure end compared to the sequence or order of scanning at the scanner.

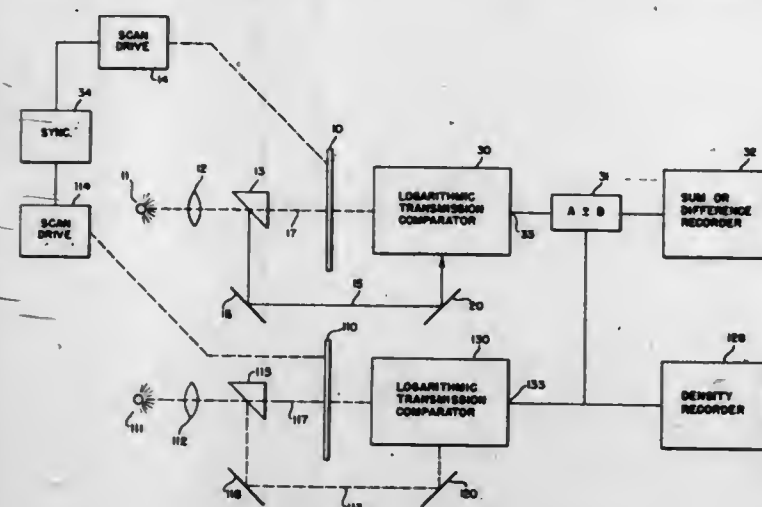


**3,520,623**  
**APPARATUS FOR PRODUCING MOVING SHADOW REFERENCE LINES**  
 Alden H. Cooper, 450 Taybin Road, Salem, Oreg. 97304  
 Filed May 6, 1968, Ser. No. 726,860  
 Int. Cl. G01n 21/16, 21/32  
 U.S. Cl. 356—200 3 Claims



Apparatus is provided for producing moving shadow reference lines on work moving at a corresponding speed on a conveyor positioned a spaced distance from the apparatus, thereby enabling marking or otherwise processing the work in transit and in accurately defined locations.

**3,520,624**  
**MICRODENSITOMETRIC APPARATUS FOR SIMULTANEOUSLY EXAMINING A PLURALITY OF RECORD IMAGE AREAS**  
 Ronald H. Johnson, Westford, and Carlton S. Miller, Bedford, Mass., and Frederick G. Parsons, Providence, R.I., assignors to Technical Operations, Incorporated, Burlington, Mass., a corporation of Delaware  
 Filed May 10, 1966, Ser. No. 549,031  
 Int. Cl. G01n 21/06, 21/22; G01j 1/42  
 U.S. Cl. 356—203 6 Claims

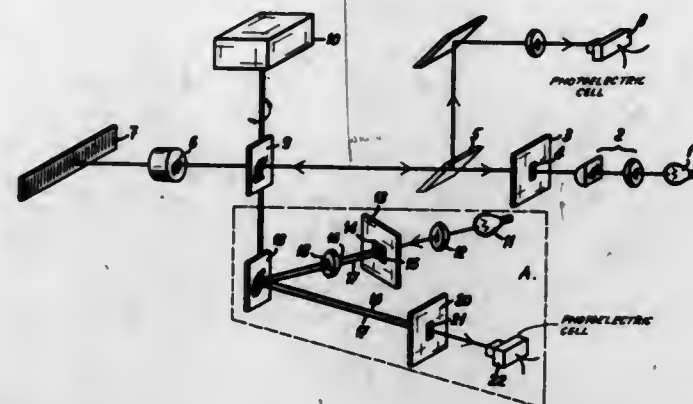


This disclosure depicts microdensitometric apparatus for simultaneously examining image points on one or more photographic records to produce two signals which are useful individually or which may be processed together to yield optical functions such as transmission, density, density slope, and the like.

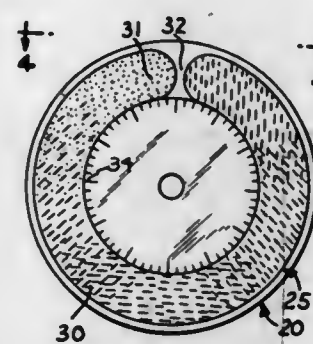
**3,520,625**  
**PHOTOELECTRIC MICROSCOPE**  
 Claude Gillieron, Lausanne, Robert Viret, Geneva, and Alain Stahl, Carouge, Geneva, Switzerland, assignors to Societe Genevoise d'Instruments de Physique, Geneva, Switzerland, a corporation of Switzerland  
 Filed June 9, 1967, Ser. No. 645,006  
 Claims priority, application Switzerland, Oct. 18, 1966, 15,139/66  
 Int. Cl. G01n 21/60; G01b 9/04  
 U.S. Cl. 356—211 15 Claims

The invention relates to photoelectric microscopes having a periodically vibrating member around a centered position driven in its oscillation by means of an actuating device. The invention provides for an automatic control

of said oscillating movement and correction of any amplitude or symmetry error of the same. This is achieved by a central drive feed by the electrical output of a detecting device of the oscillating condition of said vibrating element and delivering both amplitude and symmetry error signals acting on said actuating device to correct any amplitude respectively symmetry errors of the said oscillating condition of the vibrating element.



**3,520,626**  
**COLOR WHEEL FOR COLOR COMPARATORS**  
 Clifford C. Hach, Ames, Iowa, assignor to Hach Chemical Company, Ames, Iowa, a corporation of Iowa  
 Filed Feb. 10, 1966, Ser. No. 526,532  
 Int. Cl. G01j 1/02  
 U.S. Cl. 356—243 9 Claims



A transparent color-comparator standard comprises a body of transparent material having a flat-bottomed constant depth groove of uniform width, containing an integral strip of hardened transparent resin having a color, hue, value, and/or chroma that varies continuously along the groove.

#### ERRATUM

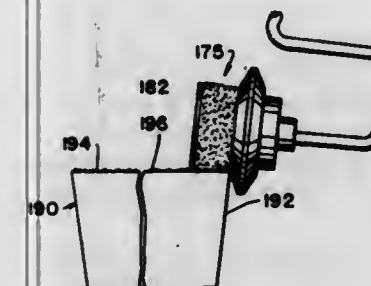
For Class 356—246 see:  
 Patent No. 3,520,517

**3,520,627**  
**WRITING INSTRUMENT**  
 Yasuharu Suzuki, Yokohama, Japan, assignor to Mitsubishi Pencil Company Limited, Tokyo, Japan  
 Filed Aug. 12, 1968, Ser. No. 751,851  
 Int. Cl. B43k 19/14  
 U.S. Cl. 401—96 2 Claims



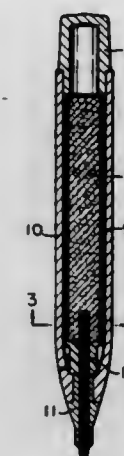
A writing instrument, such as a pencil which may be sharpened, has a coating on the shaft part of a heat shrinkable synthetic resin to prevent damage.

**3,520,628**  
**PAINT TRIM ROLLER AND ADJUSTABLE GUIDE ASSEMBLY**  
 Francesco Mocerl, 733 Lantz W., Detroit, Mich. 48203  
 Filed Apr. 15, 1968, Ser. No. 721,389  
 Int. Cl. B44d 3/28  
 U.S. Cl. 401—118 20 Claims



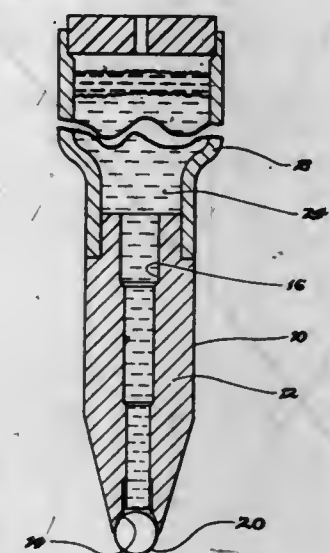
The paint trim roller and adjustable guide assembly includes a handle structure which carries an axle. Both the handle structure and axle structure may be extensible. A roller is rotatably mounted on the axle along with a guide wheel. The roller has an outer paint receiving and transferring surface which is tapered inwardly towards the center of the roller. The guide wheel also has a tapered surface for guiding the mechanism during use. Adjustable spacing means are provided to position the roller and guide wheel on said axle at predetermined distances apart.

**3,520,629**  
**WRITING INSTRUMENTS**  
 Katsumi Otsuka, Funabashi-shi, Japan, assignor to Teibow Company Limited, Hamamatsu-shi, Shizuoka-ken, Japan, a company of Japan  
 Filed Nov. 15, 1968, Ser. No. 776,132  
 Claims priority, application Japan, July 18, 1968, 42/50,451  
 Int. Cl. B43k 1/00, 8/00  
 U.S. Cl. 401—199 6 Claims



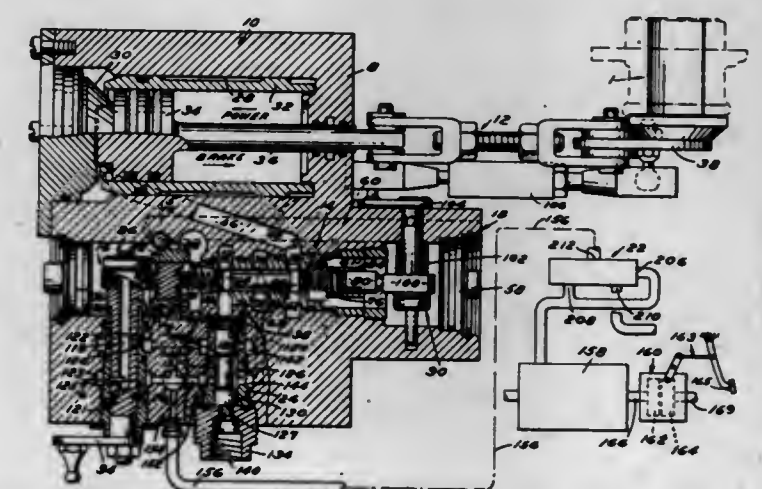
A writing instrument having an improved writing wick made of synthetic resin materials. Within a casing of the instrument, a rear-end of the wick is engaged with a front-end of an ink reservoir and the front-end of the wick is sharpened to form a tip. With use of the instrument, ink is smoothly introduced from the ink reservoir to the tip through an inner conduit and outer grooves formed through and along the wick. The introduction of ink is attributed to capillary action due to the respective dimensions of the inner conduit and outer grooves. Troubles in writing, such as scratching, are effectively eliminated.

**3,520,630**  
**BALLPOINT ASSEMBLY**  
 Maurice Beverly Gordon, Fort Madison, Iowa, and Sanford D. Hell, Golden, Colo., assignors, by mesne assignments, to Coors Porcelain Company, Golden, Colo., a corporation of Colorado  
 Filed Mar. 1, 1968, Ser. No. 709,693  
 Int. Cl. B43k 7/10  
 U.S. Cl. 401—215 2 Claims



This application illustrates and describes a ball type dispensing assembly. There is provided a reservoir for a marking medium such as a liquid ink, cosmetic, or the like, and a dispensing assembly extending from one end of the reservoir. This assembly includes a rigid tip having a ball socket communicating with the reservoir through a conduit, and a ball rotatably housed within the socket for transferring the marking medium onto a surface as it rolls thereover. At least the outer or contact surface of the ball is composed of a multiplicity of randomly and compactly disposed crystals of aluminum oxide of an average diameter ranging up to about 20 microns, the crystals being sintered together to form a dense, substantially non-porous structure which is significantly stronger than a single crystal aluminum oxide ball, yet substantially less expensive.

**3,520,631**  
**CONTROL APPARATUS FOR A GAS TURBINE ENGINE**  
 Arthur F. McLean, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
 Original application Nov. 14, 1966, Ser. No. 594,117, now Patent No. 3,388,778, dated June 18, 1968. Divided and this application Feb. 12, 1968, Ser. No. 718,289  
 Int. Cl. F01b 25/06  
 U.S. Cl. 415—26 5 Claims



An engine output shaft overspeed control synchronizer includes a valve that is responsive to changes in



an engine speed responsive fluid pressure force, or alternatively, also a transmission input shaft speed fluid pressure force, to brake the gas turbine output shaft at times, the valve containing, in one embodiment, a flow restriction at one end creating a force differential at opposite ends upon speed changes to effect the braking action.

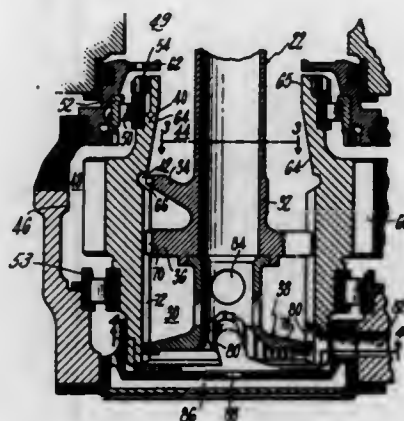
### 3,520,632 SCAVENGE PUMP AND ACCESSORY DRIVE SYSTEM

Frederick W. Brunkhardt, South Glastonbury, and Stanley Zalmor, Jr., Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Nov. 19, 1968, Ser. No. 777,554  
Int. Cl. F04d 9/00, 13/02, 29/06

U.S. Cl. 415-122

14 Claims



An accessory drive system for a gas turbine engine having two passageways for a gas and oil mixture. One passageway connects to a gas and oil separator and a pump. The other passageway connects to lubricate the drive support means.

### 3,520,633 SUPPLY LINE COUPLINGS FOR A POWER MEDIUM BETWEEN SUPPLY LINES AND A TURBINE

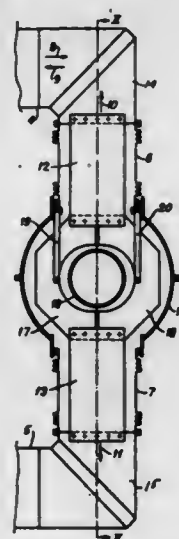
Ivar Martin Mansson, Finspong, Sweden, assignor to Stal Laval, Finspong, Sweden, a Swedish corporation

Filed May 16, 1968, Ser. No. 729,780  
Claims priority, application Sweden, July 11, 1967, 10,437/67

Int. Cl. F01d 25/28

U.S. Cl. 415-134

5 Claims



An arrangement for steam or gas turbines in which lines or conduits for the supply of the steam or gas to the turbine are disposed diametrically opposite to one another, said lines being connected to the turbine by expansion

bellows and by tension force absorbing means situated in the bellows and in the turbine housing, with the connections between the bellows and housing and between the tension force absorbing means and the housing permitting relative movement between the housing and the supply lines.

### 3,520,634 EXHAUST STEAM HOUSING FOR LOW PRESSURE STEAM TURBINES

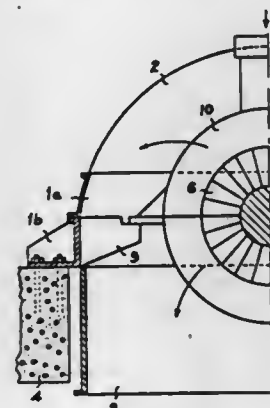
Hans Bellati, Wettingen, Pierre Meylan, Neuenhof, and Willi Rutti, Nussbaumen, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Continuation-in-part of application Ser. No. 679,436, Oct. 31, 1967. This application Jan. 14, 1969, Ser. No. 791,116

Claims priority, application Switzerland, Dec. 2, 1966, 17,293/66; Germany, Jan. 22, 1968, 1,601,841  
Int. Cl. F01d 25/28

U.S. Cl. 415-134

7 Claims



The exhaust gas casing for the low-pressure section of a steam turbine is supported on the turbine foundation by way of a baseframe. In view of the relatively large dimensions involved, and in order to facilitate transport to the erection site, the baseframe is split along the horizontal axial plane of the turbine. The upper part of the frame is secured to the steam retaining jacket and the lower part of the frame is secured to the exhaust pipe. Moreover, the lower part of the frame which is essentially rectangular, is secured to the foundation at only four points intermediate respectively the four sides of the frame, the remaining portions of the frame being free to yield on the foundation in response to thermal expansion and contraction. The four fixing points are located at the oppositely disposed bearing blocks for the turbine rotor, and at the oppositely disposed supports for the stationary blade carrier.

### 3,520,635 TURBOMACHINE SHROUD ASSEMBLY

Iroft G. Killmann, West Haven, and Theodore Ivanko, Fairfield, Conn., assignors to Avco Corporation, Stratford, Conn., a corporation of Delaware

Filed Nov. 4, 1968, Ser. No. 773,055  
Int. Cl. F01d 9/00

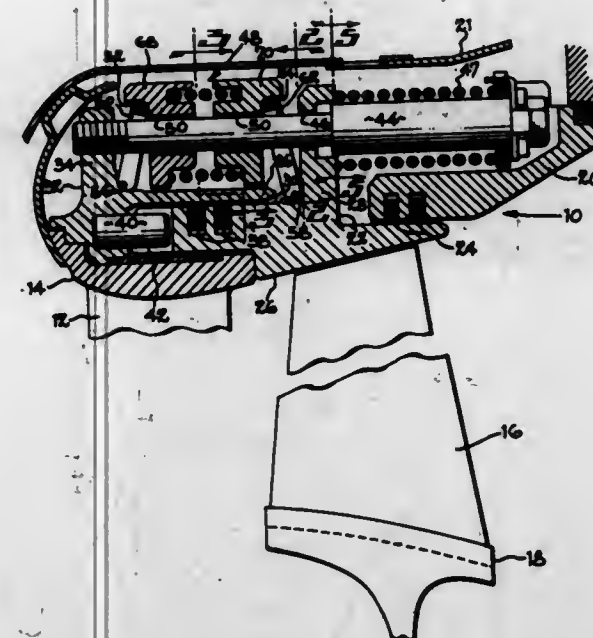
U.S. Cl. 415-138

10 Claims

The disclosure relates to a self-contained shroud assembly for a turbomachine which automatically compensates for temperature expansion to maintain a substantially constant clearance or provide for a desired clearance between the assembly and the outer periphery of a series of turbine or compressor blades with which it is used. Compensation is provided by a pair of rings axially displaceable relative to one another and adapted to have different circumferential expansion in response to temperature increases. A lever, for example a notched Belleville washer, between the two rings translates the differential circumferential expansion into axial movement of

one of the rings. The movable ring supports or is part of an inclined shroud which is axially displaceable to

filaments wound around two end fittings to form a strap having side portions and where the side portions of the strap are wrapped over a portion of the length thereof



wards the turbine or compressor blades to maintain the constant clearance.

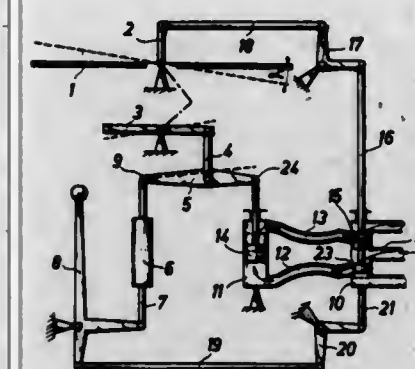
### 3,520,636 CONTROL MECHANISM FOR HELICOPTERS

Herbert Spanger, Bremen, Germany, assignor to Vereinigte Flugtechnische Werke Gesellschaft mit beschränkter Haftung früher "Weser" Flugzeugbau/Focke-Wulf/Heinkel-Flugzeugbau, Bremen, Germany

Filed Nov. 7, 1968, Ser. No. 774,032  
Int. Cl. B64c 27/70

U.S. Cl. 416-112

6 Claims



A control device for helicopters with a manually operable and an automatically operable control system for the blade adjustment of the rotor by a swash plate which includes a fluid valve controlled hydraulic control motor operatively connected to said swash plate while the housing of the fluid valve is movable and operatively connected to a control stick forming part of the manual control system.

### 3,520,637 TORSION-TENSION COUPLING

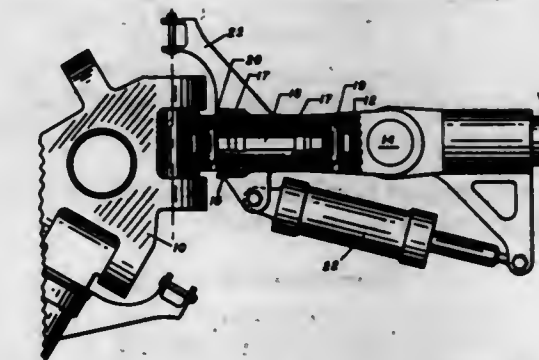
Harry Tobey, Havertown, Pa., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Continuation of application Ser. No. 172,902, Feb. 13, 1962. This application July 24, 1969, Ser. No. 849,565  
Int. Cl. B63h 1/08; B64c 27/32

U.S. Cl. 416-135

2 Claims

This invention relates to a torsion-tension strap for retaining the rotor blade to the rotor hub of a helicopter or a structure under similar combined torsion and tension, wherein the torsion-tension strap is made of coated wire



and transverse to the longitudinal centerline of said strap to hold the center portions in parallel and contiguous relationship.

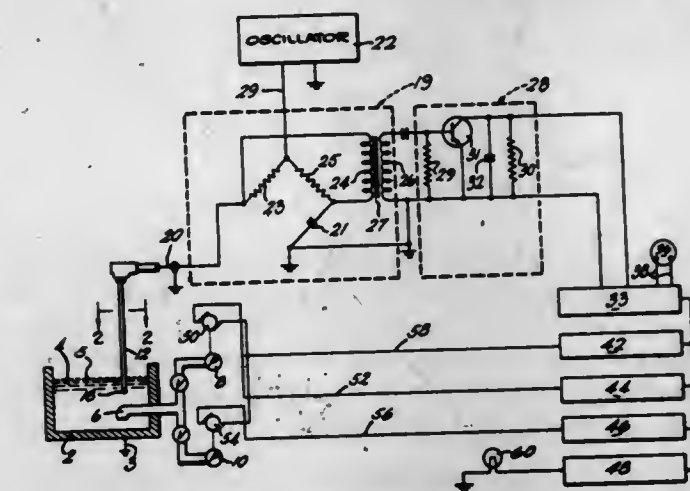
### 3,520,638 MEANS AND APPARATUS FOR SENSING AND CONTROLLING MATERIAL LEVELS

Donald H. McUmb, Clark Lake, and John W. Blackgrove, Jackson, Mich., assignors to Richard Huttenlocher and Edward L. Cobb, escrow agents

Filed Apr. 8, 1968, Ser. No. 719,529  
Int. Cl. F04b 49/02; G01f 23/00

U.S. Cl. 417-36

2 Claims



A method and apparatus for sensing and controlling the level of material such as a liquid or granular substance in which the liquid or substance acts as the dielectric of an electrical condenser, the capacity of which is varied by the level of the liquid or granular substance. The condenser is part of a Wheatstone bridge circuit the unbalance of which is a function of the level of the liquid or granular substance and the output of which is a function of the bridge unbalance whereby the voltage output of the Wheatstone bridge is varied as a function of level for level indication and/or actuating a pump or other level adjusting device.

### 3,520,639 VENTURI TUBE

Arnold L. Hanes, Topanga, Calif., assignor to Brittain Industries, Inc., Torrance, Calif., a corporation of California

Filed Aug. 21, 1968, Ser. No. 754,403  
Int. Cl. F04f 5/16, 5/24, 5/44

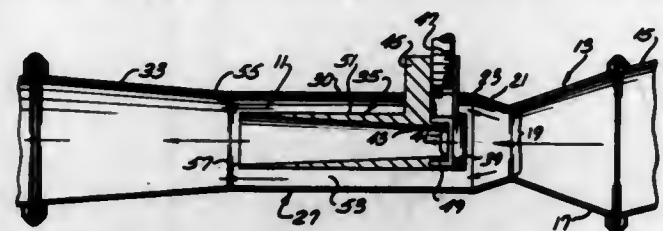
U.S. Cl. 417-167

5 Claims

A multi-venturi arrangement to effect a vacuum for use in aircraft comprising an outer cylindrical body initially converging to a first throat area, the body extending cylindrically rearward from the throat area, then converging



to its terminus. A second body is disposed in the outer one and is provided with a convergent inlet to a throat area,



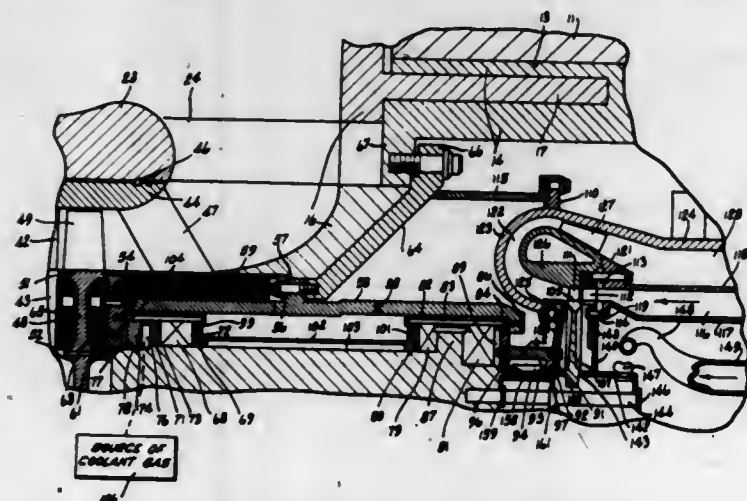
and then a divergent portion. The vacuum line is directed to the throat area of the inner body.

### 3,520,640 FLUID CIRCULATOR

Jack S. Yampolsky, Francis R. Bell, and Peter Fortescue, San Diego, Calif., assignors, by mesne assignments, to the United States Atomic Energy Commission  
Filed Sept. 6, 1966, Ser. No. 577,316  
Int. Cl. F04d 13/02, 29/00

U.S. Cl. 417-360

9 Claims



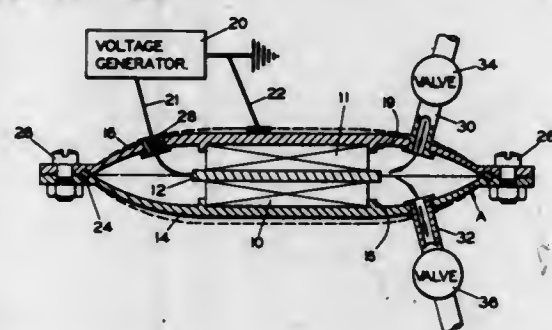
A fluid circulator is described incorporating rotary elements for establishing a fluid flow. A drive shaft rotates the rotary elements, and is driven by a first turbine portion and a second turbine portion, each of which is independently operable to rotate the drive shaft from separate sources of pressurized driving fluid.

### 3,520,641 PIEZOELECTRIC PUMP

Edward H. Casey, Creve Coeur, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey  
Filed Nov. 13, 1968, Ser. No. 775,412  
Int. Cl. F04b 19/00

U.S. Cl. 417-412

7 Claims



A double diaphragm pump is constructed using a piezoelectric crystal or stack of such crystals to reciprocate a pair of rigid, preferably metallic, diaphragms which are clamped about the crystal structure in such a manner that the crystal structure causes the diaphragms to move in opposing directions upon energization and de-energization by a suitable voltage source. Inlet and outlet valves

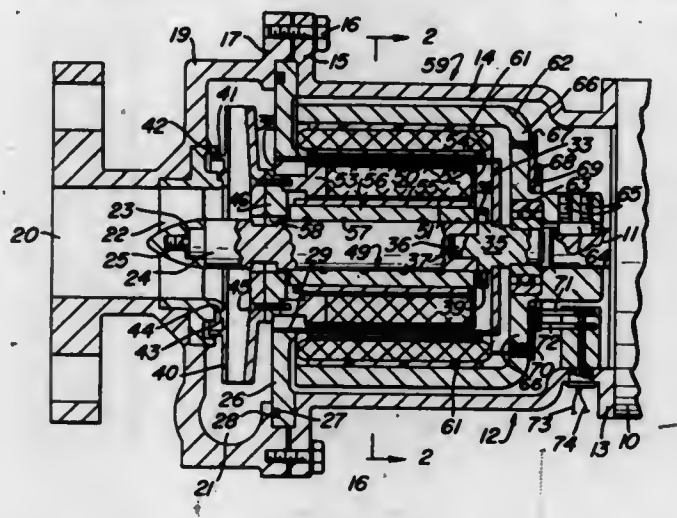
are provided so that fluid can enter when the pumping chamber volume increases and be discharged when the chamber volume decreases.

### 3,520,642 MOTOR DRIVEN PUMP

Garland L. Fulton, Wayne, Pa., assignor to Process Industries, Incorporated, Huntingdon Valley, Pa., a corporation of Pennsylvania  
Filed Oct. 29, 1968, Ser. No. 771,571  
Int. Cl. F04d 13/02; H02k 5/10

U.S. Cl. 417-420

9 Claims



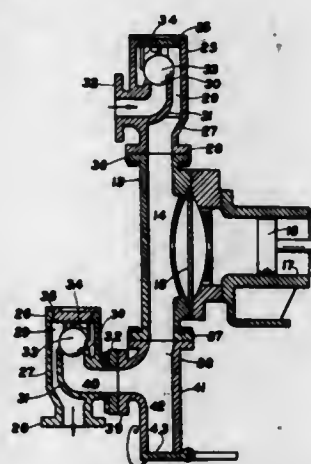
An electromagnetic driven pump in which the pump impeller is journaled on a fixed shaft and is driven by a magnetic coupling member which is of soft iron, or of high intensity permanent magnetic material of metal or of ceramic. The coupling member is driven by a rotatable electromagnetic device which is in turn motor driven. The coupling members are isolated to prevent fluid communication therebetween.

### 3,520,643 SEWAGE PUMP OR THE LIKE

Oswald Anton Busse and Hugo Erwin Klesper, Michelbach, Nassau, Germany, assignors to Passavant-Werke, Michelbacherhutte, near Michelbach, Nassau, Germany, a corporation of Germany  
Filed Oct. 22, 1968, Ser. No. 769,506  
Int. Cl. F04b 9/10, 21/02

U.S. Cl. 417-434

5 Claims



A reciprocative pump adapted to handle sewage or other particle laden liquids is provided with novel inlet and outlet check valves adapted to be urged continuously of precipitated solid particles which otherwise could plug the valves. Contrary to the customary practice of pumping the liquid upwardly from the inlet valve to the outlet valve, the liquid preferably flows through the pump in a downward direction to minimize the accumulation of solid particles between the two valves. A novel trap arrangement also may be provided between the outlet valve

and the pumping chamber to collect heavy sediment and to allow it to be discharged without interrupting operation of the pump.

### 3,520,644 ROTARY ENGINE COMPENSATING ECCENTRIC

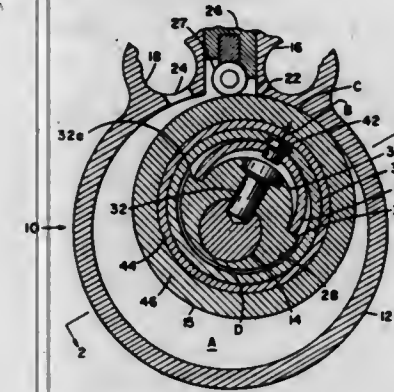
Ralph W. Kalkbrenner, Irwin, Pa., assignor, by mesne assignments, to the United States Atomic Energy Commission

Filed June 27, 1968, Ser. No. 740,616

Int. Cl. F01c 1/04, 1/22

U.S. Cl. 418-57

2 Claims



An eccentric for a rotary piston steam engine employing a spring operated biasing construction for maintaining the outer surface of said eccentric in contact with the wall of the cylinder as the surfaces wear.

### 3,520,645 CONTROL SYSTEM FOR A FUEL BURNER

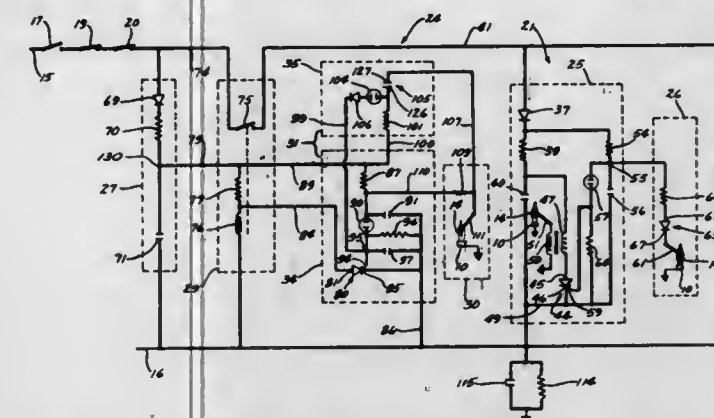
Curran D. Cotton and Leon Dean Kuhn, Newton, Iowa, assignors to The Maytag Company, Newton, Iowa, a corporation of Delaware

Filed May 24, 1968, Ser. No. 731,907

Int. Cl. F23n 5/00

U.S. Cl. 431-78

30 Claims



A control system operable for initiating flow of fuel, producing an ignition spark, sensing presence of flame, extinguishing the spark in the presence of the flame, and interrupting flow of fuel in the prolonged absence of flame. The control includes a solid state switching means and is operable for responding to the presence of a short of the flame rod to the burner as well as being responsive to the prolonged absence of flame.

### 3,520,646 PRE-MIXING TYPE GAS BURNER

Isamu Matsuda, Tokyo, Japan, assignor to Tokyo Gas Company Limited, Tokyo, Japan

Filed Oct. 15, 1968, Ser. No. 767,699

Claims priority, application Japan, May 16, 1968, 43/32,551

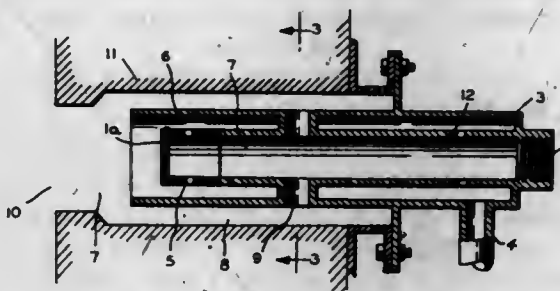
Int. Cl. F23c 7/00

U.S. Cl. 431-187

2 Claims

A pre-mixing type gas burner. A central air flow tube with a closed tip and an air inlet at the end opposite the

tip has a gas flow pipe coaxial with and surrounding it and spaced therefrom to define a gas flow region therebetween. The gas flow pipe is open at the tip end and extends beyond the tip end of the air flow tube and is attached to the air inlet end of the air flow tube so as to close off the end of the gas flow pipe. A gas inlet pipe opens into the air inlet end of the gas flow pipe. Secondary air outlet tubes extend from within the air flow tube outwardly through the gas flow pipe at a point spaced toward the air inlet end of the burner from the tip of the burner. Said



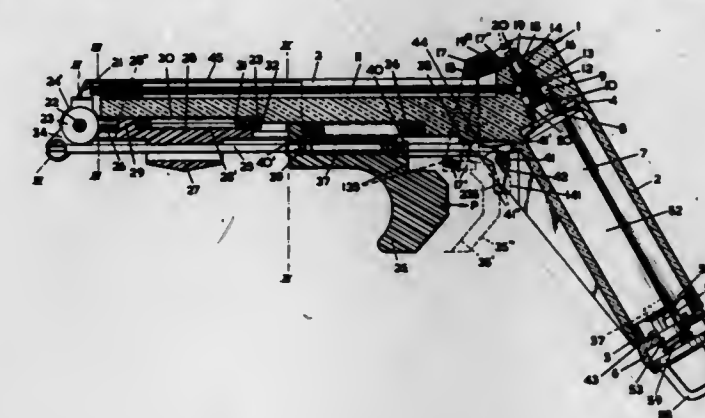
air flow tube has primary air nozzles opening radially outwardly thereof just behind the tip and has air ports opening outwardly into said flow space just ahead of said air inlet. The burner is mounted in a furnace wall burner opening spaced from the walls of the opening to form a secondary air flow space around said gas flow pipe. When gas and air are caused to flow through said burner, a high temperature fluid recirculation zone is formed in front of the tip of said burner to keep the fuel burning and secondary air flows along the outside of the gas flow pipe and cools the pipe and stabilizes the burning gases.

### 3,520,647 LIGHTER

Albertus van Poppel, Rolde, Netherlands, assignor to Gebrs. van Poppel N.V., Assen, Netherlands, a limited-liability company of the Netherlands  
Filed July 29, 1968, Ser. No. 748,393  
Claims priority, application Netherlands, Aug. 4, 1967, 6710779, 6710780, 6710781, 6710782  
Int. Cl. F23q 2/16

U.S. Cl. 431-254

12 Claims



A pistol-type gas lighter having an angular housing including a first leg constituting a handle adapted to receive a container for liquid fuel, said container having an outlet arranged to be closed or opened by a movable valve disposed in a chamber to prevent or permit the entry of fuel into said chamber, a second leg including a fuel conduit connecting said chamber with the head end of said second leg, said head end accommodating an ignition device capable of bringing a spark in the outflow zone of said fuel conduit, and a trigger device mounted in the zone of the inner corner of the angular housing, said trigger device being adapted to actuate said ignition device and shortly previously to lift the valve from the outlet of the fuel container.



# CHEMICAL

3,520,648

## PROCESS FOR DYEING ORGANIC POLYESTER FIBERS AND COMPOSITE ANTHRAQUINONE PREPARATIONS THEREFOR

Alfred Staub, Binningen, Switzerland, assignor to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Dec. 11, 1967, Ser. No. 689,333  
Claims priority, application Switzerland, Dec. 22, 1966, 18,377/66

Int. Cl. D06p 1/20

U.S. Cl. 8—25

13 Claims

Process for dyeing organic polyester fibers with composite dyes consisting of mixtures of a 4-(3'- or 4'-carbamoylphenylamino)-8-nitro-anthrufin and a 4-phenylamino- or 4-toluylamino-8-nitro-anthrufin, preferably in a molar ratio of from 4:1 to 1:4 or with dye preparations containing such composite dyes, whereby unexpectedly equally good deep blue shades are obtained on cellulose ester fibers, acetate silk or triacetate fibers, on the one hand, and on fibers made of polyester of aromatic dicarboxylic acid, e.g. Terylene, on the other hand.

3,520,649

## SYSTEM FOR REMOVAL OF SO<sub>2</sub> AND FLY ASH FROM POWER PLANT FLUE GASES

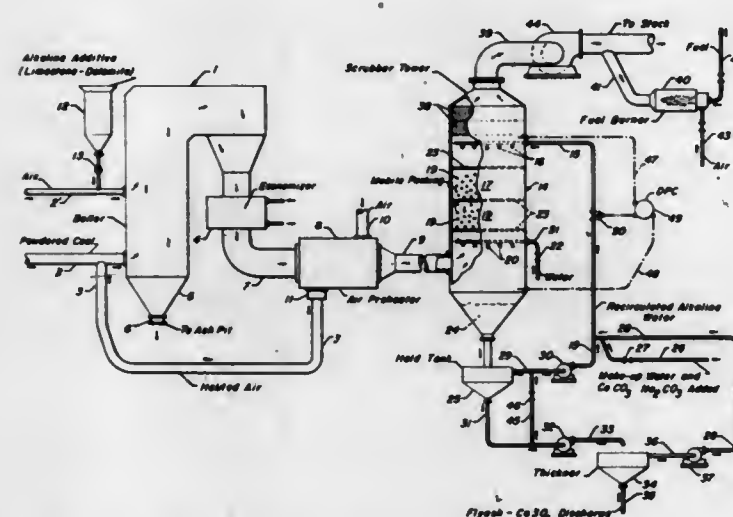
James P. Tomany, Darien, Conn., and Wilfred A. Pollock, Cudahy, Wis., assignors of one-half each to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware, and to Wisconsin Electric Power Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 28, 1967, Ser. No. 671,287

Int. Cl. B01d 47/00; C01b 17/56

U.S. Cl. 23—2

10 Claims



An SO<sub>2</sub> and fly ash removal system for coal burning power plant stack gases which provides for limestone-dolomite addition to the coal carrying through the power plant to form stable sulfate-sulfite compounds and unstable calcium and magnesium oxides which will carry along with the fly ash particles to a scrubbing zone. The fly ash and the sulfate-sulfite compounds are countercurrently contacted with a descending alkaline scrubbing stream in the presence of self-cleaning mobile contact elements in the scrubbing zone to effect the absorption of SO<sub>2</sub> and physical removal of fly ash and the stable sulfate and sulfite materials. The continuously circulating alkaline stream used in the scrubbing zone is obtained in part from the reaction of portions of the calcium and magnesium carbonates and oxides from the limestone-dolomite addition, with recirculating water.

552

## RECOVERY OF VANADIUM VALUES FROM RESIDUES

Colin Francis Cole and David John Spencer, Stockton-on-Tees, England, assignors to British Titan Products Company Limited, Billingham, England, a corporation of the United Kingdom

No Drawing. Filed Oct. 10, 1967, Ser. No. 674,119  
Claims priority, application Great Britain, Oct. 17, 1966, 46,412/66

Int. Cl. C22b 59/00; C01b 9/00

U.S. Cl. 23—20

7 Claims

Process for recovering vanadium from vanadium-containing solids comprising suspending such solids in a liquid capable of dissolving chlorine and treating such suspension with chlorine under superatmospheric pressure. The said solids can be the residue from the purification of titanium tetrachloride by refluxing with a mineral oil. In such case the said liquid is suitably titanium tetrachloride.

3,520,651

## FERTILIZERS CONTAINING MICRO- AND MACRONUTRIENTS

Otis D. Philen, Jr., Raleigh, N.C., and Julius Silverberg, Florence, and Melvin M. Norton, Sheffield, Ala., assignors to Tennessee Valley Authority

No Drawing. Original application Sept. 29, 1965, Ser. No. 491,464, now Patent No. 3,423,199, dated Jan. 21, 1969. Divided and this application June 28, 1968, Ser. No. 741,208

The portion of the term of the patent subsequent to Jan. 21, 1966, has been disclaimed and dedicated to the Public

Int. Cl. C01g 9/00

U.S. Cl. 23—50

2 Claims

Granules of hygroscopic fertilizer salts are coated with micronutrient powders which, when wetted with water and/or steam, react with the fertilizer constituents to form in situ stable compounds such as



$\text{M}(\text{NH}_4)_2(\text{P}_2\text{O}_7)_2 \cdot 2\text{H}_2\text{O}$ , or complex zinc ammonium hydroxy nitrates. The complex fertilizer compounds maintain good physical properties of the fertilizers and also act as available sources of micronutrient fertilizer elements.

3,520,652

## AMMONIUM POLYPHOSPHATE PRODUCED AT ATMOSPHERIC PRESSURE

Thad D. Farr, Sheffield, and Henry K. Walters, Jr., Florence, Ala., assignors to Tennessee Valley Authority, a corporation

Original application Aug. 24, 1967, Ser. No. 663,171, now Patent No. 3,484,192, dated Dec. 16, 1969. Divided and this application Oct. 2, 1968, Ser. No. 765,743

Int. Cl. C01b 25/28, 25/38

U.S. Cl. 23—107

1 Claim

A process for the preparation of ammonium polyphosphate by the ammoniation of polyphosphoric acids containing more than 80 percent P<sub>2</sub>O<sub>5</sub> with concurrent hydrolysis of the objectionable long-chain phosphate species. An intermediate aqueous slurry, pH 7.4 to 8.9, is prepared at 70° to 110° C. and processed further to produce granular solids, with good physical properties, that contain mostly ammonium ortho-, pyro-, and tripolyphosphate.

JULY 14, 1970

CHEMICAL

553

3,520,653

## MANUFACTURE OF SODIUM PHOSPHATE

Germaine Pauline Robert, Levallois-Perret, and Robert Oscar Bauwens, Colombes, France, assignors to Societe Anonyme: Ugine Kuhlmann, Paris, France, a corporation of France

Filed June 30, 1967, Ser. No. 650,516

Claims priority, application France, July 1, 1966, 67,903

Int. Cl. C01b 25/22, 25/30

U.S. Cl. 23—107

7 Claims

A method for the manufacture of a solution of sodium phosphate and phosphoric acid containing not more than 1.5 gm. SO<sub>4</sub> content per 100 gm. P<sub>2</sub>O<sub>5</sub> which comprises reacting a phosphate rock with a phosphoric acid having a concentration of at least 38% P<sub>2</sub>O<sub>5</sub>, said phosphoric acid selected from the group consisting of phosphoric acid per se and phosphoric acid produced in situ from concentrated sulfuric acid and mixtures of concentrated sulfuric acid and phosphoric acid, in the presence of sodium sulfate in such an amount that the amount of SO<sub>4</sub> present in the reaction mixture is not more than 95 gm. per 100 gm. of said phosphate rock, at a temperature between about 50° C. and 95° C. for a time sufficient to form a solution of sodium phosphate and phosphoric acid and a solid calcium sulfate hemihydrate which contains and retains sodium sulfate particularly during water washing, separating said solid calcium sulfate hemihydrate and recovering a solution of sodium phosphate and phosphoric acid containing not more than 1.5 gm. SO<sub>4</sub> per 100 gm. P<sub>2</sub>O<sub>5</sub>.

3,520,654

## PROCESS FOR THE PREPARATION OF LOW DENSITY ALUMINA GEL

Brownell Carr, Cincinnati, Ohio, Frank G. Clapetta, Silver Spring, Md., and Charles P. Wilson, Jr., Cincinnati, Ohio, assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Continuation-in-part of applications Ser. No. 310,848, Sept. 23, 1963, Ser. No. 328,457, Dec. 6, 1963, and Ser. No. 378,454, June 26, 1964. This application May 1, 1967, Ser. No. 634,919

Int. Cl. C01f 7/34

U.S. Cl. 23—143

2 Claims

A process for preparing the alumina gels having high porosity and low density by reducing the pH of a soluble aluminum salt solution to 4.5–7, spray drying and washing the alumina gel product.

3,520,655

## METHOD OF PRODUCING MAGNESIA OF DESIRED COMPOSITION FROM NATIVE MAGNESITE

Friedrich Nemecek, Leoben, Styria, Austria, assignor to Veitscher Magnesitwerke-Aktien-Gesellschaft, a corporation of Austria

No Drawing. Filed Aug. 24, 1967, Ser. No. 662,900  
Claims priority, application Austria, Aug. 26, 1966, A 8,133/66

Int. Cl. C01f 5/06

U.S. Cl. 23—201

3 Claims

Caustically burned native magnesite containing sufficient silica and alumina to make the end product useful as a calcined magnesite refractory is treated with hydrogen chloride gas in a controlled temperature range between 800° C. and 1100° C. in the absence of combustible or reducing gases to drive off the iron and manganese components in the form of its chlorides. The reaction is so controlled that the amount of the chlorides remaining in an intermediate product is such that they may be removed by suitable after-treatments to obtain the calcined magnesite of a desired chemical analysis. At least a large part of the hydrogen chloride gas is recovered.

3,520,656

## SILICON CARBIDE COMPOSITIONS

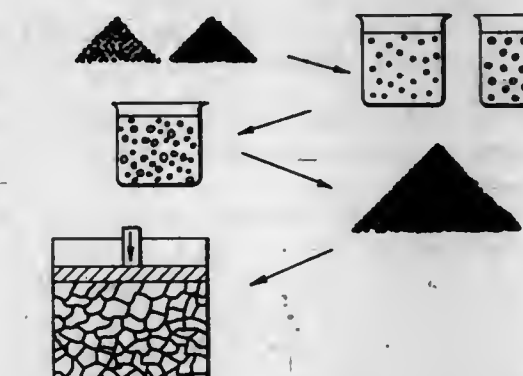
Geoffrey W. Meadows, Kennett Square, Pa., and Paul C. Yates, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Application Jan. 9, 1963, Ser. No. 250,442, which is a continuation-in-part of application Ser. No. 824,943, July 6, 1959. Divided and this application Mar. 30, 1966, Ser. No. 538,693

Int. Cl. C01b 31/36, 33/06; C22c 29/00

U.S. Cl. 23—208

12 Claims



Silicon carbide having an average particle size of less than a micron and characterized as having a crystallite atomic extensity coefficient of between 4.60 and 8.80 and an X-ray diffraction line broadening coefficient of between  $9 \times 10^{-3}$  and  $3.6 \times 10^{-4}$  is prepared by reacting a silicon-containing reactant with a carbon-containing reactant in a molten metal halide bath at a temperature between 400 and 1100° C. in the presence of an alkali metal or alkaline earth metal reducing agent. The silicon carbide is particularly useful in preparing dense, hard, refractory bodies.

3,520,657

## METHOD AND APPARATUS FOR THE ANALYSIS OF OFF-GASES IN A REFINING PROCESS

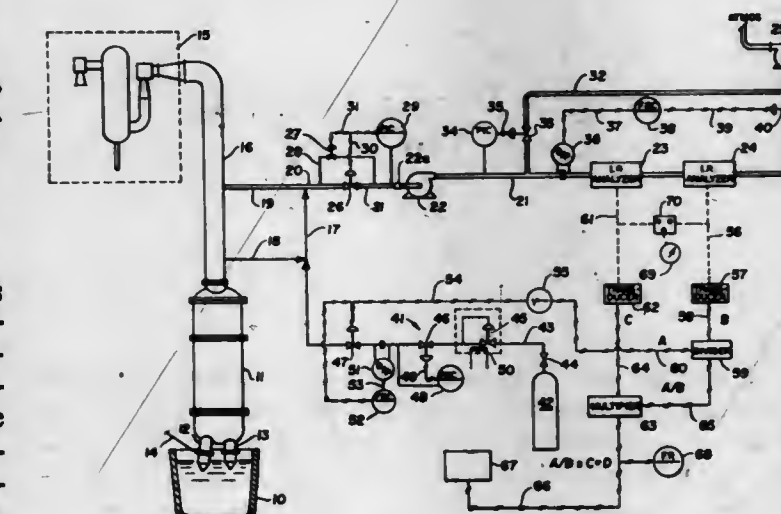
Robert Frumerman, Pittsburgh, Pa., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 27, 1965, Ser. No. 516,543

Int. Cl. C21c 7/00

U.S. Cl. 23—230

14 Claims



Method and apparatus for measuring the rate of flow of one constituent of a gas mixture and particularly where the one constituent is evolved from a mass of material undergoing chemical and/or physical change in a refining process.



process or the like. A tracer gas having a predetermined known rate of flow is injected into and admixed with the off gas and the resulting mixture analysed to determine the fraction of tracer gas and the one constituent and a proportion established in order to compute the rate of flow of the one constituent.

3,520,658

# PROCESS FOR DETERMINING 17-KETOSTEROIDS IN URINE AND BLOOD AND SOLUTIONS FOR CARRYING OUT THIS PROCESS

Nwaeze Anyanwu, 58-60 Rue de Carouge,  
1200 Geneva, Switzerland

No Drawing. Filed Jan. 27, 1967, Ser. No. 612,091  
Int. Cl. G01m 33/16

U.S. Cl. 23-230

5 Claims

Process for the colorimetric determination of 17-ketosteroids in urine or blood comprising hydrolysing urine or blood in a strongly acid media for 12 to 14 minutes with boiling, cooling to the ambient temperature and extracting with a slightly water-soluble solvent, washing this extract with an aqueous alkaline liquid, eliminating the solvent by evaporation, cooling, taking up the dry residue with a solution of m-dinitrobenzene in a solvent, adding a solution of potassium hydroxide, allowing the mixture to rest, diluting with a polar solvent, comparing the extinction of the resulting colored solution with a sample of defined concentration in order to know the initial concentration of 17-ketosteroids in the blood or the urine, the potassium hydroxide solution consisting of a stabilized solution in an anhydrous alcohol at a concentration of 3 to 6 N, the contact time between the m-dinitrobenzene solution containing the residue and the potassium hydroxide solution before the dilution with the said polar solvent being about 25 minutes, this polar diluting solvent being an anhydrous polar solvent.

3,520,659

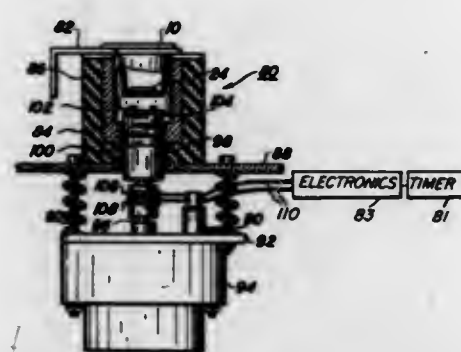
# METHOD AND APPARATUS FOR USE IN DETERMINING PROTHROMBIN TIME OF A BLOOD SAMPLE

Sheldon Steinberg, Woodland Hills, Serge DeWitte, Los Angeles, and Josephus van Balgooy, Durate, Calif., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 20, 1967, Ser. No. 676,820  
Int. Cl. G01n 11/10, 33/16; H02k 1/22

U.S. Cl. 23-230

16 Claims



A method and apparatus for use in determining prothrombin time wherein solidification of the blood plasma is detected electromagnetically. Holding means having the blood plasma-clotting agent mixture in contact with a rotatable magnetic member is positioned over an external rotating magnetic member having means disposed thereabout for sensing an alteration in the adjacent magnetic field due to the solidification of the sample material. A current pulse generated within said sensing means concomitantly with solidification is utilized to deactuate timer means.

3,520,660

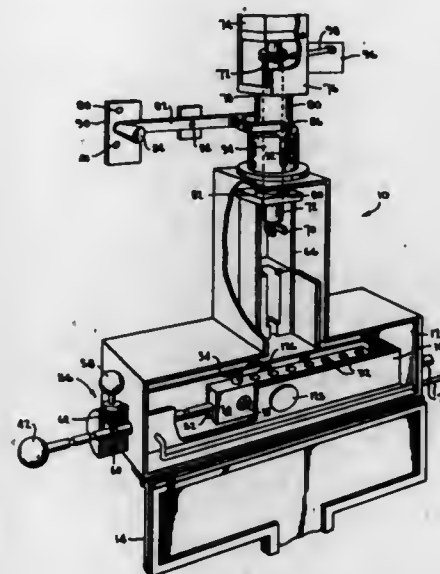
# LIGHT DETECTION INSTRUMENT

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Emmett W. Chappelle, Baltimore, Md., and Duane G. Hoffman, Fairfax, Va.

Filed Sept. 9, 1966, Ser. No. 578,925  
Int. Cl. G01n 1/14, 31/14

U.S. Cl. 23-253

16 Claims



An apparatus for producing, detecting, and measuring light, emitted as a result of an ATP-luciferin-luciferase biochemical reaction, includes a reactant holder containing a plurality of cuvettes slidably mounted and a syringe holder containing a syringe and positionable with respect to the cuvettes so as to permit injecting, at any one instant of time, of the ATP containing sample into any one of the cuvettes. The light quanta emission, upon the reaction taking place in the cuvette, is detected and coupled in the form of an electrical signal to an indicating means. The syringe is operated hydraulically by a servomechanism which insures that the indicating means operates only when injection takes place.

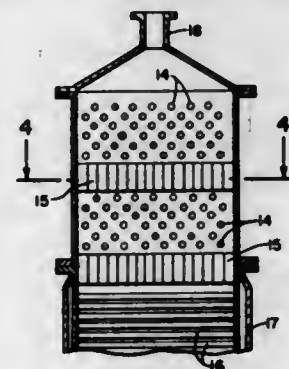
3,520,661

APPARATUS FOR SOLVENT POLYMERIZATION  
Volker Gröbe, Joachim Ulbricht, Hans W. Reichert, and Heinz P. K. Fark. Teltow-Seehof, Edeltraud E. Buchmann, Saalfeld, Ulrich E. E. Hertel, Rathenow, Dieter A. K. Köpcke and Walter K. Michaels, Brandenburg, Eberhard P. H. Peter, Premnitz, Joachim G. Aurich and Eberhard W. Roth, Dessau, Alfred A. Bender, Wolfen, and Karl H. Bernhardt, Landsberg, Bezirk Halle, Germany, assignors to VEB Chemiefaserwerk Friedrich Engels, Premnitz, Kreis Rathenow, Germany

Filed Apr. 18, 1966, Ser. No. 543,187  
Int. Cl. C08f 3/74; F28f 9/22

U.S. Cl. 23-283

2 Claims



The continuous polymerization of polymerizable substances in solvents, is carried out in a reactor for the passage and reaction of the monomers, a plurality of cooling

elements arranged in groups transversely to the flow of the monomers and alternating with spaces free of cooling elements. The apparatus is particularly advantageous because it eliminates the need of stirring and prevents the backward mixing caused by stirring.

3,520,662

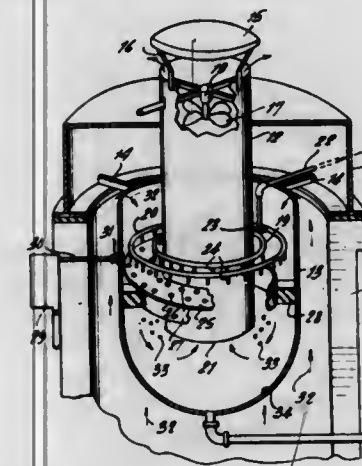
# SMOKESTACK AEROSOL GAS PURIFIER

Alvin M. Marks, 153-16 10th Ave.,  
Whitestone, N.Y. 11357

Filed Oct. 2, 1968, Ser. No. 764,404  
Int. Cl. B01f 1/00; B03c 5/00

U.S. Cl. 23-284

8 Claims



A purifier for the products of combustion emanating from a smokestack is disclosed in which the principles of a charged aerosol are employed to remove the gases and particulate matter from the stack. Novel structures forming and charging aerosols are also disclosed.

3,520,663

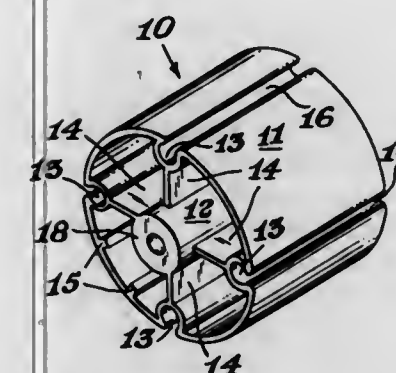
# AUTOMOTIVE FAN SPACER

Harold A. Schertel, Mount Pleasant, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Dec. 4, 1967, Ser. No. 687,744  
Int. Cl. F04b 39/00; F16d 1/06

U.S. Cl. 29-183

10 Claims



A generally cylindrical, hollow, metal workpiece of uniform cross-section, with a body shell, a tubular core, longitudinal fastener-receiving channels formed in the body shell and ribs connecting the channels to the core and dividing the body into sectors, is improved by the provision of fastener blocking means integrally formed with the body shell in at least one sector to make erroneous insertion of fastening bolts or lugs in open sectors in short lengths of the metal workpiece instead of in intended channels thereof, either impossible or quite obvious. The metal workpiece cut to length according to engine spatial

## ERRATUM

For Class 29-194 see:  
Patent No. 3,520,043

3,520,664

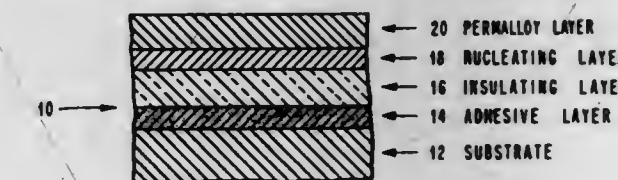
# MAGNETIC THIN-FILM DEVICE

Derral B. York, Essex Junction, Vt., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 10, 1966, Ser. No. 593,339  
Int. Cl. H01f 10/06; B44d 1/16

U.S. Cl. 29-195

3 Claims



A magnetic thin-film device, and method of making, wherein the device has improved skew values. The device has an electrically discontinuous metal film between a substrate layer and a ferromagnetic material.

3,520,665

# HYDROCARBON MIXTURES CONTAINING A STABLE AZIDE

William C. McConnell, Griffin, Ga., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 470,915, July 9, 1965. This application Oct. 10, 1968, Ser. No. 766,627

Int. Cl. C101 1/22

U.S. Cl. 44-51

9 Claims

Stable azides, such as alkali metal azides or phenyl azide, are introduced in biocidal amounts into liquid hydrocarbon mixtures to kill microorganisms present therein. The liquid hydrocarbon mixture may be a fuel.

3,520,666

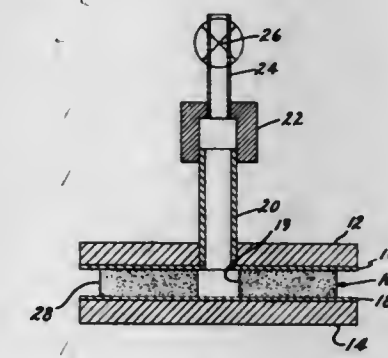
# BISMUTH ALLOY IMPREGNATED GRINDING WHEEL

Richard S. Meyer, Westfield, Mass., assignor, by mesne assignments, to American Abrasive Corporation, a corporation of Delaware

Filed June 14, 1967, Ser. No. 646,068  
Int. Cl. B24d 3/08

U.S. Cl. 51-295

3 Claims



A porous abrasive grinding wheel impregnated with a low melting point bismuth-base alloy which acts as an electrical conductor for use in electrolytic grinding.



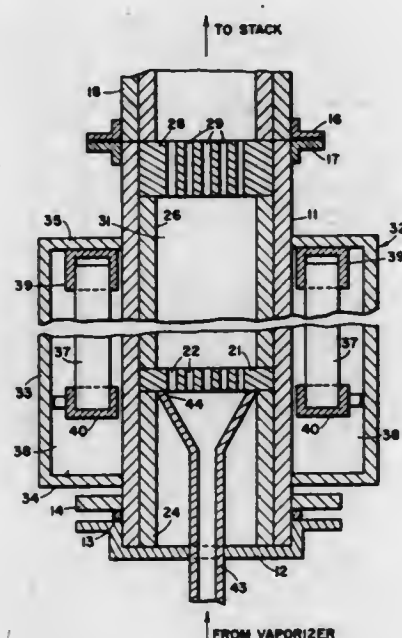
### 3,520,667 SILICON CARBIDE COATED DIAMOND ABRASIVE GRAINS

Kenneth M. Taylor, Maitland, Fla., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Aug. 15, 1967, Ser. No. 660,670  
Int. Cl. B24d 17/00

U.S. Cl. 51—295

14 Claims



An adherent surface coating of silicon carbide is provided on diamond abrasive particles by suspending the particles in a gaseous atmosphere comprising a volatile silicon compound such as methyltrichlorosilane and forming, by thermal decomposition of the silicon compound, a silicon carbide layer on the particles.

### 3,520,668 HOLLOW GLASS ARTICLE BY MODULE IMMERSSION TECHNIQUE

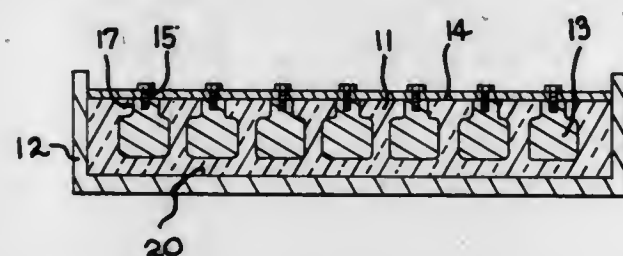
George E. Keefer, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Oct. 23, 1965, Ser. No. 503,831

The portion of the term of the patent subsequent to July 1, 1986, has been disclaimed  
Int. Cl. C03c 19/00, 29/00

U.S. Cl. 65—23

11 Claims



Hollow glass articles, such as telescope mirror blanks, having at least one opening and an internal cavity communicating with the atmosphere through the opening, the cross-sectional areas of the opening being less than that of the cavity are made by filling an open top mold with a pool of molten glass and disposing in the pool a normally rigid shaped core which ultimately forms the desired internal cavity. The bulk of the core is formed of the material that is molten at the fiber softening point temperature of the molten glass, the core being initially at a temperature lower than the melting point. The core is

supported in the molten glass by means having a cross-sectional area less than that of the cross-sectional area of the cavity and whereby the molten glass flows around, under and over the core and surrounds the supporting means disposed in the molten glass. Subsequently, the core cools the molten glass in contact with the core whereby the viscosity of the molten glass is increased until the mass becomes self supporting. The core is then permitted to melt and is removed in the molten condition from the self supporting glass article. Also disclosed is a method wherein the vitreous material is then thermally crystallized to form a crystallized glass ceramic hollow article. Apparatus for receiving and shaping the molten mass are also described including an open top mold having a plurality of shaped cores, the cores being formed of a material which melts at a temperature below the high temperature to which the glass is subjected and the cores being supported on one of the surfaces of the mold in a predetermined arrangement.

### 3,520,669 METHOD OF AND CHAMBER FOR THE MANUFACTURE OF FLOAT GLASS

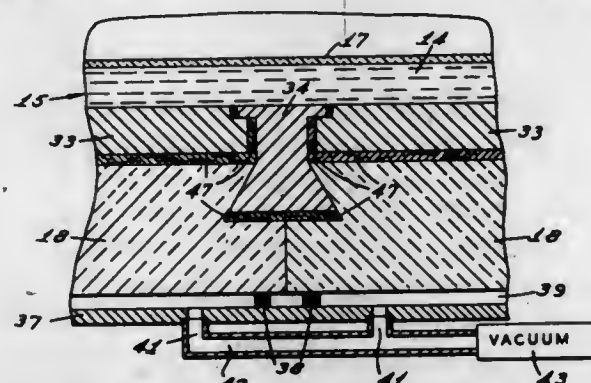
Robert J. Greenler and Robert J. Thompson, Monroe, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed July 14, 1967, Ser. No. 653,385

Int. Cl. C03b 18/02

U.S. Cl. 65—27

16 Claims



A chamber utilized in the "float process" of manufacturing glass has a molten tin bath contained in the bottom thereof. The bottom of the chamber is defined by refractory blocks having a graphite liner thereover. A layer of fibrous, insulating, carbonaceous material, both solid at the operational temperatures of the chamber and non-wettable by molten tin, such as graphite felt, is interposed between the refractory blocks and the liner. The fibrous material is gas-permeable thereby allowing a vacuum system, effective to the top of the liner, to reduce "chemical reaction bubbling" in the chamber. The carbonaceous material also acts as an insulating material and both increases the temperature in the hot end of the chamber and reduces the thermal gradient across the refractory blocks thereby reducing the "thermal transpiration bubbling" of the chamber.

### 3,520,670 METHOD OF AND CHAMBER FOR THE MANUFACTURE OF FLOAT GLASS

Walter R. Schlehr, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed July 14, 1967, Ser. No. 653,386

Int. Cl. C03b 18/02

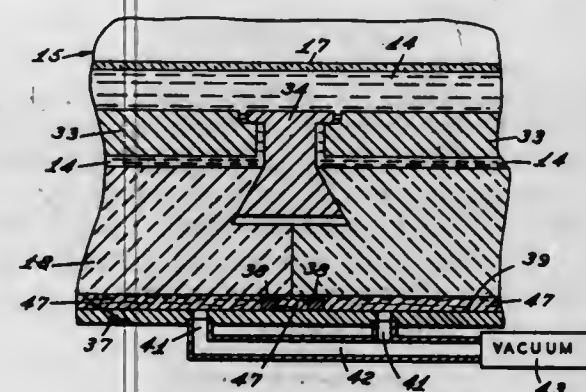
U.S. Cl. 65—27

8 Claims

A chamber utilized in the "float process" of manufacturing glass has a molten tin bath contained in the bottom portion thereof. The bottom of the chamber is defined by a plurality of refractory blocks which are mount-

ed in spaced relationship to the bottom wall of the chamber. A layer of gas-permeable, carbonaceous material solid at the operational temperatures of the chamber and non-wettable by the molten tin is interposed between the refractory blocks and the bottom chamber wall. The po-

compressed in the die, preferably in alternation by a compressor member and the plunger. The die is moved step-wise from a filling station where the plastic mass is introduced to a compression station where the mass is compressed in the die. During travel from the filling station to the compression station, the mass is subjected to the reduced suction to insure filling of the cavity and preforming of the mass.



rous, carbonaceous material keeps the area below the blocks free from molten tin so that a vacuum system, applied to that area, will be effective over the useful life of the chamber in reducing "thermal transpiration bubbling" in the chamber.

### 3,520,671 PROCESS AND EQUIPMENT FOR MANUFACTURE OF GLASS ARTICLES WITH AUTOMATIC MACHINES BY SUCTION AND PRESSING

Giuseppe Lemetre, Via Lamarmora 25, Florence, Italy

Filed July 27, 1965, Ser. No. 475,095

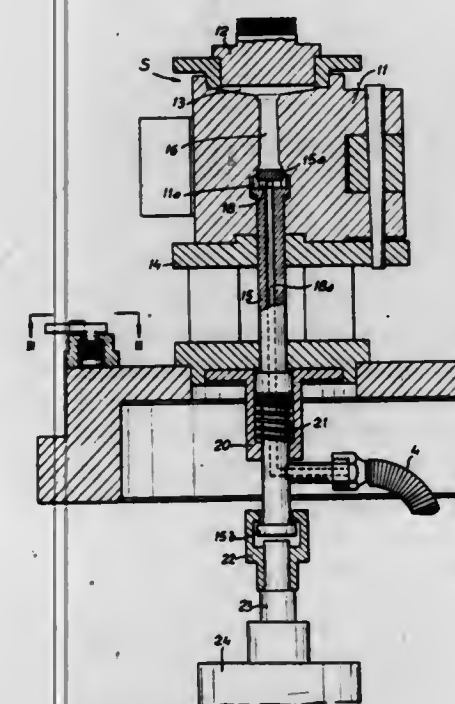
Claims priority, application Italy, Dec. 14, 1964,

26,733/64

U.S. Cl. 65—76

Int. Cl. C03b 11/04

6 Claims



A process and apparatus for molding glass in which a single plastic mass of molten glass is introduced into a die at one end thereof and is subjected to a maximum suction force which is developed in the die from a point remote from said one end to accelerate introduction and preforming of the mass within the die. A displaceable plunger serves to regulate the suction in the die and it is displaceable to a position in which the suction is reduced substantially as the plastic mass approaches the region of the displaceable plunger. Thereafter the mass is

### 3,520,672 METHOD OF LATEROALLY STRETCHING FLOAT GLASS UTILIZING KNURLED ROLLS

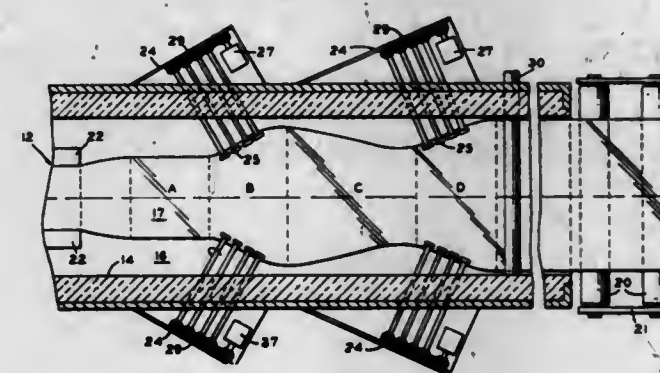
Robert J. Greenler, Nashville, Tenn., and Robert J. Thompson, Flat Rock, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Continuation of application Ser. No. 482,510, Aug. 25, 1965. This application Sept. 11, 1968, Ser. No. 759,824

Int. Cl. C03b 18/02

U.S. Cl. 65—91

6 Claims



A method of producing glass of less than equilibrium thickness has the following steps. A prescribed quantity of molten glass is continuously delivered to a molten metal bath contained within a glass processing chamber. The glass is flowed out upon the metal bath toward a condition of equilibrium thickness; the flow-out of the glass forming a ribbon of width controlled by the quantity of glass delivered to the chamber. The glass ribbon is laterally stretched to a width greater than the controlled width thereby to decrease the thickness of the glass to a thickness less than equilibrium. The lateral stretching is performed by a set of knurled rolls engaging opposite lateral edges of the glass ribbon only on the surface of the ribbon away from the molten metal both in directions diverging from the centerline of the glass ribbon. These knurled rolls are rotated at a peripheral speed at least slightly greater than the linear speed of the movement of the glass ribbon. The ribbon is cooled and removed from the glass processing chamber to form a self-supporting glass sheet of less than equilibrium thickness.

### 3,520,673 PLANT DESICCATING AND DEFOLIATING COMPOSITIONS

James C. Campbell, Colonial Heights, and Harry E. Ulmer, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 17, 1967, Ser. No. 661,224

Int. Cl. A01n 11/02

U.S. Cl. 71—69

4 Claims

Compositions containing mixtures of water-soluble salts of peroxydisulfuric acid with water-soluble, nitrogen-containing fertilizers, useful for desiccating and defoliating crop plants. Such compositions may be applied in solid form to plants by dusting, or in aqueous solution by spraying, drenching, or immersion. Illustrative of the water-soluble, peroxydisulfates are potassium peroxydisulfate



and ammonium peroxydisulfate. Illustrative of the water-soluble, nitrogen-containing fertilizers are sodium nitrate, ammonium sulfate and urea. The preferred desiccating and defoliating composition is an aqueous solution having as the essential active ingredient a synergistic combination of ammonium peroxydisulfate and a nitrogen fertilizer selected from the group consisting of sodium nitrate, ammonium sulfate, ammonium nitrate and urea. There is present 1 part of ammonium peroxydisulfate per 2-35 parts of nitrogen fertilizer.

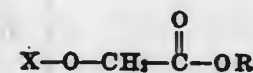
3,520,674

# CARBOXAMIDOOXYACETATE ESTER HERBICIDES AND METHOD OF COMBATING WEEDS

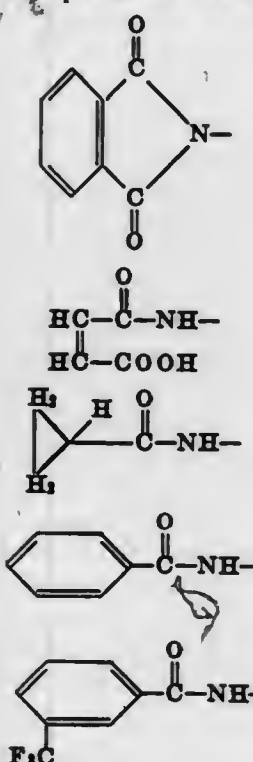
Ralph P. Neighbors, Olathe, Kans., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 374,813, June 12, 1964, and Ser. No. 641,487, May 26, 1967. This application Sept. 15, 1967, Ser. No. 668,180. The portion of the term of the patent subsequent to June 10, 1966, has been disclaimed.

Int. Cl. A01n 9/20, 9/22; C07c 83/08  
U.S. Cl. 71-111 3 Claims  
The method of the present invention comprises applying to the locus of the weeds a herbicidal quantity of a compound selected from the group represented by the structural formula



in which X is, for example, one of the following:



and

and R is lower alkyl.

3,520,675

# THORIA DISPERSION STRENGTHENED NICKEL ALUMINIDE AND METHOD OF MAKING

Donald G. Miller, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed May 5, 1967, Ser. No. 636,256  
Int. Cl. B22f 9/00

U.S. Cl. 75-5 2 Claims  
Nickel aluminate powder having submicron size particles of thorium dioxide (thoria) uniformly dispersed therein is prepared by reacting an aluminum halide compound in the vapor state with thoria dispersion strengthened nickel powder, the resulting nickel aluminate powder being particularly suitable for hot pressing into components requiring improved high temperature strength.

3,520,676

# STABILIZATION OF PYROPHORIC METAL POWDER

Richard W. Stahr, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 650,604, July 3, 1967. This application May 28, 1968, Ser. No. 732,503

Int. Cl. B22f 1/00

U.S. Cl. 75-5 8 Claims  
Pyrophoric powder of metals (such as iron, cobalt, nickel and alloys thereof) is stabilized to prevent its spontaneous ignition. Such stabilization is achieved by wetting the metal particles with a high-boiling organic liquid (such as an ester of carboxylic acid, mineral oil, silicone oil or fatty acid) and holding the wetted particles in the presence of oxygen until a thin oxide layer is formed on the surfaces thereof.

3,520,677

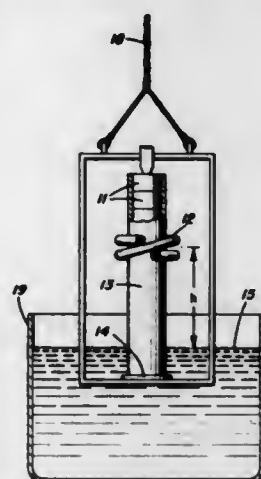
# METHOD OF MANUFACTURING METAL BLANKS HAVING AN ANISOTROPIC CRYSTALLINE STRUCTURE

Sadaichi Komaki, Susumu Meguro, and Syogi Suzuki, Tokyo, Japan, assignors to Sadaichi Komaki, Tokyo, Japan

Continuation-in-part of applications Ser. No. 186,209, Apr. 9, 1962, and Ser. No. 295,468, July 16, 1963, both of which are continuations-in-part of application Ser. No. 72,210, Nov. 28, 1960. This application Sept. 23, 1966, Ser. No. 581,655  
Claims priority, application Japan, Oct. 5, 1960, 35/40,854; Dec. 30, 1961, 37/48,134

Int. Cl. C22d 7/00

U.S. Cl. 75-10 17 Claims



A method of manufacturing a non-magnetized metal blank having an anisotropic crystalline structure suitable for subsequent magnetization. Said method comprises passing a blank of magnetizable material through a heat area defined by an electromagnetic induction coil energized by an alternating current of frequency greater than 50 kilocycles per second to progressively melt the zones of the blank passing through said area, and thereafter passing said blank into a cooling liquid to progressively quench said blank whereby unidirectional cooling by heat transfer into said liquid occurs to produce substantially completely unidirectionally oriented crystals in said blank.

3,520,678

# METHOD OF OPERATING BASIC OXYGEN FURNACE

Louis W. Frech, Gary, Ind., assignor to United States Steel Corporation

No Drawing. Filed Dec. 12, 1967, Ser. No. 689,819  
Int. Cl. C21c 5/32; G21n 29/00

U.S. Cl. 75-60 3 Claims  
An improvement in the method of controlling basic oxygen furnace operation in which scrap metal is part

of the charge thereto and oxygen is blown therein which comprises sensing the vibrations of the furnace to determine when the scrap metal is melted, determining the temperature of the metal in the furnace and adjusting the duration of the oxygen flow in response thereto.

3,520,679

# METHOD FOR REMOVING SILICA FROM SILICEOUS MATERIALS

Eldon L. Christensen, William J. Maraman, and John G. Carmichael, Los Alamos, N. Mex., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Continuation-in-part of application Ser. No. 679,633, Nov. 1, 1967. This application Feb. 17, 1969, Ser. No. 799,911

Int. Cl. C22b 61/04

U.S. Cl. 75-84.1 1 Claim  
A method of removing all of the silica from a siliceous material in which gaseous hydrofluoric acid is reacted at room temperature under a partial vacuum with said material, which has a water content in the range of 50-70 percent by weight.

3,520,680

# PROCESS OF PRODUCING STEEL

Justus K. Orlemann, Easton, Pa., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Aug. 18, 1964, Ser. No. 390,462, now Patent No. 3,425,813, dated July 22, 1968. Divided and this application Aug. 1, 1968, Ser. No. 765,724

Int. Cl. B22f 1/00

U.S. Cl. 75-212 17 Claims  
A process is provided for enhancing the corrosion resistance of stainless steel powder by applying to the powder a coating of tin or a tin alloy of copper or nickel.

3,520,681

# PHOTOELECTROSOLOGRAPHY

William L. Goffe, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 403,002, Oct. 12, 1964. This application June 1, 1965, Ser. No. 460,377

Int. Cl. G03g 13/00, 13/22, 5/02

U.S. Cl. 96-1 35 Claims  
An imaging member comprising a photosensitive microscopically discontinuous layer contacting a solvent soluble electrically insulating layer overlying a substrate, said microscopically discontinuous layer spaced apart from said substrate; is electrically charged, exposed to an image pattern of actinic radiation and contacted with a solvent for said solvent soluble electrically insulating layer to form an imagewise pattern of material from said microscopically discontinuous layer on said substrate.

3,520,682

# PHOTOGRAPHIC MOUNTING PROCESS AND PRODUCT

William Gross, Riviera Apt. D-13, 1140 NE. 191 St., North Miami Beach, Fla. 33169

No Drawing. Filed June 21, 1966, Ser. No. 559,069

Int. Cl. G03c 11/12, 5/54

U.S. Cl. 96-27 12 Claims  
This invention provides a process comprising (1) immersing in a solution selected from the group consisting of (A) liquid lower dialkyl ketone and (B) gum arabic, water and hydroxy benzene, an element comprising a support and thereon a diffusion transfer image-containing layer which had been formed by contacting a latent image with an image receiving layer forming said

diffusion transfer image, and (2) removing said support from said layer including said diffusion transfer image. The invention also provides uses for said layer including said diffusion transfer image. The invention further provides novel compositions for removing said layer from said support.

3,520,683

# PHOTORESIST METHOD AND PRODUCTS PRODUCED THEREBY

Robert E. Kerwin, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

No Drawing. Filed May 19, 1967, Ser. No. 639,601

Int. Cl. G03c 5/00

U.S. Cl. 96-35.1 11 Claims  
A method of providing very adherent photoresist relief patterns has been developed which utilizes coupling agents of substituted silanes, at least one of whose substituents when hydrolyzed reacts with a substrate, and at least one of whose substituents is capable of bonding with a photoresist material.

3,520,684

# PHOTOLYTIC ETCHING OF SILICON DIOXIDE BY ACIDIFIED ORGANIC FLUORIDES

Max Metlay and Donald L. Schaefer, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 29, 1967, Ser. No. 642,128

Int. Cl. G03c 5/00

U.S. Cl. 96-36 3 Claims  
A process is disclosed whereby a surface composed of silicon dioxide is overcoated with a liquid comprising a photodecomposable organic fluorine compound and a strong mineral acid and the interface formed by the solid surface and the film is exposed to a pattern of activating radiation, whereupon chemically reactive species are formed in the irradiated areas which preferentially etch the silicon dioxide surface in the irradiated areas producing an etched pattern corresponding to the pattern of radiation.

3,520,685

# ETCHING SILICON DIOXIDE BY DIRECT PHOTOLYSIS

Donald L. Schaefer, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed May 29, 1967, Ser. No. 642,149

Int. Cl. G03c 5/00

U.S. Cl. 96-36 4 Claims  
A process is disclosed whereby the surface of a body of silicon dioxide is placed in contact with an etchant comprising a photodecomposable fluorine compound in an organic polymeric solid film and the interface between the surface and the film exposed to a pattern of activating radiation in a humid atmosphere to produce chemically reactive fluoro species whereby the silicon dioxide surface is preferentially etched in the illuminated areas.

3,520,686

# INDIRECT PHOTOLYTIC ETCHING OF SILICON DIOXIDE

Robert F. Koczewski and Donald L. Schaefer, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 29, 1967, Ser. No. 642,160

Int. Cl. G03c 5/00

U.S. Cl. 96-36 5 Claims  
A method for selectively etching patterns in surfaces composed primarily of silicon dioxide is disclosed wherein an inorganic fluoride in contact with said surface is acidified by the photolytic decomposition of an organic compound which produces an acidic decomposition prod-







### 3,520,696 METHOD OF MAKING ALEURONE-CONTAINING PASTA

Robert Menzi, Geneva, Switzerland, assignor to Pates Alimentaires Rivoire & Carret, Marseille, France, a French company  
No Drawing. Filed May 25, 1967, Ser. No. 641,144  
Claims priority, application Switzerland, June 2, 1966, 8,009/66  
Int. Cl. A231 1/16

U.S. Cl. 99—85 10 Claims  
Aleurone-containing pasta is made by peeling the husks off cereal grains, hydrating the peeled grains until they are soggy, agglomerating the soggy grains to form a paste which is then extruded to produce the desired pasta, the latter then being dried.

### 3,520,697 CONTINUOUS PRODUCTION OF CURD

Norman James Berridge, Reading, England, assignor to National Research Development Corporation, London, England, a British corporation  
Filed Mar. 18, 1968, Ser. No. 713,876  
Claims priority, application Great Britain, Mar. 20, 1967, 12,877/67  
Int. Cl. A23c 19/02

U.S. Cl. 99—116 14 Claims  
A process for the continuous production of curd which comprises the steps of renneting milk at a temperature such that rennet action can occur without curd formation, holding the milk at that temperature at least until rennet action is nearing completion or is complete and contacting the renneted milk with one surface of a semi-permeable membrane, the other surface of which is in contact with water at elevated temperature so that the milk is heated to a temperature at which curd formation can occur.

### 3,520,698 PROCESS FOR PREPARING AERATED ICINGS

Morris H. Katz, St. Louis Park, and John G. Szafranski, Minneapolis, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware  
Filed Dec. 19, 1966, Ser. No. 602,612  
Int. Cl. A23g 3/00

U.S. Cl. 99—139 9 Claims  
Aerated icings exhibiting exceptional shelf life characteristics are prepared under processing conditions which substantially eliminate molecular oxygen in the resultant product. Improved storage stability, taste and textural characteristics are imparted to the resultant product by processing the appropriate icing ingredients under controlled temperature and sequential processing steps.

### 3,520,699 FLAVOR COMPOSITION

Gerardus Johannes Henning, Vlaardingen, Netherlands, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine  
No Drawing. Filed Oct. 7, 1966, Ser. No. 584,980  
Claims priority, application Netherlands, Oct. 11, 1965, 6513164  
Int. Cl. A231 1/22

U.S. Cl. 99—140 8 Claims  
A cheddar cheese flavor composition is provided by combining at least one aliphatic fatty acid selected from the group consisting of butyric, caproic, caprylic and capric acids, at least one phenol and at least one lactone of hydroxycarboxylic acids having from 4 to 22 carbon atoms in the molecule or precursors thereof. The addition of a ketone having a methyl group and an alkyl group with 2 to 15 carbon atoms provides a blue cheese flavor.

### 3,520,700 PROCESS FOR THE PASTEURIZATION OF EGG WHITES

Willibald F. Kohl, Yonkers, and John C. Sourby, Hawthorne, N.Y., and Rudolph H. Ellinger, New Canaan, Conn., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Jan. 2, 1968, Ser. No. 694,797  
Int. Cl. A23b 5/00

U.S. Cl. 99—161 9 Claims  
A process of pasteurizing egg whites which consists of dissolving within said egg whites a food grade alkali polyphosphate material in an amount ranging between 0.20 and 2.0% weight. The pH of the egg whites is then adjusted to a range of between about 8.0 and 10.0. The egg whites are then heated to a pasteurization temperature for a sufficient length of time to pasteurize the egg whites.

### 3,520,701 METHOD OF MAKING A FOAMED MEAT FLAKE

Robert B. Rendek, 411 Clayton Road, Hillside, Ill. 60162; Joseph C. Wilcox, 3 West Rocket Circle, Park Forest, Ill. 60460; and Everett W. Stone, Jr., 9424 Jackson Ave., Brookfield, Ill. 60513  
No Drawing. Filed Feb. 14, 1966, Ser. No. 527,076  
Int. Cl. A23b 1/04

U.S. Cl. 99—208 1 Claim  
A novel foamed edible flake meat product of dried emulsified comminuted meat, water, salt and flavoring, and method for making same using microwave drying.

### 3,520,702 METHOD OF MAKING DRIED PASTA HAVING A PROTEIN NETWORK THAT WITHSTANDS COOKING

Robert Menzi, 8 Avenue Devin du-Village, Geneva, Switzerland  
No Drawing. Filed May 1, 1967, Ser. No. 634,901  
Claims priority, application Switzerland, May 3, 1966, 6,410/66  
Int. Cl. A231 1/16

U.S. Cl. 99—85 3 Claims  
By adding a small quantity of an enzymatic substance, dried pasta can be made which, when cooked, is elastic and non-sticky, this being true whether the semolina is from hard wheat or soft wheat.

### 3,520,703 PROCESS FOR PRODUCING BREAD AND BAKING PRODUCTS

Friedrich Bayerlein and Winfried Kolbeck, Munich, Germany, assignors to Diamalt Aktiengesellschaft, Munich, Germany  
No Drawing. Filed Oct. 16, 1967, Ser. No. 675,300  
Claims priority, application Germany, Aug. 8, 1967, 1,642,542  
Int. Cl. A21d 2/28

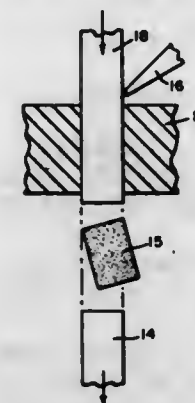
U.S. Cl. 99—91 11 Claims  
A process for producing bread and baking products by the sour dough method essentially from flour, water, and yeast which is characterized by the addition of a reducing dough activator constituted by cysteine-N-carbamide in an amount between 0.001 to 0.02% relative to the quantity of flour.

### 3,520,704 BRAZING PELLET

Isaac S. Goodman, Livingston, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed July 7, 1967, Ser. No. 651,833  
Int. Cl. C23c 1/04

U.S. Cl. 106—1 7 Claims  
A brazing pellet of low carbon content, particularly adapted for brazing lead-in wires to the ferrules in sealed

beam lamps, which pellet comprises approximately 94 to 97% by weight of a brass and/or bronze brazing



metal, from about 3 to 5% by weight of borax flux, from about 0.3 to 1.0% by weight of finely divided silica and less than 1/10 of 1% by weight of a stearate.

### 3,520,705 NON-VITREOUS CERAMIC WARE MADE FROM PSEUDOWOLLASTONITE

Fumiko Shido and Hiroshi Hagiwara, Tokyo, Japan, assignors to Onoda Cement Company, Limited, Onoda, Yamaguchi, Japan, a corporation of Japan  
Filed May 2, 1967, Ser. No. 635,550  
Claims priority, application Japan, May 10, 1966, 41/29,086  
Int. Cl. C04b 33/00

U.S. Cl. 106—45 7 Claims  
Raw mixtures for ceramic bodies containing, as an essential and principal ingredient, pseudowollastonite produced by a sintering method and ceramic ware bodies produced from said mixtures by firing at temperatures below the vitrification temperature.

Said mixtures permit high green strength, good maturing with glaze, lowering of the firing temperature, and shortening of the firing time. The ceramic ware bodies obtained possess high strength, low size-variation and low moisture-expansion.

### 3,520,706 METHOD OF MAKING MAGNESITE BRICK

Ben Davies, George F. Carini, and Ernest P. Weaver, Pittsburgh, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 661,192, Aug. 17, 1967. This application Oct. 26, 1967, Ser. No. 678,190  
Int. Cl. C04b 35/04, 35/48

U.S. Cl. 106—57 5 Claims  
Method of making magnesite brick comprising preparing a batch of synthetic magnesite having a CaO:SiO<sub>2</sub> ratio in excess of 2:1 and at least 0.5% of zircon to provide the calcium-magnesium-silicate matrix with a CaO:SiO<sub>2</sub> ratio between 2:1 and 1.7:1 after burning in excess of 2800° F.

### 3,520,707 WATER REDUCING AND RETARDING ADMIXTURES FOR PORTLAND CEMENT SLURRIES

John C. Steinberg, Kenneth R. Gray, and John Kelvin Hamilton, Shelton, Wash., assignors to Rayonier Incorporated, Shelton, Wash., a corporation of Delaware  
No Drawing. Filed May 24, 1967, Ser. No. 640,832  
Int. Cl. C04b 13/24

U.S. Cl. 106—93 12 Claims  
The setting of portland cement concrete and other portland cement slurries is retarded, the water content of the slurry is reduced and the strength of the concrete is increased by incorporating in the slurry composition a small quantity of a water reducing and retarding admixture comprising a hydrolyzate obtained by the partial hy-

drolysis of the hemicellulose constituents of wood chips. The hydrolyzate consists predominantly of short chain polymers of the non-cellulose carbohydrate constituents resulting from the hydrolysis of wood chips, and advantageously may be subjected to an alkaline treatment to reduce the free (monomeric) sugar content thereof.

### 3,520,708 MANUFACTURE OF CALCIUM SULPHATE HEMIHYDRATE

Geoffrey Prytherch Campbell Chambers, St. Albans, Hertfordshire, and Michael Robert Damm, London, England, assignors to Berk Limited  
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,754  
Claims priority, application Great Britain, Dec. 23, 1965, 54,570/65, 54,571/65  
Int. Cl. C041 11/02

U.S. Cl. 106—110 9 Claims  
An  $\alpha$ -calcium sulphate hemihydrate plaster composition having a longer setting time than usually results from mixing plaster retarders with calcium sulphate hemihydrates is obtained by calcining a mixture of gypsum and a plaster retarder at an elevated temperature and pressure to form  $\alpha$ -calcium sulphate hemihydrate in the presence of the retarder.

### 3,520,709 ADHESIVES FOR POROUS STRUCTURES

Donald W. Mogg and Harlan E. Tarbell, Elizabethton, Tenn., assignors to Grefco, Inc., Philadelphia, Pa., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 457,160, May 19, 1965. This application Sept. 6, 1966, Ser. No. 577,174  
Int. Cl. C08h 13/00; C08k 1/62; C09d 3/24

U.S. Cl. 106—277 8 Claims  
Water-in-oil bitumen emulsions that are especially useful as adhesives, are prepared by mixing an aqueous sulfonated lignin material having a solids concentration of 30 to 70% into a nonaqueous bitumen solution in such quantities and proportions that the resulting emulsions contain 50 to 80% net solids, and, on a dry weight basis, 20 to 70% bitumen and 30 to 80% lignin sulfonate of hardwood origin, 30 to 46% lignin sulfonate of softwood origin or mixture of these sulfonates.

### 3,520,710 SPRAY DRYING OF TITANIUM DIOXIDE

Larry E. Kniffin, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Filed July 19, 1967, Ser. No. 654,330  
Int. Cl. B02c 19/06; C09c 1/36, 3/00

U.S. Cl. 106—300 4 Claims  
Preparation of titanium dioxide pigments suitable for use in emulsion paint by adding 0.1 to 1.0% by weight (based on the weight of TiO<sub>2</sub>) of a trialkanolamine to an aqueous TiO<sub>2</sub> slurry and thereafter spray drying.

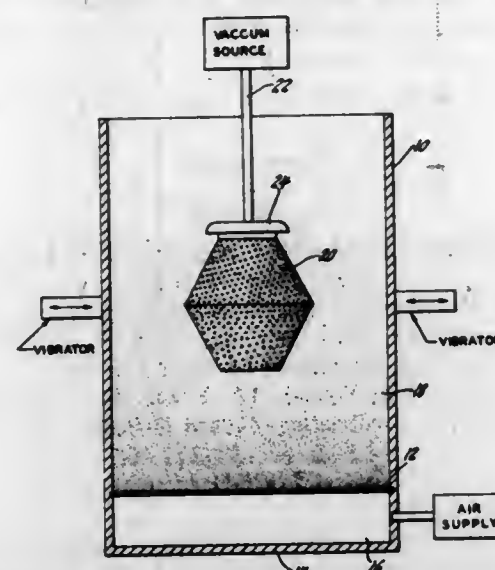
### 3,520,711 METHOD OF COATING A PERMEABLE SAND CORE BODY

Raymond H. Bish, Bloomfield Hills, and Lawrence A. Johnson, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 22, 1966, Ser. No. 573,947  
Int. Cl. B44d 1/95; B29c 1/10  
U.S. Cl. 117—5.2 5 Claims  
A method is disclosed of applying core wash particles in the dry state to a permeable sand core. In a preferred embodiment, a fluidized bed of the particulate core wash



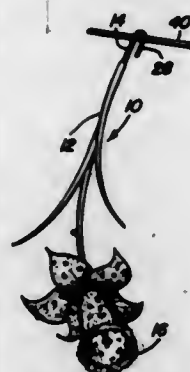
is first prepared, a core is immersed and suspended in the fluidized bed and the core wash particles are drawn into



the pores of the core body by means of a vacuum source connected to a portion of the surface of the core.

### 3,520,712 PROCESS OF APPLYING CRYSTALS TO ARTIFICIAL FLOWERS

Eileen Bishop, Sunnyside, Wash., assignor of fifty per cent to Ellen Phinney, Sunnyside, Wash.  
Filed Aug. 21, 1967, Ser. No. 661,864  
Int. Cl. B44d 1/14; B44c 1/06, 5/06  
U.S. Cl. 117-26 2 Claims



An artificial flower, tree or other art object or the like which has applied to the external surface thereof a layer or layers of crystals to provide an iridescent effect and a process for applying such crystals to such art objects. The process includes the steps of dipping a conventional and commercially available plastic flower or other art object into a reservoir of resin and then dipping the coated flower or art object into plastic crystals, such as polystyrene resin thermoplastic granules marketed by Dow Chemical Co. of Midland, Mich. under the trade mark "Styron," and allowing the resin to dry. Thereafter, the flower or art object having the crystals thereon is again dipped into a reservoir of resin for a second coat and crystals are then sprinkled onto the second coat of resin and the flower or art object is then permitted to dry thereby enhancing the appearance characteristics of artificial flowers, trees or the like.

### 3,520,713 SELF-REGENERATIVE CARBOGRAPHIC ARTICLES AND PROCEDURE FOR PRODUCING THEM

Sergio Sala and Ambrogio Cuneo, both of  
Via Durini 7, Milan, Italy  
No Drawing. Filed May 22, 1967, Ser. No. 640,392  
Claims priority, application Italy, May 25, 1966,  
18,265; Mar. 17, 1967, 13,840/67  
Int. Cl. B41m 5/10 5 Claims

Self-regenerative carbographic articles comprising a support film and adhered thereto a spongy layer com-

prising one or more cellulose esters, a plasticizer for said ester, a liquid wax vehicle for the dyestuffs and/or pigments, insoluble in and incompatible with the cellulose ester, and dyestuffs and/or pigments.

### 3,520,714 METHOD OF MAKING A TACK-FREE SUR- FACE COATING UTILIZING HIGH ENERGY RADIATION

Lewis S. Miller, Bellevue, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington  
No Drawing. Filed Dec. 28, 1966, Ser. No. 605,168  
Int. Cl. B44d 1/50 9 Claims

A process of making a firm, tack-free polymer coating on a surface using high energy radiation by coating the surface with a liquid polymerizable composition, replacing the atmosphere surrounding the coating with an atmosphere of polymerizable monomer wholly in the vapor phase, and exposing the coating to high energy radiation sufficient to polymerize the coating and polymerize the monomeric compound in the surface of the coating.

### 3,520,715 HOT-PRESSED ARTICLES HAVING A SURFACE LAMINATION OF PAPER IMPREGNATED WITH A FORMALDEHYDE-MELAMINE REACTION PRODUCT AND METHOD OF MAKING

Kenneth D. Meiser, Dallas, Tex., assignor to Plastics Manufacturing Company, Dallas, Tex., a corporation of Texas  
No Drawing. Continuation-in-part of application Ser. No. 301,180, Aug. 8, 1963. This application Oct. 6, 1967,  
Ser. No. 673,286  
Int. Cl. B32b 23/08, 27/08, 27/42 3 Claims

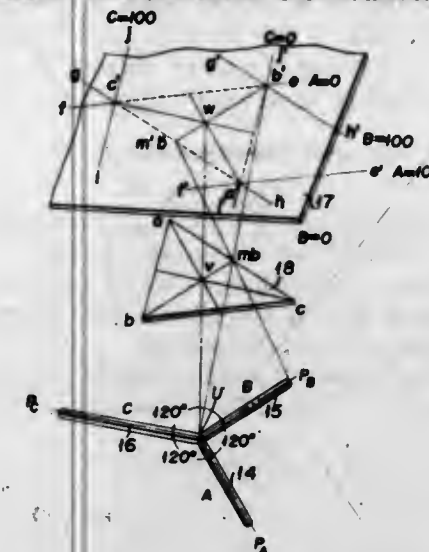
A paper foil which provides a surface of improved stain resistance and luster retention when used to form the surface lamination of a hot-pressed article; a method of producing such foil by preparing a paper foil comprising cellulose fibers, impregnated with a thermosetting product of the reaction of formaldehyde and melamine in a molar ratio between 2:1 and 2.5:1, coating the side of the foil that is to form the outer surface of the lamination, by applying an aqueous solution of a thermosetting product of the reaction of formaldehyde and melamine in a molar ratio from 1.2:1 to 1.7:1, and drying; and a hot-pressed article in which such foil is used to form the surface lamination.

### 3,520,716 METHOD OF VAPOR DEPOSITING MULTI- COMPONENT FILM

Hiroaki Okamoto, Tokyo, and Michiyasu Takagi and Tutomu Okutomi, Yokohama-shi, and Iwao Higashinakagawa, Kawasaki-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan  
Filed June 5, 1967, Ser. No. 643,496  
Claims priority, application Japan, June 7, 1966,  
41/36,278; Apr. 7, 1967, 42/21,832  
Int. Cl. C23c 13/02 2 Claims

Vapor deposition is used to form multicomponent films in which the gradient of change of concentration of respective components is linear. Such films may be used to investigate changes in physical or chemical properties in alloys or other mixtures as their compositions are changed. The films are formed when a plurality of containers of different vaporizable substances are disposed in an evacuated vessel, a substrate is disposed above said containers and a shield is provided between the containers and substrate such that penumbras of said containers are

formed in a common region on the substrate whereby a film of constant concentration distribution is deposited

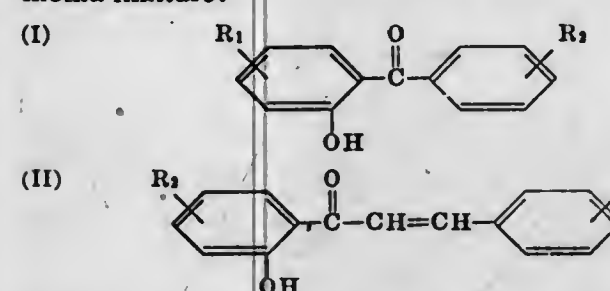


on the substrate by evaporating the substances contained in the container.

### 3,520,717 COATED REGENERATED CELLULOSE HYDRATE FILM

Wilhelm Brandt and Irmgard Bindrum, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany  
No Drawing. Filed Dec. 1, 1966, Ser. No. 598,171  
Claims priority, application Germany, Dec. 4, 1965,  
K 57,830  
Int. Cl. C09j 7/02; B32b 23/08 3 Claims

This invention relates to a regenerated cellulose hydrate film having a homogeneous coating thereon comprising an adhesive additive selected from the group consisting of a phenoplast and an aminoplast in admixture with a heat-sealable composition consisting essentially of a vinylidene chloride copolymer containing about 0.01 to 1 percent by weight, based upon the weight of the copolymer, of at least one accelerator compound of the general Formulae I or II below and which is soluble in an aqueous alkali-amonium mixture:



in which R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are selected from the group consisting of halogen, hydrogen, alkyl groups containing not in excess of four carbon atoms, hydroxyl groups, oxalkyl groups containing not in excess of four carbon atoms, and hydroxyl groups esterified with naphthoquinone-1,2-diazide sulfonic acid.

### 3,520,718 METHOD OF ATOMIZING MOLTEN MAGNESIUM

John N. Reding, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed Aug. 3, 1967, Ser. No. 658,037  
Int. Cl. B22d 23/08; C23c 1/00 5 Claims

The present invention concerns an improvement in the process of atomizing molten magnesium to produce pellets wherein the molten magnesium in a thin stream contacts a rotating horizontally disposed steel disc and is

flung off said disc as droplets which solidify into pellets; the improvement comprising precoating said disc with a thin adherent coating of selected coating metal of cadmium, copper, nickel, tin or zinc prior to contact with the molten magnesium to be atomized.

### 3,520,719 INTERCALATION OF KAOLINITE

Norman H. Horton, Tallahassee, Fla., assignor, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Edison, N.J., a corporation of Delaware  
No Drawing. Filed Jan. 13, 1967, Ser. No. 608,967  
Int. Cl. D21h 1/22 1 Claim

Paper coated with a white pigment obtained by reacting kaolin clay with a dialkyl sulfoxide and then leaching the sulfoxide from the clay is used for printing with colorless, color-reactant dye material that reacts with the treated clay to produce a colored mark on the paper.

### 3,520,720 DIES AND DIODE AND METHOD

Frank J. Sals and Gilbert N. McIntyre, Costa Mesa, and Harvey J. Cohen, South Laguna, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware  
Filed Dec. 13, 1966, Ser. No. 601,402  
Int. Cl. H01l 1/10 8 Claims

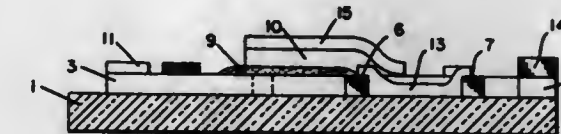


The invention relates to a method and a semiconductor die body that is encapsulated with boron and phosphorous materials.

Boron phosphate or oxides of boron and of phosphorous coatings are applied to the die body and dried.

### 3,520,721 THIN-LAYERED ELECTRICAL PRINTED CIRCUITS AND METHOD OF MANUFACTURING

Otto Thieme, Bad Klosterlausnitz, and Jürgen Henneberger and Hannes Tieze, Hermsdorf, Thuringia, and Siegfried Schiller and Ullrich Hellsig, Dresden, Germany, assignors to VEB Keramische Werke Hermsdorf, Hermsdorf, Germany  
Filed Aug. 30, 1967, Ser. No. 664,446  
Int. Cl. H01b 1/02; B44d 1/18 23 Claims



Electrical thin film circuit and resistance combination wherein the conductors, contact surfaces and capacitor electrodes are formed from a single composition of an iron/nickel alloy of from 45-50% iron and 55-50% nickel by vapor depositing said composition in one or more vapor-depositing operations in a vacuum on an electrically non-conductive substrate which is at a temperature of approximately 300° C.

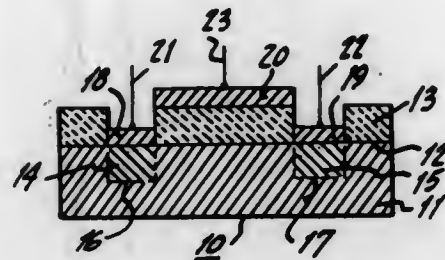


**3,520,722**  
**FABRICATION OF SEMICONDUCTIVE DEVICES**  
**WITH SILICON NITRIDE COATINGS**

Joseph H. Scott, Jr., Newark, N.J., assignor to RCA Corporation, a corporation of Delaware  
 Filed May 10, 1967, Ser. No. 637,463  
 Int. Cl. B44d 1/18

U.S. Cl. 117—213

5 Claims



The interface instability of semiconductor devices having a silicon nitride coating on a surface of a semi-conductive silicon body is eliminated by heating the body in a nitrogen-containing ambient such as ammonia prior to the deposition of the silicon nitride coating.

**3,520,723**  
**PROCESS FOR FORMING A METALLIC LAYER**  
**ON A SUBSTRATE**

Melvin D. Sterman and David J. Genova, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
 No Drawing. Filed Jan. 25, 1968, Ser. No. 700,373  
 Int. Cl. C23c 3/00

U.S. Cl. 117—236

12 Claims

A uniform layer of noble metal on a substrate is formed by reacting a salt of the noble metal with cuprous iodide. The resulting layer is especially useful as a catalytic layer for the formation of a ferromagnetic layer on the substrate by electroless deposition.

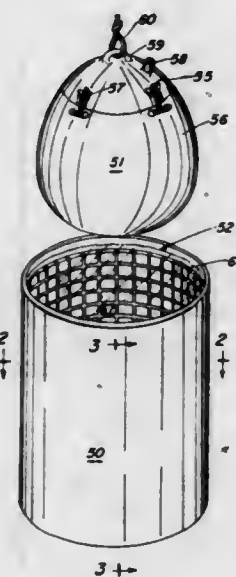
**3,520,724**  
**DUAL TANK SONIC PROCESSING SYSTEM**  
**AND METHOD**

Frank Massa, Cohasset, Mass., assignor to Massa Division, Dynamics Corporation of America, Hingham, Mass.

Filed June 23, 1967, Ser. No. 648,444  
 Int. Cl. B06b 1/06, 3/04; B08b 7/02

U.S. Cl. 134—1

15 Claims



A first, relatively large, tank contains a liner covered with a plurality of transducer elements for simultaneously operating to vibrate the coupling liquid therein. A second,

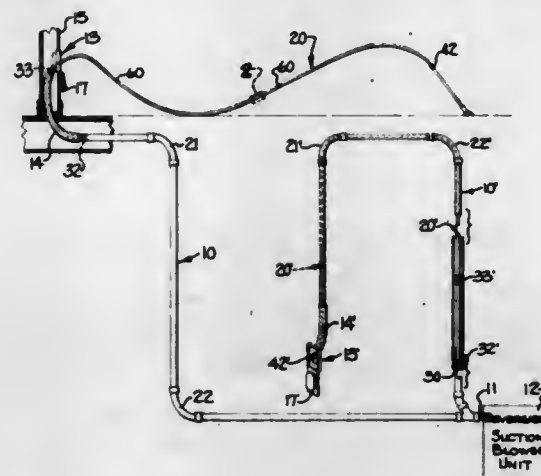
smaller, tank containing the material to be processed, which is generally in a liquid state, is lowered into the first tank. The wall of the smaller tank is transparent to sound so that the sonic energy passes from the large tank into the smaller tank with negligible attenuation.

**3,520,725**  
**RETRACTABLE HOSE-TYPE VACUUM CLEANING**  
**SYSTEM AND METHOD**

James C. Hamrick, Matthews, N.C., assignor, by mesne assignments, to Jet Line Products, Inc., Matthews, N.C., a corporation of North Carolina  
 Continuation-in-part of application Ser. No. 458,178, May 24, 1965. This application Aug. 30, 1967, Ser. No. 664,432  
 Int. Cl. A47l 5/38

U.S. Cl. 134—21

23 Claims



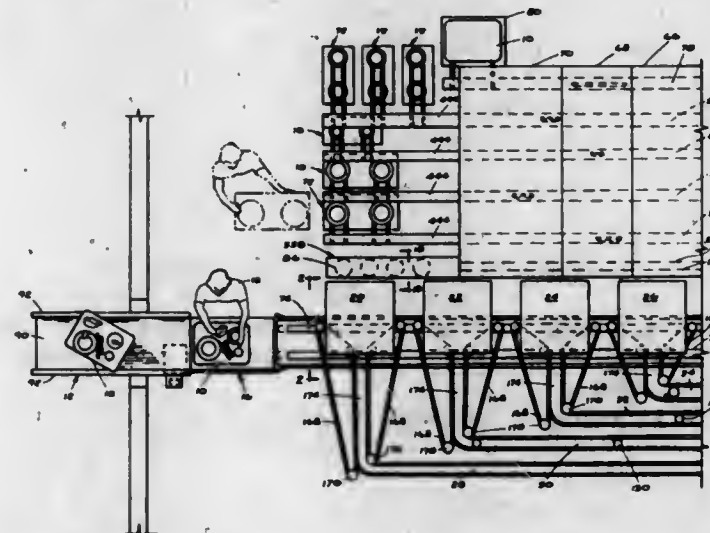
A vacuum cleaning system in which a pliable but flexurally rigid vacuum hose normally stored within a suction conduit has little or no stretchability when the hose is being moved to extended or retracted stored position in the conduit to facilitate movement of the hose through bends in the conduit, and wherein a piston on the hose is deformable so as to be moved past an abutment carried by an outlet receptacle on the outer end of the conduit, and wherein interengagement between the piston and the abutment otherwise limits extension or retraction of the hose, as the case may be, relative to the conduit.

**3,520,726**  
**APPARATUS FOR AUTOMATICALLY CLASSIFY-**  
**ING, WASHING, SANITIZING, AND DRYING**  
**SOILED DISH AND HOLLOWARE ITEMS**

William E. Gay, 269 Pleasant Drive, Warren, Pa. 16365  
 Filed Oct. 27, 1967, Ser. No. 678,592  
 Int. Cl. B08b 3/02

U.S. Cl. 134—63

51 Claims



Several embodiments of automatically operated dish, holloware and silverware sanitizing apparatus, for suc-

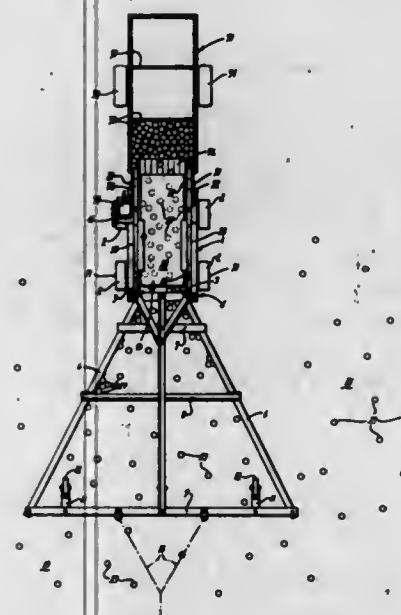
cessively cleansing, sterilizing and drying dish items, silverware, and holloware items such as cups and glassware after the same have been classified and segregated for movement through separate paths in appropriate baths and atmospheres to accomplish the sanitizing steps, followed by assembly of such items respectively into vertical stacks of dish items, containers of silverware, and trays containing closely assembled rows of inverted holloware items for storage and reuse, one of the embodiments of apparatus including automatically operable means to classify and separate a heterogeneous mixture of such items into individual rows of similar dish items classified according to type, similar holloware items classified according to size, and silverware classified according to item.

**3,520,727**  
**GOLF BALL PICKER FOR DRIVING RANGE**

William B. Crump, 884 Quetta Court, Sunnyvale, Calif. 94087  
 Filed May 22, 1968, Ser. No. 731,016  
 Int. Cl. B08b 1/02; B60p 1/38

U.S. Cl. 134—115

9 Claims



Forwardly divergent arms, held rigidly so as to form a throat at a conveyor frame, sweep the balls on the ground toward an inclined table. A belt conveyor superimposed on the inclined table grips the balls and rolls them up the table so that the balls drop into a container, in which latter there are ball-carrying cages immersed in water. The golf balls are washed during the collecting operation by the forward motion and rocking of the container; the unit is pulled by any suitable means such as by a motorized vehicle which is suitably tied to a cross-bar connecting the divergent arms at their widest spaced end.

**3,520,728**  
**ELECTRICAL ACCUMULATOR WITH A METAL**  
**HYDRIDE SERVING AS THE CATHODIC REAC-**  
**TIVE MATERIAL ARRANGED IN SUSPENSION**  
**IN THE ELECTROLYTE**

Klaus-Dieter Beccu, Onex, Switzerland, assignor to Battelle Memorial Institute-International Division, Carouge, Geneva, Switzerland  
 Filed Feb. 5, 1968, Ser. No. 702,889

Claims priority, application Switzerland, Feb. 7, 1967, 1,898/67  
 Int. Cl. H01m 35/00, 47/00

U.S. Cl. 136—6

8 Claims

An electrical energy storage cell comprising a cathode compartment and an anode compartment respectively

containing a cathode and an anode. The cathodic reactive material is a suspension in the electrolyte of particles in the form of a metal hydride which is oxidized to form water during discharge, said particles being in contact with a cathodic current collector electrode. The cathode and anode compartments are separated by a porous inert wall which is permeable to the electrolyte while being impermeable to said reactive material particles.

**3,520,729**  
**BATTERIES HAVING A POSITIVE SILVER-OXIDE**  
**ELECTRODE**

Ernst Voss, Niederhofheim, and Peter Ness, Kelkheim, Taunus, Germany, assignors to Varta Aktiengesellschaft, Frankfurt am Main, Germany  
 Filed July 2, 1968, Ser. No. 741,986

Claims priority, application Germany, July 14, 1967, V 34,066  
 Int. Cl. H01m 35/02

U.S. Cl. 136—20

8 Claims

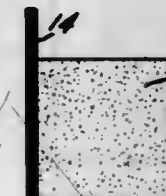
A battery having a positive electrode containing silver-oxide and an oxidic manganese compound of MnO(OH) and MnO<sub>2</sub>.

**3,520,730**  
**FUEL CELL COMPRISING AN ELECTRODE**  
**FOLDED ALONG ONE EDGE**

Daniel W. Puffer, Melrose, Mass., assignor to General Electric Company, a corporation of New York  
 Filed Oct. 22, 1965, Ser. No. 502,019  
 Int. Cl. H01m 27/00, 13/00

U.S. Cl. 136—86

12 Claims



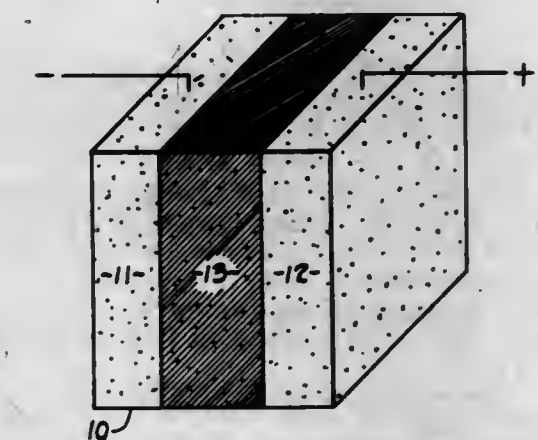
A fuel cell unit is provided with an electrode having a current collector rolled or folded along one edge to act as an edge current bus and terminal strip. The fuel cell unit may have a number of spaced electrodes on opposite faces of the electrolyte element with the recumbent edge of the current collectors electrically connecting the electrodes in series.

**3,520,731**  
**ELECTROCHEMICAL REACTION APPARATUS**

Robert A. Rightmire, Northfield, and Philip S. Fay, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio  
 Continuation-in-part of application Ser. No. 79,691, Dec. 30, 1960. This application Jan. 5, 1966, Ser. No. 528,681  
 Int. Cl. H01m 27/00

U.S. Cl. 136—86

14 Claims



Electrochemical apparatus and process comprising a matrix of a central section having pores less than about



2 micron size and bounded by adjacent electrodes contacting the central section on opposite sides and having pores of from 1 millimicron to 20 microns and accompanying facilities for producing electrical energy continuously.

### 3,520,732 PHOTOVOLTAIC CELL AND PROCESS OF PREPARATION OF SAME

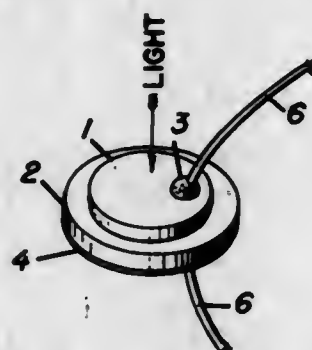
Nobuo Nakayama, Hirakata-shi, Eiichi Hirota, Sakai-shi, and Tadashi Shiraishi and Tadashi Yamanaka, Osaka-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Oct. 22, 1965, Ser. No. 500,729

Int. Cl. H011 7/00, 15/04

U.S. Cl. 136—89

8 Claims



Photovoltaic cells are provided comprising a combination of a p-type semiconductor plate in single crystal or poly-crystal form and an n-type semiconductor plate in single crystal or polycrystal form. Said cells are produced by hot-pressing the said p-type semiconductor plate and the n-type semiconductor plate into a single laminated body at a temperature ranging from 300° C. to 600° C. and at a pressure of 10 to 1000 kg./cm.<sup>2</sup>.

**3,520,733  
PRODUCTION OF GAS DIFFUSION ELECTRODES**  
Ivor John Buckland, Chalfont St. Peter, and George William Walkden, South Harrow, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Aug. 16, 1966, Ser. No. 572,700  
Claims priority, application Great Britain, Aug. 24, 1965, 36,343/65

Int. Cl. H01m 13/00, 27/00

U.S. Cl. 136—120

9 Claims

Gas diffusion electrodes containing an active metal catalyst such as platinum are produced with a minimum amount of catalyst being used by introducing two fluid phases into the electrode under substantially the pressure and temperature conditions used when the electrode is in operation with one of the liquid phases containing the catalyst metal which is reduced at the three-phase interface created between the introduced phases and the electrode surface under the activating conditions.

**3,520,734  
MOST POWERFUL RADIOISOTOPE HEATED THERMOELECTRIC GENERATOR PROVIDING FOR INTACT RE-ENTRY OF THE HEAT SOURCE MEANS FROM SPACE**

Martin R. Scheve and Charles N. Young, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Continuation-in-part of application Ser. No. 676,933, Oct. 20, 1967. This application Oct. 29, 1968, Ser. No. 771,511

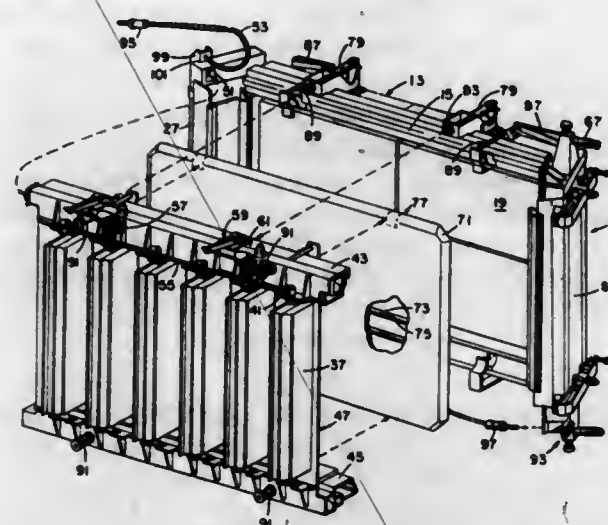
Int. Cl. G05d 23/02; G21h 1/00

U.S. Cl. 136—202

10 Claims

Ultra high power, radioisotope heated, thermoelectric generator for use in space comprising a high power density, low ballistic coefficient, radioisotope heat source

means for selectively removing excess heat from said heat source means, thermoelectric generator modules for converting a portion of the heat from the heat source means to electrical energy while providing for the removal of



waste heat from said modules, and means for remotely inserting and separating the heat source means into and from the housing means for the use thereof in space and for the intact recovery of the heat source means therefrom.

**3,520,735  
METHOD OF MANUFACTURING SEMICONDUCTOR DEVICES**

Kazuhiro Kurata, Hachioji-shi, Tatuo Tokai, Kokubunji-shi, and Tadamasa Hirai, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan  
Filed Oct. 12, 1965, Ser. No. 495,215

Claims priority, application Japan, Oct. 20, 1964, 39/59,309

Int. Cl. H011 7/32, 7/34

U.S. Cl. 148—1.5

16 Claims



A method of forming a crystal wherein a heterojunction is formed between dissimilar semiconductor materials, which comprises interposing a solvent material between two dissimilar semiconductor materials, said solvent material having a eutectic point with one of said semiconductor materials which is lower than the melting point of the other semiconductor material, heating the resulting composite to a temperature higher than the eutectic point of the solvent material and said selected semiconductor material but lower than the melting point of the other semiconductor material, to form a mixture solution, and cooling the composite to recrystallize one semiconductor material onto the other semiconductor material. Also an alloy of the solvent material and one of said semiconductor materials can be used in contact with the other semiconductor material.

**3,520,736  
CORROSION RESISTANT COMPOSITION AND METHOD**

Isaac Laird Newell, Wethersfield, Conn., and William F. Houllhan, Springfield, Mass., assignors to Heatbath Corporation, Springfield, Mass., a corporation  
No Drawing. Filed July 21, 1966, Ser. No. 566,755

Int. Cl. C23c 1/10; C23f 7/00

U.S. Cl. 148—6.2

22 Claims

This invention relates to the corrosion protection of aluminum and to nitroprusside-containing compositions for imparting such protection.

**3,520,737  
PROCESSES FOR THE PRODUCTION OF ZINC PHOSPHATE COATINGS**

Peter Gerassimoff and Paul Dingeldey, Vienna, Austria, assignors to Anchem Products, Inc., a corporation of Pennsylvania

No Drawing. Filed Dec. 22, 1966, Ser. No. 603,729

Claims priority, application Austria, Dec. 22, 1965, A 11,522/65

Int. Cl. C23f 7/12, 7/10

U.S. Cl. 148—6.15

2 Claims

A method for applying a zinc phosphate coating to a metallic surface by contacting the surface with an aqueous acidic phosphatizing solution which initially contains phosphate, zinc and nitrate ions in a ratio of

$P_2O_5:Zn:NO_3=1:(1.4 \text{ to } 2.6):(2.0 \text{ to } 4.3)$

replenishing the solution, as needed, by adding thereto phosphate, zinc and nitrate ions in a ratio of

$P_2O_5:Zn:NO_3=1:(0.40 \text{ to } 0.53):(0.45 \text{ to } 0.70)$

establishing in the solution at the beginning of the coating cycle a nitrite concentration of at least 0.01%, nitrite being maintained in the solution throughout the coating cycle by autocatalytic generation thereof, the solution also containing a metallic accelerator selected from the group consisting of copper, nickel and cobalt and mixtures thereof.

**3,520,738  
PREVENTION OF RUSTING OF STEEL**

Hiroyoshi Matsubara and Yasuhiro Ishiyama, Yokohama-shi, Japan, assignors to Nippon Kokan Kabushiki Kaisha, Tokyo, Japan

No Drawing. Filed Jan. 17, 1967, Ser. No. 609,753

Claims priority, application Japan, Jan. 18, 1966, 41/2,357

Int. Cl. C23f 7/10

U.S. Cl. 148—6.15

3 Claims

This invention relates to the prevention of rust on steel stock such as sheet stock, bar stock, etc., obtained from the steel mill, by treating the surface of the steel stock with phosphoric acid after the steel is rolled so as to form a secure phosphate film on the surface of the steel which prevents the formation of scale and rust.

**3,520,739  
FLAME CUTTING METALS**

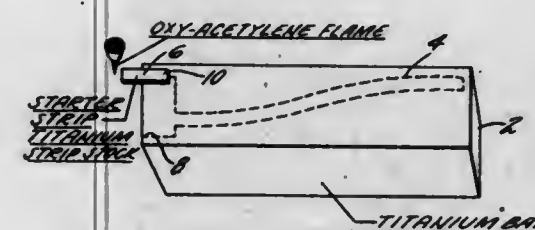
Kenneth J. Richards, North Sommers, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Mar. 11, 1968, Ser. No. 712,218

Int. Cl. B23k 7/08

U.S. Cl. 148—9

5 Claims



In flame cutting metals, particularly the reactive metals, a starter strip of relatively thin material is positioned on the material to be cut in such a position that the start of the cut occurs in this strip.

**3,520,740  
METHOD OF EPITAXIAL GROWTH OF ALPHA SILICON CARBIDE BY PYROLYTIC DECOMPOSITION OF A MIXTURE OF SILANE, PROPANE AND HYDROGEN AT ATMOSPHERIC PRESSURE**

Arrigo Addamiano, Willoughby, Ohio, assignor to General Electric Company, a corporation of New York  
Filed May 18, 1967, Ser. No. 639,361

Int. Cl. H011 7/36

U.S. Cl. 148—175

4 Claims

Epitaxial growth of  $\alpha$ -SiC (hexagonal) on  $\alpha$ -SiC single crystals (plates) has been achieved by flowing a mixture of  $SiH_4$ ,  $C_2H_6$ , and  $H_2$  through a bell jar at atmospheric pressure. The SiC single crystal substrates are placed on a resistance heater of spectrographic grade graphite and good epitaxial growth is obtained in the range from 1700 to 1850° C. Doping of the grown layers may be accomplished by adding suitable dopants to the gas stream such as diborane  $B_2H_6$  for p-type doping, or phosphine  $PH_3$  for n-type doping.

**3,520,741  
METHOD OF SIMULTANEOUS EPITAXIAL GROWTH AND ION IMPLANTATION**

Ramzy G. Mankarious, Costa Mesa, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Dec. 18, 1967, Ser. No. 691,521

Int. Cl. H011 7/54

U.S. Cl. 148—175

4 Claims

Method of epitaxially growing a semiconductor film while simultaneously introducing conductivity-type-determining impurities therein by ion implantation to establish selectively discrete regions, if desired, by a particular type of conductivity and of a particular geometry and arrangement.

**3,520,742  
ENCAPSULATION OF PARTICULATE NITRONIUM OXIDIZER SALTS WITH POLYMERIZATION OF ETHYLENICALLY UNSATURATED MONOMERS**

Samuel Witz, West Covina, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Dec. 31, 1962, Ser. No. 249,552

Int. Cl. C06b 19/02; C06d 5/00

U.S. Cl. 149—7

20 Claims

18. The method of applying an adherent polymeric coating to the surface of a particulate nitronium perchlorate which comprises uniformly applying to the surface of the particulate nitronium perchlorate a coating of a monomer which contains from one to three polymerizable carbon-carbon double bonds, and allowing said coating to polymerize in place to form an adherent polymeric coating.

**3,520,743  
SPHERICAL ANHYDROUS HYDRAZINE PERCHLORATE PELLETS AND PROPELLANTS PREPARED THEREFROM**

William M. King, Walnut, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

Filed Jan. 21, 1963, Ser. No. 253,522

Int. Cl. C06d 5/00

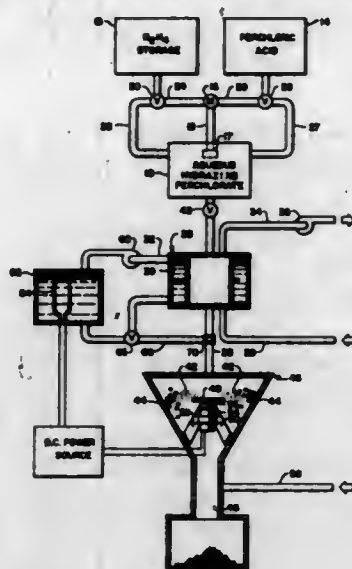
U.S. Cl. 149—19

17 Claims

13. A solid propellant composition which comprises a cured intimate mixture of an oxidizer comprising substantially spherical anhydrous hydrazine perchlorate having a diameter of from about 10 microns to about 500 microns containing less than about 0.1 percent by weight



of water, said spheres when dissolved in water in an amount from about 20% to about 80% by weight of the



total solution having a pH of from about 2 to about 6, and a resin binder.

3,520,744

### FREE-RUNNING PENTAERYTHRITOLTETRA-NITRATE AND PROCESS OF PREPARING SAME

Hugh Thomas, Irvine, and John Turbet, Saltcoats, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
No Drawing. Filed Feb. 27, 1969, Ser. No. 803,063  
Claims priority, application Great Britain, Mar. 4, 1968, 10,287/68

Int. Cl. C06b 3/00

U.S. Cl. 149-93

8 Claims

The invention relates to pentaerythritol tetranitrate (PETN) having improved free-running character and to a process for the production of free-running PETN. The free-running PETN is produced by co-precipitation with di-pentaerythritol hexanitrate.

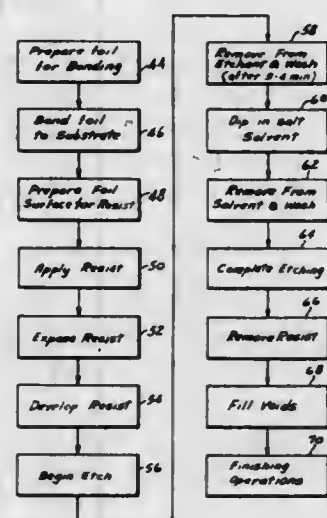
3,520,745

### ETCHING OF GOLD ALLOY ENCODER DISCS

Charles H. Anderson, New Fairfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Filed Dec. 19, 1966, Ser. No. 602,860  
Int. Cl. B44c 1/22; C23f 1/02

U.S. Cl. 156-3

9 Claims



A method of etching gold foil to provide a high resolution, accurate conductive pattern in which the etching step is interrupted at a critical time, the body is dipped in a solvent to dissolve etchant resistant salts formed in the course of the etching operation, and the etching operation is subsequently completed.

3,520,746

### METAL ETCH COMPOSITIONS

Donald Ben Johnson and John Ernest Peters, Racine, Wis., assignors to Printing Developments, Inc., New York, N.Y., a corporation of New York  
No Drawing. Filed Dec. 21, 1965, Ser. No. 515,441  
Int. Cl. C23f 1/02; G03f 7/16

U.S. Cl. 156-14

7 Claims

A metal etch composition especially adapted for developing copper-coated aluminum bi-metallic plates, such as those used in the graphic arts field and in the printed circuit industry, which comprises an aqueous solution containing ferric nitrate copper-etching agent and a water-soluble or acid-soluble ionizable fluorine compound as a modifying agent to retard undercutting.

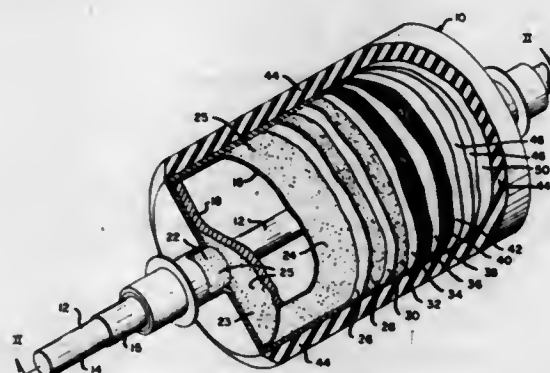
3,520,747

### METHOD OF MAKING STRUCTURAL MEMBERS OF LAYERS OF CORROSION RESISTANT COATINGS AND FIBROUS MATERIAL

Robert S. McGaughey, Indiana, Pa., assignor to McCreary Tire & Rubber Company, Indiana, Pa., a corporation of Pennsylvania  
Filed Oct. 29, 1965, Ser. No. 505,621  
Int. Cl. B32b 27/12

U.S. Cl. 156-153

20 Claims



I disclose a process for making a structural member for use in hydrofluoric and other corrosive environments, said structural member including a base structure, said process including the steps of roughening said base structure, applying a coating to said roughened surface of resin selected from the group consisting of polyester, phenolic and epoxy resins, depositing a layer of fiber glass material on said resin, coating an additional quantity of said resin on said fiber glass material, said additional resin being worked into the interstices of said fiber glass material to impregnate said fiber glass material as well as to leave a coating of said resin material thereover, applying a layer of fibrous material selected from the group consisting of crocidilite, asbestos, and fibrous polyvinyl chloride-acrylonitrile copolymer to said second-mentioned resin coating, applying a third quantity of said resin to the surface of said fibrous material, said third quantity of resin being worked into the interstices of said fibrous material to impregnate said material and to leave a coating of said resin thereover.

3,520,748

### METHODS AND ARRANGEMENTS FOR TRANSVERSELY CUTTING TRAVELLING WEBS OF PAPER OR FOIL OR FILMS OF PLASTICS AND OTHER FLEXIBLE MATERIALS

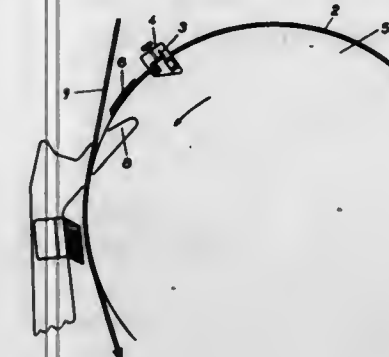
Paul Charles Riegger, 7 Rue Ehrmann, Strasbourg, Bas-Rhin, France  
Filed Oct. 5, 1966, Ser. No. 584,472  
Claims priority, application France, Oct. 7, 1965, 8,434  
Int. Cl. B31f 5/00; G03d 15/04

U.S. Cl. 156-159

5 Claims

A web is attached to a roll so as to secure the trailing end of the web to the leading edge of a fresh web on the

roll to be unwound from the roll, or so as to attach the trailing end of the web to a roll which comprises a mandrel to wind the web on the roll. To do this, a cutter is temporarily attached to the periphery of the roll and



rotates with the roll, which is brought up to the peripheral speed of the web, whereupon the web is applied to the roll and then the cutter is detached from the roll and severs the trailing end of the web.

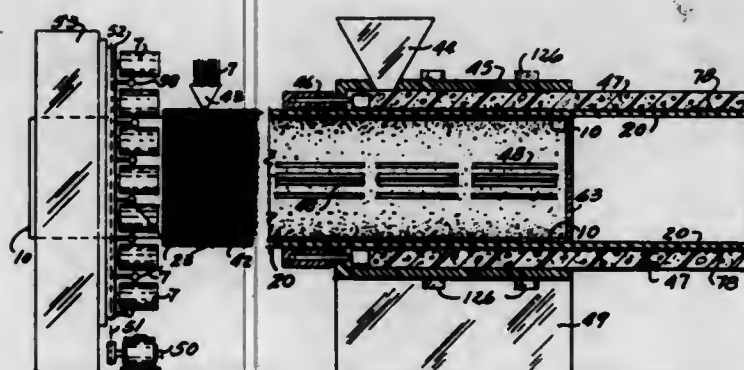
3,520,749

### METHOD OF MAKING FILAMENT WOUND REINFORCED CONCRETE PIPE

David Rubenstein, San Diego, Calif., assignor to Chem Stress Industries, Inc., a corporation of California  
Continuation-in-part of application Ser. No. 613,398, Jan. 31, 1967. This application May 15, 1967, Ser. No. 644,749  
Int. Cl. B65h 81/08; B29b 21/64

U.S. Cl. 156-173

15 Claims



This patent application relates to apparatus for making and methods of making prestressed reinforced composite extruded and laminated concrete pipe. Filament wound and otherwise provided fiber constructions and fillers covered with and impregnated with polymerizable polymeric resin compositions comprising pipeliners are combined and laminated with polymerizable polymeric resin composition interface bonding resin compositions to and with polymerizable polymeric resin composition bound sand, or minerals, or particles, or aggregates, or concrete into prestressed reinforced composite concrete pipe. The method involves winding or otherwise providing pipeliners to which interface bonding resin composition and extruded materials are combined and laminated and prestressed into unitary prestressed preloaded composite materials concrete pipe. The apparatus comprises means for making unitary by combining, laminating prestressing, and extruding the materials of the invention. The product made is prestressed preloaded composite reinforced concrete pipe.

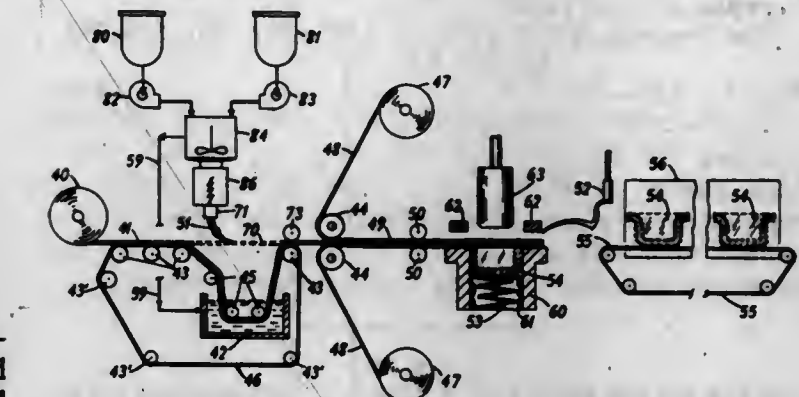
3,520,750

### NOVEL THERMOSETTING COMPOSITES AND PROCESS FOR MAKING

Hsin L. Li, Lake Hiawatha, and Dusan C. Prevorsek and Hendrikus J. Oswald, Morristown, Paul J. Koch, Mount Freedom, and George J. Schmitt, Madison, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
Filed Dec. 23, 1966, Ser. No. 604,255  
Int. Cl. B31f 43/00

U.S. Cl. 156-199

8 Claims



Cold-forming procedures for imparting shapes to thermosetting compositions are disclosed. A sandwich structure which has a thermosetting resinous core and thermoplastic face sheets is prepared. The thermoplastic face sheets are of sufficient thickness and strength so that the sandwich containing the thermosetting core between the face sheets may be cold-formed into shaped articles and such shape as is imparted to it is retained by the thermoplastic face sheets without external constraint on the shape as the thermosetting core is cured.

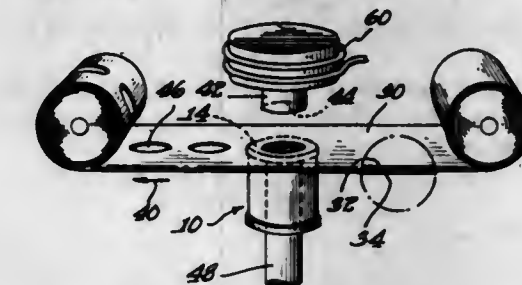
3,520,751

### METHOD OF SECURING A LABEL TO AN ARTICLE

John D. Cranfill, Chicago, Ill., assignor, by mesne assignments, to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware  
Filed Jan. 30, 1967, Ser. No. 612,458  
Int. Cl. B32b 31/00

U.S. Cl. 156-220

4 Claims



This invention relates to a laminated article of manufacture and a method of making the article wherein a label of metal foil is secured to the article by stamping the foil on the article and contemporaneously therewith shaping material forming the article.

3,520,752

### METHOD OF MAKING LIGHT POLARIZING PATTERNS

John F. Dreyer, 9854 Zig Zag Road, Cincinnati, Ohio 45242  
No Drawing. Continuation-in-part of application Ser. No. 404,138, Oct. 15, 1964. This application Mar. 1, 1968, Ser. No. 709,803  
Int. Cl. B44c 1/22

U.S. Cl. 156-234

3 Claims

Methods for making patterns comprising areas different with respect to their light polarizing properties by selective removal of portions of a continuous polarizing film, such as of a dichroic dye, from a carrier therefor to define all or a portion of said areas. Selective removal



may be by destructive removal of the dye film from the carrier, or by transfer of portions thereof to a receptor surface.

3,520,753

# METHOD OF FORMING A SEAL BETWEEN A POLYMER AND AN ADHESIVE

Francis W. Ryan, Millington, and Harold Schonhorn, New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

No Drawing. Filed Feb. 17, 1967, Ser. No. 616,785

Int. Cl. B29c 23/00

U.S. Cl. 156—246

5 Claims

Hydrocarbon, fluorocarbon and polyamide polymers destined for bonding with adhesives are melted upon a high energy metal or metal oxide surface, cooled and separated therefrom by dissolution of the latter. The resultant materials are capable of bonding with any conventional adhesive, yielding superior bond strengths.

3,520,754

# METHOD OF HEAT SEALING A THERMOPLASTIC COVER MATERIAL TO A BACKING MEMBER

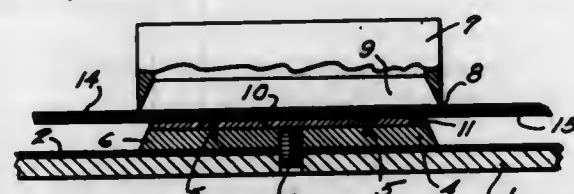
Carl W. Scholl and Milo L. Raffaelli, Sr., Chicago, Ill., assignors to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York

Filed Feb. 16, 1967, Ser. No. 616,721

Int. Cl. B29c 19/04

U.S. Cl. 156—273

4 Claims



The invention relates to a method of heat sealing a thermoplastic cover to a backing member. The cover material is electronically heat sealed to the backing member at a marginal area of the rear face of the backing member where a thermoplastic striping is applied.

3,520,755

# APPARATUS FOR MAKING HEAT SEALED ARTICLES

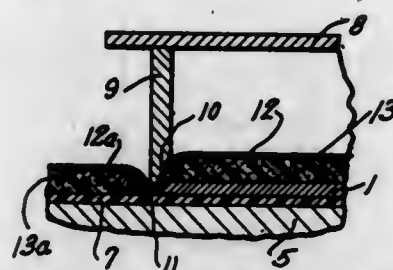
Carl W. Scholl and Milo L. Raffaelli, Sr., Chicago, Ill., assignors to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York

Filed Jan. 4, 1967, Ser. No. 607,247

Int. Cl. B29c 19/02

U.S. Cl. 156—380

5 Claims



This invention relates to an apparatus for electronically heat sealing a thermoplastic flexible cover to a more rigid backing member to form a panel-like article.

3,520,756

# LAMINATING MACHINE

James J. Denaro, Concord, and Frederick W. Macone, Carlisle, Mass., assignors to Avant Corporation, Lincoln, Mass., a corporation of Massachusetts

Filed Apr. 19, 1967, Ser. No. 631,961

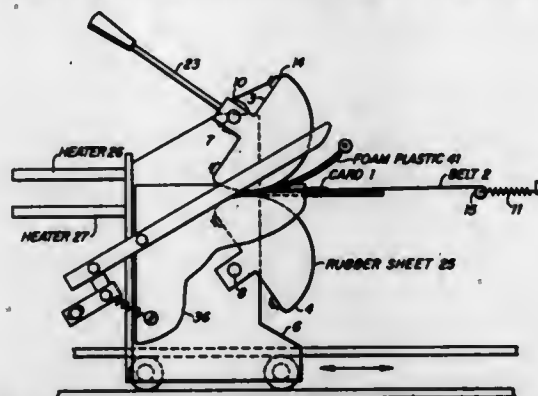
Int. Cl. B32b 31/00

U.S. Cl. 156—583

25 Claims

This disclosure illustrates a machine for sequentially heating a composite sheet to be laminated, thereafter

applying laminating pressure, and then maintaining the laminated sheet or card flat during cooling to prevent curling. The composite plastic sheet or card is placed on a heat resistant belt. The belt is positioned between a pair of arcuate platens which are mounted upon a movable carriage along with a heating element. The heater, mounted on the movable carriage, is positioned over the card to be laminated to heat it and the platens



are thereafter actuated to cause the carriage to translate with respect to the card thereby to apply laminating pressure to the card. The card is stationary with respect to the frame of the machine and the heater together with the arcuate platens sequentially operate on the stationary card. Thus lamination is easily effected by an unskilled operator and the machine is simple and relatively inexpensive to manufacture and therefore is suitable for low volume card lamination.

3,520,757

# PRESSURE PRINTING CARD

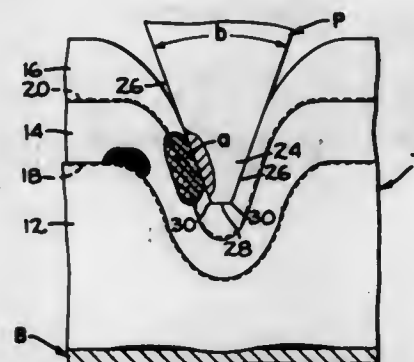
Richard Heaney, 1383 E. Campbell Ave., Campbell, Calif. 95008, and Chester Szymanski, 2305 Price Way, San Jose, Calif. 95124

Continuation-in-part of application Ser. No. 540,377, Apr. 5, 1966. This application June 22, 1967, Ser. No. 649,084

Int. Cl. B32b 5/28, 7/02, 29/02

U.S. Cl. 161—2

7 Claims



A laminated commuter ticket having a coordinate ticket-value grid is printed with a punch to indicate ticket-value. The ticket may be laminated up in several forms, but all produce a mark without making punchouts. The punch thins out the material of the upper lamination along linear zones at the sides of the punch, rendering material of contrasting color visible through the thinned out zones of the upper lamination.

3,520,758

# LAMINATED PHOTOGRAPHIC IDENTIFICATION CARD

Donald G. West, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Aug. 7, 1967, Ser. No. 658,705

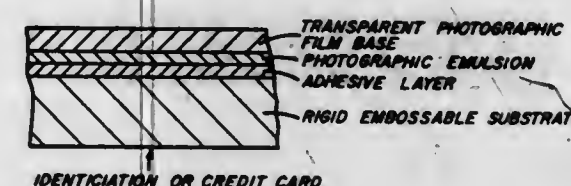
Int. Cl. B44f 1/04; G09f 3/02

U.S. Cl. 161—5

12 Claims

An embossable identification or credit card has been made by laminating the photographic emulsion layer of

a transparent photographic film to a rigid substrate using an adhesive based on a latex of polyvinyl acetate copolymerized with an alkyl ester of an unsaturated carboxylic acid to which gelatin, gelatin plasticizer and an attack solvent for the substrate are added. The migration of the plasticizer from the adhesive into the emulsion



during and subsequent to lamination causes an increased hardening and/or plasticizing of the emulsion and improves cohesive bonding within the emulsion, and consequently the overall toughness, durability and quality of the identification card produced. Alternatively, the gelatin plasticizer may be wiped onto the surface of the photographic emulsion layer just prior to the lamination.

3,520,759

# DECORATIVE WREATH

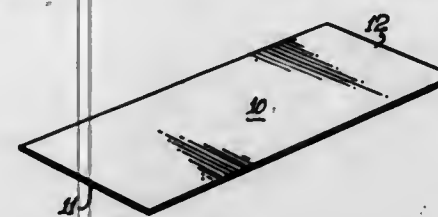
Francis M. Agena and Shirley M. Agena, both of 1931 W. 20th St., Los Angeles, Calif. 90018

Filed Mar. 8, 1967, Ser. No. 621,528

Int. Cl. A47g 33/08; B32b 3/06

U.S. Cl. 161—15

7 Claims



An ornamental wreath made from a plurality of elongate flexible rectangular cards having their corners at one end bent into an arc and secured in overlapping relationship to form a conical point. The flat ends of so-formed cards are secured to a mounting board, the cards being arranged in a multi-layered circular array.

3,520,760

# TRANSFER SHEET HAVING SHAPED THERMOPLASTIC TRANSFER FOR STIFFENING OR REINFORCING FABRIC APPAREL AND SHOES

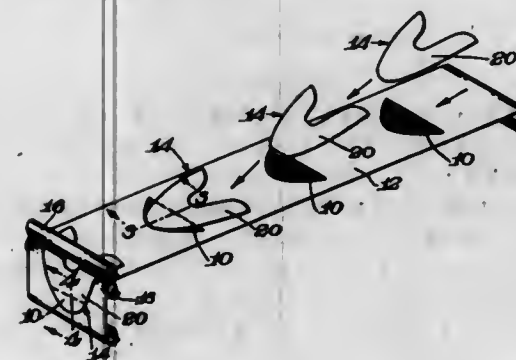
Walter L. Hochner, Hockessin, Del., assignor to Kaumagraph Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 400,622, Sept. 21, 1964, which is a continuation-in-part of application Ser. No. 311,510, Sept. 25, 1963. This application Apr. 19, 1968, Ser. No. 722,584

Int. Cl. B32b 3/00, 25/00

U.S. Cl. 161—40

4 Claims



A transfer sheet carries a readily releasable thermoplastic substance which is applied to a fabric apparel such as a shoe upper to fill the voids of the fabric upon application of heat and pressure.

3,520,761

# FLOOR COVERING

Cyril Joseph Allman, Surrey, England, assignor to BTR Industries Limited, London, England, a British company

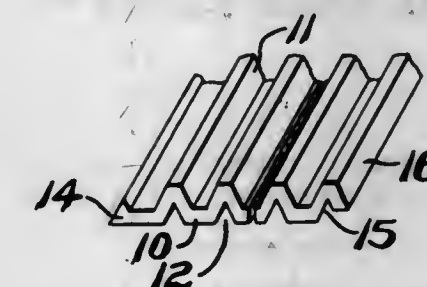
Filed July 31, 1967, Ser. No. 657,396

Claims priority, application Great Britain, Aug. 4, 1966, 35,000/66

Int. Cl. B32b 1/04

U.S. Cl. 161—44

4 Claims



Floor covering comprising an elongated sheet of elastomeric material having a ridge extending along one margin and a rib with a recess in the lower surface extending along the opposite margin, the recess and ridge being of complementary shape and dimension so that sheets of like nature can be united transversely by interfitting the marginal ribs and ridges.

3,520,762

# PILE FABRIC

Masatoshi Sakamoto, Nishinomiya-shi, Hiroshi Nakano, Suita-shi, and Takeshichiro Naito and Yasunori Suma, Ibaragi-shi, Japan, assignors to Asahi Kasei Kabushiki Kaisha, Kita-ku, Osaka, Japan, a corporation of Japan

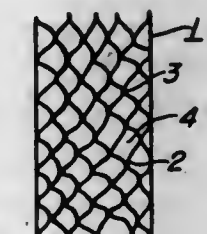
Filed Mar. 19, 1968, Ser. No. 714,209

Claims priority, application Japan, Mar. 24, 1967, 42/24,219

Int. Cl. D03h 11/00; D03d 27/00

U.S. Cl. 161—63

3 Claims



Pile fabric comprising split fiber reticulate yarns as pile yarns in which single filaments in the split fiber reticulate yarns are unknotted by fraying the upper portions of the extreme points of the pile yarns while retaining reticulate structure of the split fibers at the parts near the roots thereof. This pile fabric is suitable for use in carpets, rugs and pile cloths for their having good foot touch, which is rich in feeling and is excellent in stiffness as well as compressible characteristic.

3,520,763

# METHOD OF AND MEANS FOR SPLICING HONEYCOMB PACKS

Kenneth M. Holland, Orinda, Calif., assignor to Hexcel Corporation, Dublin, Calif., a corporation of California

Filed June 7, 1967, Ser. No. 644,210

Int. Cl. B32b 3/12; B31d 3/02

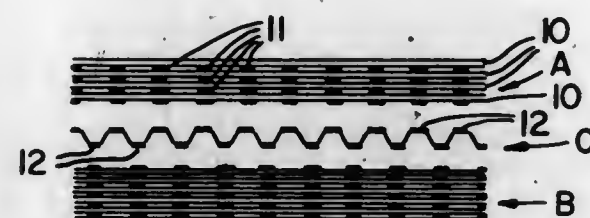
U.S. Cl. 161—68

4 Claims

The present application relates to a method and means for splicing together two or more packs of unexpanded honeycomb so that the same can be expanded into a continuous section of indefinite length. The splicing element



consists of a corrugated metal ribbon having its nodes adhesively bonded to adjacent end webs of two honey-



comb packs to be spliced together and then expanded as a larger integral honeycomb panel.

3,520,764

**SYNTHETIC LEATHER MATERIALS**

Richard C. Hoch, Quakertown, Pa., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

No Drawing. Continuation-in-part of application Ser. No. 482,921, Aug. 26, 1965. This application Feb. 5, 1969, Ser. No. 796,888

Int. Cl. D06n 3/00; B32b 29/02

U.S. Cl. 161—82

12 Claims

A cellular web which has been impregnated with a polymeric binder and a compound which can be a glycol, polyoxyethylene lanolin, silicone oil or an alkyl ester of a fatty acid, is compressively shrunk to produce a smoother-surfaced product improved with respect to the properties of flexibility and stiffness. The impregnated web may be secured to a dimensionally stabilizing fabric.

3,520,765

**MOISTURE PERMEABLE COMPOSITE SHEET MATERIAL AND PROCESS FOR PREPARING SAME**

Alva W. Bateman, Hendersonville, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of abandoned application Ser. No. 355,436, Mar. 27, 1964. This application Apr. 28, 1967, Ser. No. 634,465

Int. Cl. B32b 5/28, 5/02

U.S. Cl. 161—84

15 Claims

A moisture-permeable sheet material is provided which is useful as a shoe-upper material, has good surface smoothness, and is very resistant to damage when subjected to high-tension lasting operations during shoe manufacture; said sheet material is made up of a porous substrate fabric (e.g., a nonwoven fabric), and in superposed adherence therewith, a woven fabric made from a blend of synthetic fibers and cotton fibers and having a very specific combination of properties, and a mass of microporous moisture-permeable flexible polymeric composition which forms a smooth coating on the upper surface of the product and penetrates the pores of both fabrics whereby the coating and fabrics are integrally bonded together.

3,520,766

**INK AND DYE RECEPTIVE FABRIC AND PROCESS FOR MAKING THE SAME**

Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York

Filed Feb. 14, 1967, Ser. No. 615,938

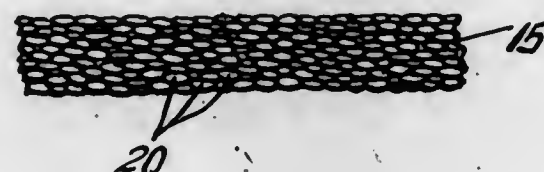
Int. Cl. D04h 3/12; D03d 25/00; D02j 3/00

U.S. Cl. 161—87

7 Claims

Process for producing novel thermoplastic filaments and fabrics, such as typewriter ribbons, which are receptive to and retentive of liquids such as dyes and inks which com-

prises extruding a conventional thermoplastic composition to form a thin body such as a filament or a film and contacting the body, while still tacky, with a powdered solid which adheres to the surface of the filament or film and bonds thereto when the body is cooled. The pow-



dered solid may be an absorptive material such as clay which is retained on the surface, or a soluble material such as common salt which is dissolved from the surface to leave receptive, retentive surface indentations on the surface of the filament or the film.

3,520,767

**POROUS POLYMERIC SHEET MATERIAL**

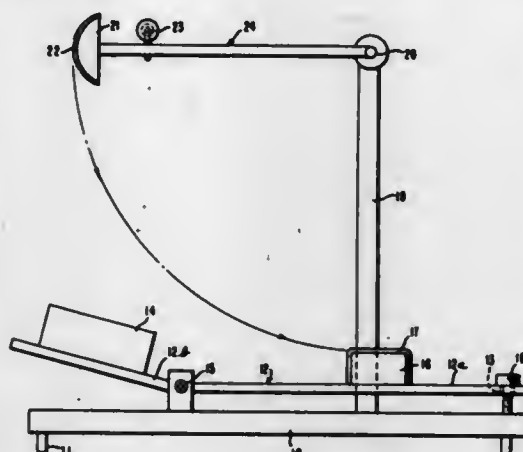
William F. Manwaring, Madison, Tenn., assignor to E. I. du Pont de Nemours & Co., Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 616,651, Feb. 16, 1967. This application Jan. 26, 1968, Ser. No. 703,846

Int. Cl. B32b 3/26

U.S. Cl. 161—88

13 Claims



A moisture-permeable sheet material useful as a shoe-upper material for children's shoes or as an unsupported vapor-permeable film, and having a very fine pore structure, the sheet material having unusual scuffing and abrasion resistance. The sheet material has a permeability value of over 750 and the microporous layer has a total pore volume of about 20-35%. Preferably, 65-100% of the pore volume consists of pores having a cross-section diameter of up to about 2 microns, and about 0-35% of the pore volume consists of pores having a cross-section diameter greater than 2 microns.

3,520,768

**LAMINATED SAFETY PANES OF GLASS AND POLYCARBONATE USING ACRYLIC ESTER ADHESIVES**

Günter Pellstöcker, Krefeld-Bockum, and Karl Dietzel, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,749

Int. Cl. B32b 27/36, 17/06

U.S. Cl. 161—125

8 Claims

Laminate of relatively thick glass plates having a comparatively thin polycarbonate foil inserted between the same and adhered in position with clear-transparent adhesive layers and the utility thereof as safety panes.

3,520,769

**PACKAGING MATERIAL AND METHOD OF MAKING SAME**

Bert Baker, Huntington Beach, Calif., assignor to Pacific Foam Packaging, Los Angeles, Calif., a corporation of California

Filed Apr. 9, 1968, Ser. No. 719,867

Int. Cl. B32b 3/26; B29d 27/04; B65d 85/00

U.S. Cl. 161—160

3 Claims

A light weight, integral, packaging material having an article-shaped inner cavity, an inner layer of cellular polystyrene, an intermediate layer of cellular polyurethane, and a smooth, hard outer layer of high density polyurethane. A method for making said packaging material by foaming polyurethane reactants in the presence of preformed cellular polystyrene whereby there is formed a bond between the polystyrene and the polyurethane, said bond forming a water-vapor and air impervious zone. At the same time there is formed a smooth, hard outer layer on the polyurethane which is dent-resistant.

3,520,770

**POLYESTER COMPOSITE FILAMENTS AND METHOD OF PRODUCING SAME**

Takeo Shima, Yukihiro Asami, Yoshiaki Hori, Takanori Urasaki, Masanori Masuda, and Takao Adachi, Iwankuni-shi, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan

No Drawing. Filed July 5, 1966, Ser. No. 562,459

Claims priority, application Japan, July 6, 1965, 40/40,746; July 7, 1965, 40/40,686; Dec. 4, 1965, 40/74,504

Int. Cl. D01d 5/22; D02g 3/04

U.S. Cl. 161—173

16 Claims

Crimpable composite filaments wherein at least two different components of polymeric ethylene glycol terephthalate polyesters are arranged eccentrically and in intimate adherence to each other along the whole length of the filaments, at least one of the said components being a branched polymeric ethylene glycol terephthalate polyester chemically modified with at least one branching agent having 3 to 6 ester-forming functional groups and at least one of said components being an unbranched polymeric ethylene glycol terephthalate polyester.

3,520,771

**ELECTROSTATIC PRINTING TAPE**

Donald F. O'Neill, Huntingdon Valley, and Walley F. Estes, Warminster, Pa., assignors to Paper Manufacturers Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 2, 1964, Ser. No. 401,065

Int. Cl. B32b 9/04; B44c 1/14

U.S. Cl. 161—234

3 Claims



There is provided a pressure-fixing electrostatic printing tape having a conductive base member and thereover a dielectric and fixing member coating at least the outer surface of which is a blend of wax and thermoplastic resin having defined physical properties giving enhanced retention of the fixed ink. In the preferred embodiment, the dielectric and fixing member coating is composed of two layers, the outermost layer being the stated blend of wax and thermoplastic resin and the layer next to the conductive base member being polyethylene, giving improved dielectric properties.

3,520,772

**METHOD OF GETTING RID OF MALODOROUS AIR AND WATER POLLUTANTS FROM ALKALINE PULP COOKING**

Erik Axel Sigvard Lindberg, Skoghall, Sweden, assignor to Uddeholms Aktiebolag, Uddeholm, Sweden

Filed Apr. 25, 1966, Ser. No. 545,017

Claims priority, application Sweden, Nov. 15, 1965, 14,714/65

Int. Cl. D21c 11/08

U.S. Cl. 162—51

1 Claim

In an alkaline pulping process, especially the manufacture of so-called "sulfate pulp," the noxious and malodorous gases and vapors leaving the digesters in the cooking of the wood chips, without passing through a condenser, are brought, together with steam from the digesters directly to a furnace, where the gases are burned or rendered innocuous by thermal decomposition. In the process here disclosed, the pollutant gases leave the digester together with steam and are passed directly to a furnace without passing through a condenser. The furnace where the combustion takes place is preferably associated with a conventional boiler, e.g., a soda recovery boiler, or a continuous lime kiln. The gases flow from the digester to the furnace without condensation of noxious constituents which when condensed would only be a different kind of nuisance; but they may pass through a superheater in order to prevent such condensation during such passage. Thus, not only is the atmosphere in the vicinity of the pulp mill protected from pollution by the discharge of noxious gases, but the streams and lakes and low places which might be used as settling ponds are also protected against pollution. According to the disclosure, the waste gases consisting of the pollutants mixed with steam from the cooking process and oxygen for the burning are proportioned so that the oxygen concentration is below that of an explosive mixture, so that the combustion is safe. The heat content of the gases can be recovered by use of a flue gas scrubber.

3,520,773

**ALKALINE PULPING PROCESSES WITH CHEMICAL PRETREATMENT**

Magnus G. Vinje, New Westminster, British Columbia, and Hans Worster, Richmond, British Columbia, Canada, assignors to MacMillan Bloedel Limited, Vancouver, British Columbia, Canada

No Drawing. Continuation-in-part of application Ser. No. 610,040, Jan. 18, 1967. This application May 17, 1968, Ser. No. 729,892

Int. Cl. D21c

U.S. Cl. 162—63

25 Claims

A pretreatment of lignocellulosic materials, such as wood chips or sawdust and the like prior to digestion in a kraft pulping process, a soda pulping process or an alkaline sulfite pulping process. In each case, the lignocellulosic materials are pretreated with hydrogen sulfide under heat and pressure in the presence of an alkaline buffer, such as sodium carbonate, sodium hydrosulfide, calcium oxide, calcium carbonate, kraft green or white liquor, soda green or white liquor, or alkaline sulfite green liquor. The lignocellulosic materials pretreated in this manner are then pulped in the usual manner in a kraft, soda or alkaline sulfite pulping process.

3,520,774

**EPICHLORODYDRIN-POLYETHYLENIMINE WET STRENGTH ADDITIVE FOR PAPER**

Harold H. Roth, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 28, 1967, Ser. No. 671,233

Int. Cl. C08g 23/12, 33/08

U.S. Cl. 162—164

6 Claims

An improved epichlorohydrin-polyethylenimine wet strength additive for paper is prepared by reacting an

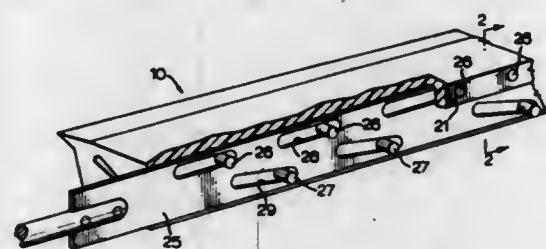


aqueous solution of a polyethylenimine having a viscosity of about 8-40 cps. as a 20 percent aqueous solution at 23° C. with epihalohydrin to yield a water-soluble product containing about 0.8-1.0 mole epihalohydrin per polyethylenimine nitrogen and having a viscosity of about 7-50 cps. as a 25 percent aqueous solution at pH 7.0 and 23° C. The resulting aqueous solution is highly active as a wet strength additive.

### 3,520,775 FOIL STRUCTURE FOR PAPERMAKING MACHINE

Leslie Truxa, 4881 Westhill Ave., Montreal, Quebec, Canada  
Continuation-in-part of application Ser. No. 618,008, Feb. 23, 1967. This application July 16, 1969, Ser. No. 842,296  
Int. Cl. D21f 1/48  
U.S. Cl. 162-352

2 Claims

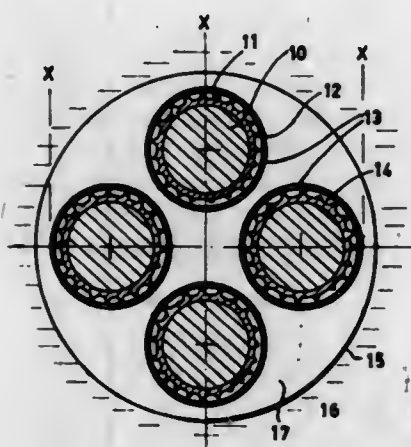


An adjustable foil for extracting water in the wet end of a paper machine incorporates a cam bar connecting the fixed portion of the foil with the other portion moveable relative thereto. The cam bar has inclined cam slots through which extend contact pins from the body of the foil, so that longitudinal movement of the cam bar changes the angle of the foil trailing surface, to control the stripping action of the foil.

### 3,520,776 ASSEMBLY OF FUEL ELEMENTS FOR NUCLEAR REACTORS

Jean Claude Charraut, François Lafontaine, and Serge Orlowski, Ispra, Italy, assignors to European Atomic Energy Community-Euratom, Brussels, Belgium  
Continuation of application Ser. No. 385,194, July 27, 1964. This application Aug. 11, 1966, Ser. No. 571,945  
Claims priority, application Belgium, Oct. 3, 1963, 511,545  
Int. Cl. G21c 15/00, 19/28  
U.S. Cl. 176-51

3 Claims



A pressure tube assembly for nuclear reactor. Instead of having a plurality of fuel pencils or rods enclosed within a single pressure tube as in the prior art, each pencil or rod is enclosed within its own pressure tube.

The assembly is thereafter mounted within a calandria as in the prior art. The rods are preferably sheathed with a low absorption metal formed with small heat-exchange fins. A heat-carrying fluid flows inside each pressure tube and around the rod. A thermal insulating gas is contained inside the calandria. The calandria is immersed in a moderator. In a preferred embodiment, each rod is hollowed out and sheathed internally with a low absorbing metal having fins. A heat-carrying fluid flows inside the hole of the rod.

### 3,520,777 CULTIVATION AND SEPARATION OF HYDRO-CARBON CONSUMING MICRO-ORGANISMS

Jean Antoine Filosa, Bois Colombes, France, assignor to The British Petroleum Company Limited, London, England, a corporation of England  
No Drawing. Filed Mar. 29, 1967, Ser. No. 626,725  
Claims priority, application Great Britain, May 13, 1966, 21,341/66

The portion of the term of the patent subsequent to Aug. 2, 1983, has been disclaimed  
Int. Cl. C12c 11/00; C10g 1/00  
U.S. Cl. 195-28

23 Claims

Cultivation of a micro-organism in the presence of a hydrocarbon feedstock consisting wholly or in part of straight chain hydrocarbons, in the presence of an aqueous nutrient medium and in the presence of a gas containing free oxygen, thereafter maintaining, in a purification stage, said micro-organism with an aqueous nutrient medium and a gas containing free oxygen whereby the hydrocarbon contaminating the micro-organism is reduced in quantity, thereafter subjecting the product containing the micro-organism to a separation stage, thereafter recovering a fraction containing the micro-organism, thereafter subjecting the fraction containing the micro-organism to solvent extraction and thereafter drying the fraction containing the micro-organism obtained from the solvent extraction stage.

### 3,520,778 MICROBIOLOGICAL DEMETHYLATION PROCESS

Paul Bellet, Paris, and Truong Van Thuong, Clichy-sous-Bois, France, assignors to Roussel-UCLAF, Paris, France, a corporation of France  
No Drawing. Filed Nov. 18, 1966, Ser. No. 595,335  
Claims priority, application France, Nov. 25, 1965, 39,771; Jan. 19, 1966, 46,454  
Int. Cl. C12d 13/00  
U.S. Cl. 195-51

5 Claims

The invention relates to a novel process for the preparation of heterocyclic compounds having at least one >NH hydroindole ring and to novel products produced thereby. The invention also relates to novel antifibrillary compositions and to a novel method of preventing fibrillations in warm-blooded animals.

### 3,520,779 SYNTHESIS OF STEROIDS

Seymour D. Levine, North Brunswick, and Saul L. Neldleman, Lawrence Township, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed May 22, 1967, Ser. No. 640,373  
Int. Cl. C07c 167/00  
U.S. Cl. 195-51

4 Claims

This invention relates to a new process for preparing α-halo-keto steroids. These steroids are prepared by interacting the corresponding α-(hydroxymethylene)-keto steroid, or an ether or ester thereof, with a halogenating agent. The halo-keto steroids formed are useful as anabolic agents if of the androstane series, progestational agents if of the 11-unsubstituted pregnane series, and

anti-inflammatory agents if of the 11 oxygenated pregnane series. The compounds of this invention are also useful as emulsifying agents.

### 3,520,780 MAGNESIUM ELECTRODEPOSITION

Eugene Findl, Granada Hills, Calif., Mansoor A. Ahmadi, Wyoming, Ohio, and Kenneth Lui, Fountain Valley, Calif., assignors, by mesne assignments, to Xerox Corporation, a corporation of New York  
No Drawing. Filed May 11, 1967, Ser. No. 637,626  
Int. Cl. C23b 5/22, 5/00  
U.S. Cl. 204-3

8 Claims

The method of electrodepositing a coherent, micro-crystalline layer of magnesium and the bath used in such method. The method and bath initially consist essentially of an alkyl magnesium halide, preferably ethyl magnesium bromide, in the concentration range of about 1 to 3 molar in a solvent consisting essentially of tetrahydrofuran. After starting electrodeposition, an alkyl halide, preferably ethyl bromide, is added at a rate sufficient to maintain a concentration slightly above about 0.001 molar, and the alkyl magnesium halide is added at a rate sufficient to maintain a constant concentration. The method is adaptable in the electroforming of magnesium structures.

### 3,520,781 METHOD FOR LOWERING DARK CONDUCTIVITY OF THIN SEMICONDUCTING FILMS

Benjamin B. Snavely and Franz Trautweller, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Filed Nov. 29, 1967, Ser. No. 686,683  
Int. Cl. C13b 5/00  
U.S. Cl. 204-14

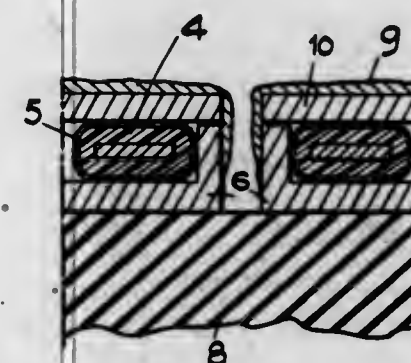
6 Claims

Method for decreasing the dark conductivity of vapor deposited ionic semiconducting films without annealing. The film is electrolytically treated by being immersed in a solution containing the anion of the film. The film itself is used as the anode, and direct current is passed between the film and a cathode.

### 3,520,782 METHOD OF WIRING INTEGRATED MAGNETIC CIRCUITS

Michel Carbonel, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France  
Filed Dec. 28, 1966, Ser. No. 605,329  
Claims priority, application France, Dec. 30, 1965, 44,366  
Int. Cl. C23b 7/00, 5/48  
U.S. Cl. 204-16

2 Claims



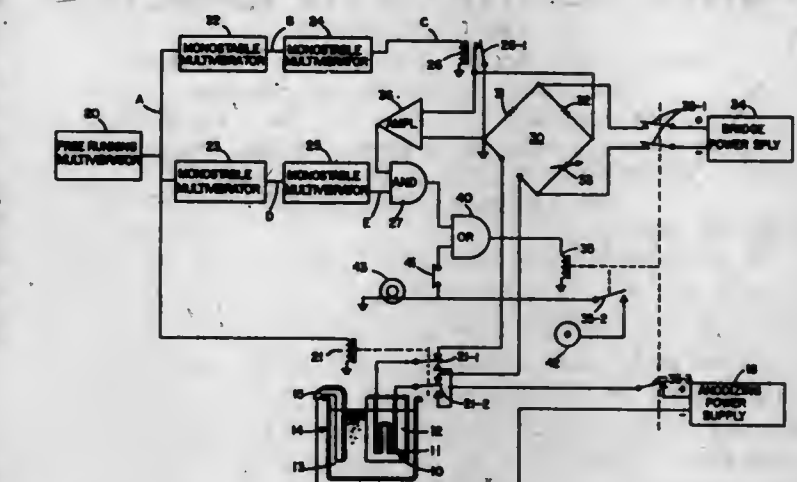
The invention has for an object a method of wiring conductors on magnetic circuits; a foil of metal is deposited on a plate of insulating material; projections and separated lower conductors are formed in said foil by photoengraving. The magnetic circuit is made by cutting a magnetic plate; the plate coated with successive layers

of elastic material. The magnetic circuit is then positioned on said lower conductors. The upper conductors are positioned on said magnetic circuit and on the projections, and then soldered to the projections.

### 3,520,783 METHOD OF ADJUSTING A RESISTOR BY ANODIZING

Fred W. Carroll, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada  
Filed Feb. 10, 1967, Ser. No. 615,180  
Int. Cl. C23b 9/00  
U.S. Cl. 204-23

1 Claim



A circuit which is used to control the final adjustment of thin film resistors through alternate anodizing and measuring of the resistance, that provides a stabilizing period before the measuring interval, in order to allow any parasitic capacitance to charge, so as not to affect the accuracy of the measurement. Such a capacitance is formed across the resistor when immersed in the electrolyte with the anodized layer forming the dielectric between the conductive resistor and the electrolyte.

### 3,520,784 METHOD OF PREPARING A COUPLED-FILM DEVICE

Gene S. Alberts, Essex Junction, Vt., and James M. Brownlow, Crompond, and Kurt R. Grebe, Beacon, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
No Drawing. Filed June 17, 1968, Ser. No. 737,350  
Int. Cl. C23f 17/00; B23p 3/00  
U.S. Cl. 204-38

4 Claims

An electrolytic plating bath for depositing smoothing copper films is disclosed. The bath contains water, a water soluble copper salt, a source of sulfate ions, a source of nitrate ions, tartaric acid, gelatin and a surfactant. A critical limitation of the bath is that the ratio of nitrate ions to sulfate ions is maintained in a range from about 0.30 to about 10.0.

### 3,520,785 ELECTROPLATING GOLD AND THIOMALATE ELECTROLYTE THEREFOR

Robert Duva, 646 Terrace Drive, Paramus, N.J. 07652, and John P. Raleigh, 218 Pulaski St., Dunellen, N.J. 08812  
No Drawing. Continuation-in-part of application Ser. No. 584,679, Oct. 6, 1966. This application Apr. 14, 1969, Ser. No. 816,067  
Int. Cl. C23b 5/42, 5/28  
U.S. Cl. 204-43

4 Claims

Bright gold electrodeposits are obtained from an aqueous alkaline bath containing gold, added as alkali metal gold thiomalate, and a minute proportion of a soluble arsenic compound.



3,520,786

**PREPARATION OF CYCLOALKANES**

Mahmoud R. Rifa, Kendall Park, N.J., assignor to Union Carbide Corporation, a corporation of New York  
No Drawing. Filed Dec. 29, 1966, Ser. No. 605,595  
Int. Cl. B01k 3/00

U.S. Cl. 204—59 11 Claims

Cyclopropane, cyclobutane and derivatives thereof are readily prepared in high yields by the electrolytic cyclization of, respectively, 1,3-dihalopropane and 1,4-dihalobutane compositions by a D.C. voltage of at least 1.5 volts. Higher cycloalkanes can be similarly prepared.

3,520,787

**METHOD FOR ELECTROLYTIC PRODUCTION OF CHLORINE**

Ernst Holger Bertil Nystroem, 11 Vasavaegen  
Djursholm 2, Stockholm, Sweden

No Drawing. Filed Oct. 19, 1965, Ser. No. 498,152  
Claims priority, application Great Britain, Dec. 3, 1964, 49,300/64; Dec. 4, 1964, 49,364/64  
Int. Cl. B01k 1/00; C01b 7/02

U.S. Cl. 204—94 4 Claims

A method for the electrolytic production of chlorine carried out at a pressure sufficiently low as to permit the formed chlorine to evaporate rather than enter into side-reaction with other ingredients in the cell. An electrolytic cell having means for reducing the pressure within the electrolyte-containing reservoir, means for controlling the addition of electrolytes to the reservoir, and outlet means for extracting the products of electrolysis, such as evaporated chlorine.

3,520,788

**PROCESS FOR THE EXTENSION OF THE EFFECTIVE SURFACE OF ALUMINIUM ELECTRODES OR FOILS FOR ELECTROLYTIC CAPACITORS**

Hans Werner Paehr, 20 Niddastr.,  
638 Bad Homburg, Germany

Filed Jan. 13, 1967, Ser. No. 609,231  
Claims priority, application Germany, Jan. 21, 1966, P 38,594  
Int. Cl. C23b 3/04

U.S. Cl. 204—141 9 Claims

A process for increasing the effective surface of aluminium electrodes or foils by electrolytic etching, comprising the steps of supplying an etching current by applying a DC voltage of from about 5 to 10 volts with positive polarity to at least one aluminium electrode to be electrolytically etched and a negative polarity to at least one counter electrode lying in a halogen salt bath, and adding onto said supplied DC voltage, pulses having an opposite polarity, and having a half-width of approximately 10% of their period, and their flank steepness being a maximum of about 15% of the half-width of the pulses and having a frequency of about from 10–100 c.p.s. and such an amplitude that the aluminium electrode assumes a potential of about  $-0.8$  to  $-1.8$  volts, the etching current being completely interrupted for a short period of time.

3,520,789

**ELECTROPAINTING**

Terence B. Lemmon, Coventry, England, assignor to Courtaulds Limited, London, England, a British company

Filed July 19, 1967, Ser. No. 654,661  
Claims priority, application Great Britain, July 20, 1966, 32,578/66  
Int. Cl. B01k 5/02; C23b 13/00

U.S. Cl. 204—181 4 Claims

Electropainting with an aqueous paint of which the polyanionic binder is solid at room temperature, whilst the paint is below the "coalescence temperature" and allowing the paint film on the anode to attain the coalescence temperature.

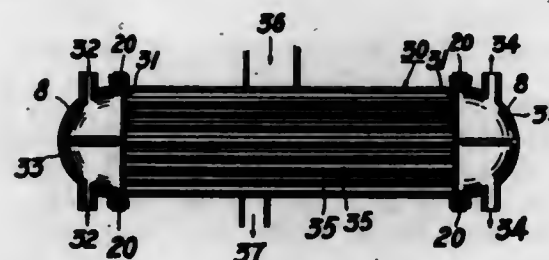
3,520,790

**DEVICE FOR PREVENTING MARINE CREATURES FROM STICKING**

Mutsuro Araki and Sotojiro Hamada, Yokohama-shi, Japan, assignors to Nippon Kokan Kabushiki Kaisha, Tokyo, Japan

Filed Aug. 2, 1966, Ser. No. 569,667  
Int. Cl. C23f 13/00; F28f 13/00

U.S. Cl. 204—196 1 Claim



A device for preventing clinging of marine creatures to the inner surface of a sea water conduit. An electrode assembly is situated in the conduit adjacent to the surface thereof to which marine creatures are not to cling. An electrical circuit coacts with this electrode assembly to generate from ions which dissolve in the sea water and inhibit the clinging of the marine creatures to the surface of the conduit, and a suitable mounting structure is provided for mounting the electrode assembly on the inner surface of the sea water conduit.

3,520,791

**PROTECTIVE CIRCUIT FOR ELECTROLYTIC MACHINING APPARATUS**

Jean Pfau, Geneva, Helaz Rhyner, Meyrin-Geneva, and Georges Marendaz, Geneva, Switzerland, assignors to Anocut Engineering Company, Elk Grove Village, Ill., a corporation of Illinois

Filed Mar. 1, 1966, Ser. No. 530,997  
Claims priority, application Switzerland, Mar. 4, 1965, 3,043/65  
Int. Cl. B23p 1/00

U.S. Cl. 204—224 4 Claims

This invention relates to an electrolytic machining apparatus having an electrode to machine a workpiece with means for relatively moving the workpiece and the electrode and with means for supplying electrolyte under pressure to the work gap between the electrode and the workpiece.

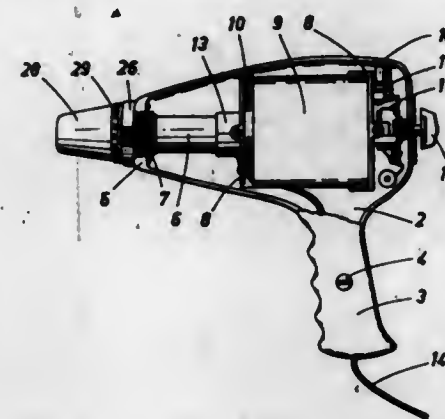
3,520,792

**APPARATUS FOR THE PRODUCTION OF METAL COATINGS**

Johann Kerschgens, Scharstein 63, Austria

Filed June 23, 1966, Ser. No. 559,845  
Claims priority, application Austria, July 12, 1965, A 6,341/65  
Int. Cl. C23b 5/76; B01k 3/00

U.S. Cl. 204—224 6 Claims



A hand instrument for electrodeposition of selected metals comprises a cartridge which may be interchange-

ably mounted in a housing held by hand. A plurality of such cartridges are provided, each with an electrolyte of the selected metal. Each cartridge encloses an electric conductor connecting a protruding electrolyte applicator directly to the power supply circuit of the instrument, and electrolyte temperature control means.

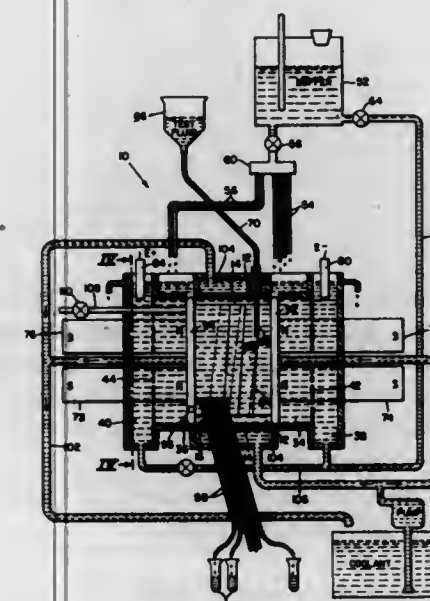
3,520,793

**ELECTROPHORETIC SEPARATOR**

Alexander Kolin, Los Angeles, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 29, 1967, Ser. No. 671,894  
Int. Cl. B01k 5/00

U.S. Cl. 204—299 6 Claims



The description discloses an improvement for an electrophoretic separator of the type wherein particles dissolved or suspended in a fluid are separated by subjecting the fluid to a combined action of a longitudinal electric field traversed by a perpendicular magnetic field within a horizontally extending migration column. The migration column is an endless fluid belt bounded on the inside by a soft iron core which is spaced from a surrounding jacket which forms the outer boundary of the fluid belt. On opposite ends of the fluid belt are disposed buffer chambers which are capable of supplying a buffer medium for carrying the particles which are to be separated. This separator, which is fully described in "Proceedings of the National Academy of Sciences," vol. 46 at page 509, utilizes a circular migration column as seen in cross section. The present improvement employs a noncircular migration column, shaped like the belt of a belt sander, which overcomes particle sedimentation problems.

3,520,794

**SOLVENT EXTRACTION METHOD**

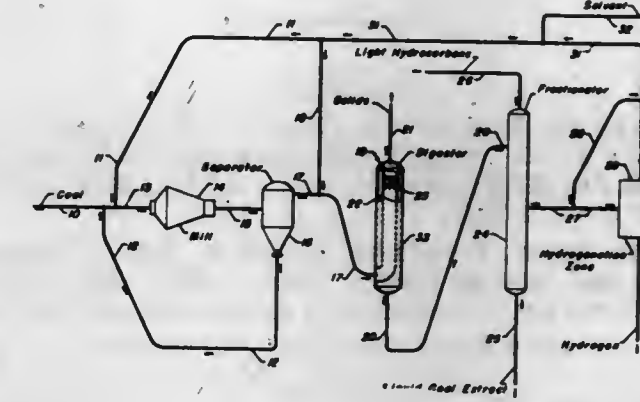
John G. Gatsis, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Mar. 29, 1968, Ser. No. 723,341  
Int. Cl. C10g 1/00

U.S. Cl. 208—8 5 Claims

Method and apparatus for liquefying coal via solvent extraction. Coal and solvent are introduced into the tubes via a vertical shell and tube extraction zone. The tube is perforated in such a manner that coal extracted may be

removed through the perforations into the shell side with the remaining solid material being removed from the



tubes. Hydrocarbons useful as fuel and/or chemicals may be obtained from the liquid coal extract.

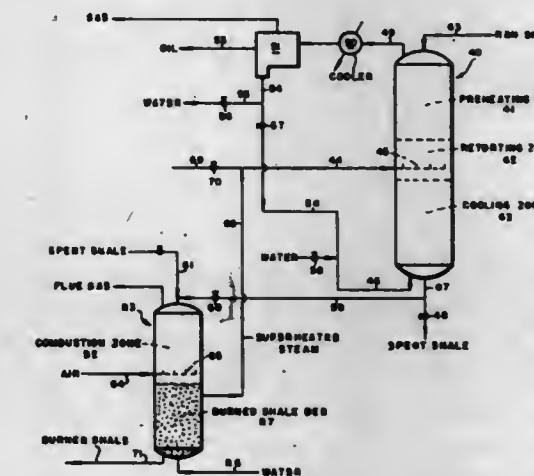
3,520,795

**RETORTING OF OIL SHALE**

Bernard L. Schulman, Livingston, and Herbert P. Dengler, Fair Haven, N.J., assignors to Esso Research and Engineering Company

Filed Dec. 29, 1966, Ser. No. 605,890  
Int. Cl. C10g 1/00

U.S. Cl. 208—11 10 Claims



In the retorting of crushed oil shale in a retorting system having in a single vessel preheating, retorting, and cooling zones and the crushed shale flows serially through, a temperature below carbonate decomposition and below shale oil cracking temperature is maintained by introducing vaporous water into said system adjacent or into the retorting zone and liquid water into the cooling zone, whereby introduction of cooling gas into the cooling zone is reduced, oil and gas yields are improved and gas heating value is enhanced.

3,520,796

**MAKING LUBRICATING OILS BY HYDROTREATING AND DEWAXING**

Harry C. Murphy, Jr., Apollo, James R. Murphy, Springfield, and Harry C. Stauffer, Cheswick, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 533,450, Mar. 11, 1966. This application Aug. 21, 1968, Ser. No. 754,448  
Int. Cl. C10g 23/02, 31/14

U.S. Cl. 208—33 6 Claims

A process for producing a finished lubricating oil of enhanced quality, e.g. reduced pour point, from lubricat-



ing oil base stocks comprising substantially components boiling below 800° F. and containing more than 0.75 percent by weight sulfur by subjecting such base stock to hydrofinishing and then dewaxing the hydrofinished base stock.

3,520,797

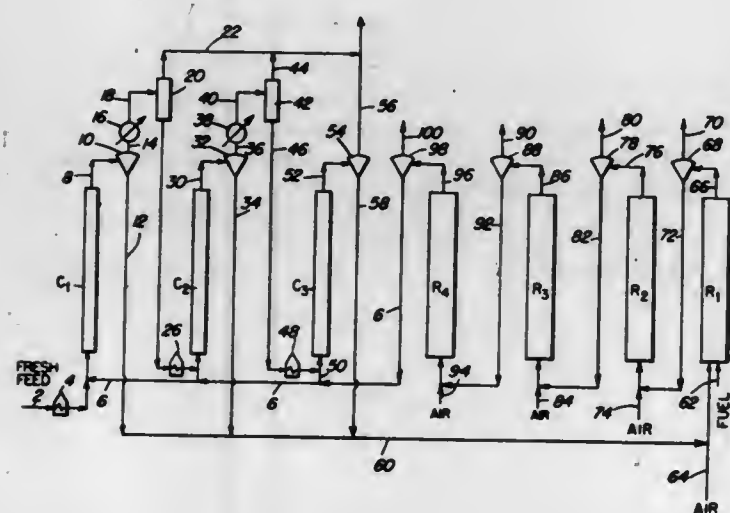
# **CATALYST FORWARD FLOW MULTIPLE PASS CRACKING - REGENERATION ARRANGEMENT FOR PROCESSING GAS OILS WITH HIGH ACTIVITY CATALYST**

John W. Payne, Woodbury, Robert A. Sallor, Cinnaminson, and Jerome Farber, Cherry Hill, N.J., assignors to Mobil Oil Corporation, a corporation of New York  
Filed Jan. 9, 1967, Ser. No. 608,080

Int. Cl. C10g 37/02

U.S. Cl. 208-72

10 Claims



Cracking of gas oil and high boiling product thereof to gasoline is accomplished with fresh regenerated catalyst in a plurality of separate catalyst forward flow contact zones arranged for flow of insufficiently converted hydrocarbon product only sequentially through the cracking contact zone, gasoline product is recovered from the hydrocarbon effluent of each contact zone, catalyst recovered from the separate cracking contact zones is passed as a combined stream sequentially through a plurality of separate contact zones comprising at least one catalyst heating zone and catalyst regeneration zones in contact with an oxygen atmosphere.

3,520,798

# **HYDROCRACKING PROCESS WITH CONTROLLED ADDITION OF SULFUR**

Jonas Dedinas, Pittsburgh, and William C. Starnes, Cabot, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware  
No Drawing. Continuation of application Ser. No. 132,550, Aug. 21, 1961. This application Aug. 14, 1964, Ser. No. 389,783

Int. Cl. C10g 13/02, 23/00

U.S. Cl. 208-89

5 Claims

A hydrocracking process for the conversion of nitrogen-free heavier feed stocks to lower boiling materials utilizing a catalyst comprising a Group VIII noble metal on an acidic support and adding to the hydrocracking zone a controlled amount of at least one sulfur compound which is soluble in said feed stock. Hydrorefining may precede the hydrocracking step.

# **3,520,799 PURIFYING HYDROGEN SEPARATED FROM A CATALYTIC REFORMING EFFLUENT**

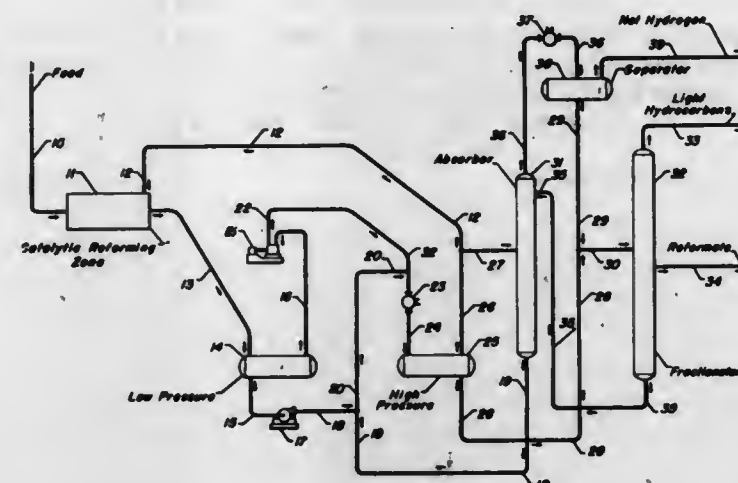
James T. Forbes, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Illinois

Filed Sept. 30, 1968, Ser. No. 763,578

Int. Cl. C10g 35/04, 35/08

U.S. Cl. 208-101

6 Claims



Process for the catalytic reforming of hydrocarbons in the presence of hydrogen, preferably, to produce high quality gasoline boiling range products. Relatively impure hydrogen for recycle purposes and for other uses is provided by compressing and contacting this hydrogen with a portion of the liquid phase reformed product. Processing technique permits maximum recovery of normally gaseous hydrocarbons as well as reformate.

# **3,520,800 PURIFYING HYDROGEN GAS EFFLUENT FROM A CATALYTIC REFORMING PROCESS**

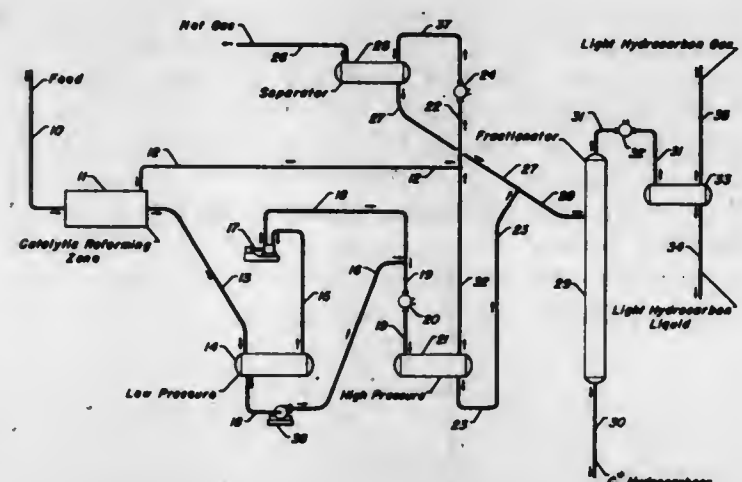
James T. Forbes, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Sept. 30, 1968, Ser. No. 763,579

Int. Cl. C10g 5/04, 35/18

U.S. Cl. 208-101

5 Claims



Process for the catalytic reforming of hydrocarbons in the presence of hydrogen, preferably, to produce high quality gasoline boiling range products. Relatively impure hydrogen for recycle purposes and for other uses is provided by compressing and contacting this hydrogen with a portion of the liquid phase reformed product. Processing technique permits maximum recovery of normally gaseous hydrocarbons as well as reformate.

## **DESIGNS**

JULY 14, 1970

218,003

# **PANTY GIRDLE**

Harry Steiner, Belle Harbor, N.Y., assignor to Kops Bros. Inc., New York, N.Y., a corporation of New York

Filed May 19, 1969, Ser. No. 17,217

Term of patent 14 years

Int. Cl. D2-02

U.S. Cl. D2-4



218,004

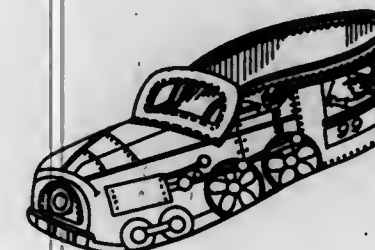
# **SLIPPER OR SIMILAR ARTICLE**

Martin Sherman, Far Rockaway, N.Y.  
(35 Claver Place, Brooklyn, N.Y. 11238)  
Original design application Mar. 20, 1967, Ser. No. 6,302, now Patent No. 211,556, dated July 2, 1968. Divided and this application June 20, 1968, Ser. No. 17,145

Term of patent 7 years

Int. Cl. D2-04

U.S. Cl. D2-279



218,005

# **BELT-ATTACHED PURSE**

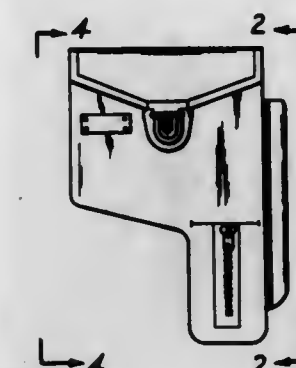
William F. Woolfolk, 3535 Lincoln Ave., Altadena, Calif. 91001

Original design application Apr. 15, 1968, Ser. No. 11,456, now Patent No. 214,984, dated Aug. 19, 1969. Divided and this application Mar. 10, 1969, Ser. No. 16,146

Term of patent 14 years

Int. Cl. D2-08

U.S. Cl. D2-400



218,006

# **BELT ATTACHED PURSE**

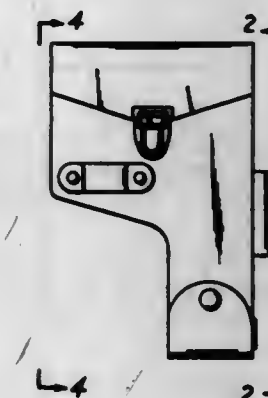
William F. Woolfolk, 3535 Lincoln Ave., Altadena, Calif. 91001

Filed Apr. 2, 1969, Ser. No. 16,554

Term of patent 14 years

Int. Cl. D2-08

U.S. Cl. D2-400



218,007

# **BUCKLE**

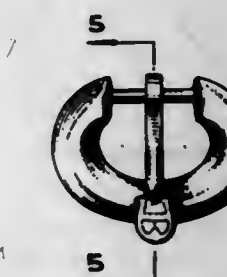
Etienne Aigner, New York, N.Y., assignor to Villager Industries, Inc., a corporation of Delaware

Filed Sept. 18, 1968, Ser. No. 13,600

Term of patent 14 years

Int. Cl. D2-08

U.S. Cl. D2-427



218,008

# **KNIFE SHARPENER**

Hans Joachim Hugo Julkenbeck, Wijneterp, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 3, 1968, Ser. No. 14,755

Claims priority, application Switzerland June 13, 1968

Term of patent 14 years

Int. Cl. D8-02

U.S. Cl. D8-63





218,009

**INSTRUMENT ADJUSTMENT KNOB**

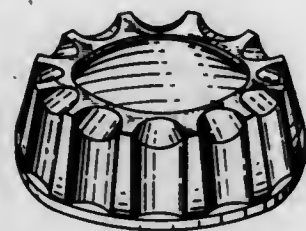
Irwin A. Bosack, Buffalo, N.Y., assignor to American Optical Corporation, Southbridge, Mass., a corporation of Delaware

Filed Jan. 13, 1969, Ser. No. 15,317

Term of patent  $3\frac{1}{2}$  years

Int. Cl. D8—03

U.S. Cl. D8—145



218,010

**ENTRANCE HANDLE OR THE LIKE**

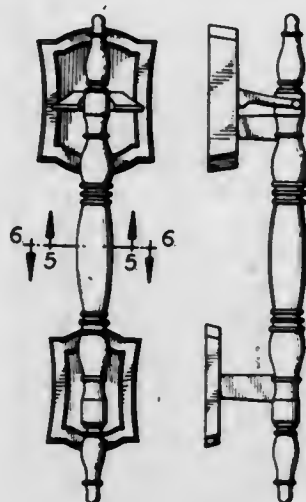
Robert K. Unter, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., Peoria, Ill., a corporation of Delaware

Filed Jan. 2, 1969, Ser. No. 15,182

Term of patent 14 years

Int. Cl. D8—03

U.S. Cl. D8—166



218,011

**ENTRANCE HANDLE OR THE LIKE**

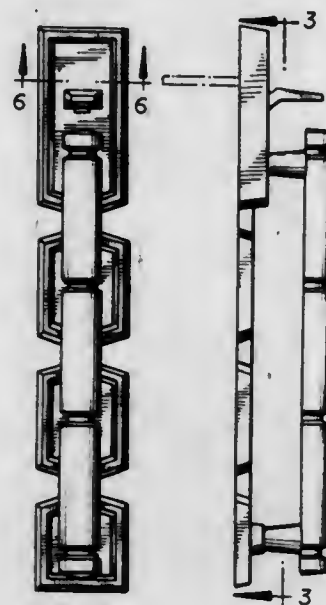
George R. Sonnenleiter, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., Peoria, Ill., a corporation of Delaware

Filed Jan. 31, 1969, Ser. No. 15,576

Term of patent 14 years

Int. Cl. D8—03

U.S. Cl. D8—167



218,012

**HINGE OR THE LIKE**

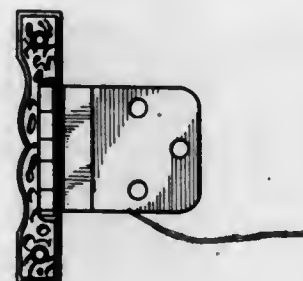
Bernie Bill Baker, Lawrence, Kans., assignor to Keystone Consolidated Industries, Inc., Peoria, Ill., a corporation of Delaware

Filed Nov. 27, 1968, Ser. No. 14,706

Term of patent 14 years

Int. Cl. D8—03

U.S. Cl. D8—195



218,013

**HINGE**

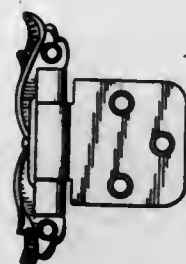
Valentin Pawlow, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., Peoria, Ill., a corporation of Delaware

Filed Jan. 2, 1969, Ser. No. 15,174

Term of patent 14 years

Int. Cl. D8—03

U.S. Cl. D8—195



218,014

**HINGE**

Valentin Pawlow, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., Peoria, Ill., a corporation of Delaware

Filed Dec. 16, 1968, Ser. No. 14,993

Term of patent 14 years

U.S. Cl. D8—196

Int. Cl. D8—03



218,015

**BRACKET FOR TANK TYPE VACUUM CLEANERS OR SIMILAR ARTICLE**

Thomas R. Symington, 333 E. 53rd St., New York, N.Y. 10022

Filed Feb. 20, 1969, Ser. No. 15,858

Term of patent 7 years

Int. Cl. D8—03

U.S. Cl. D8—233



218,016

**WALL BRACKET FOR ARTICLE-SUPPORTING ARMS**

Herbert C. Hogrebe, St. Louis, Mo., assignor to Dazor Manufacturing Corp., St. Louis, Mo., a corporation of Delaware

Filed Apr. 7, 1969, Ser. No. 16,591

Term of patent 14 years

Int. Cl. D8—03

U.S. Cl. D8—233



218,017

**POSITIVE TORQUE BOLT**

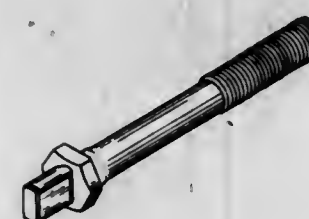
Ernest J. Brown, Birmingham, Mich., assignor to MSP Industries Corporation, Macomb, Mich., a corporation of Delaware

Filed Aug. 28, 1969, Ser. No. 18,900

Term of patent 14 years

Int. Cl. D8—04

U.S. Cl. D8—267

218,018  
**BOTTLE**

Marcel Lattraye, Vittel, Vosges, France

Filed Apr. 23, 1969, Ser. No. 16,875

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—61

218,019  
**BOTTLE**

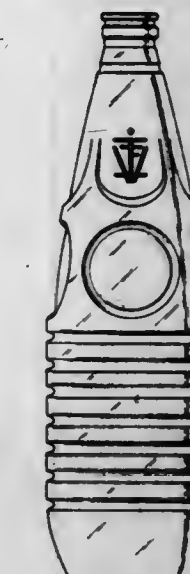
Marcel Lattraye, Vittel, Vosges, France

Filed Apr. 23, 1969, Ser. No. 16,856

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—73

218,020  
**BOTTLE**

Roger P. Musson, King County, Wash., assignor to Tree Top Incorporated, Selah, Wash., a corporation of Washington

Filed Jan. 31, 1969, Ser. No. 15,579

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—92





218,021

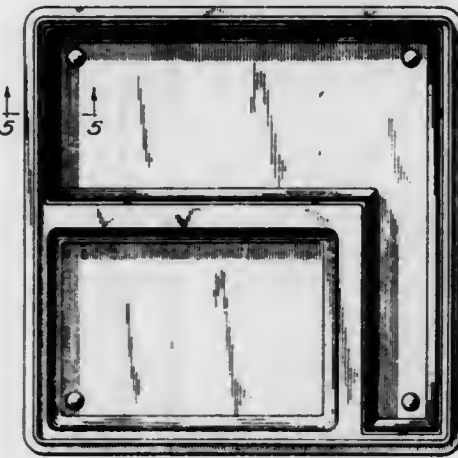
**COMBINED SNACK TRAY AND COVER**  
James L. Wentzel, Cottage Grove, Minn., assignor to Plastics, Inc., St. Paul, Minn., a corporation of Delaware

Filed Mar. 12, 1969, Ser. No. 16,195

Term of patent 14 years

Int. Cl. D9-04

U.S. Cl. D9-185



218,023

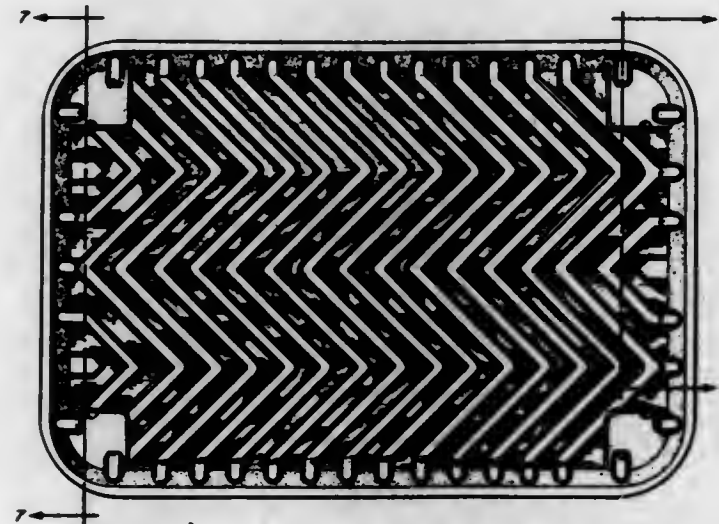
**FOOD PACKAGING TRAY OR THE LIKE**  
William Joseph Clayton, Fairport, N.Y., assignor to Mobil Oil Corporation, a corporation of New York

Filed Sept. 11, 1968, Ser. No. 13,483

Term of patent 14 years

Int. Cl. D9-04

U.S. Cl. D9-219



218,022

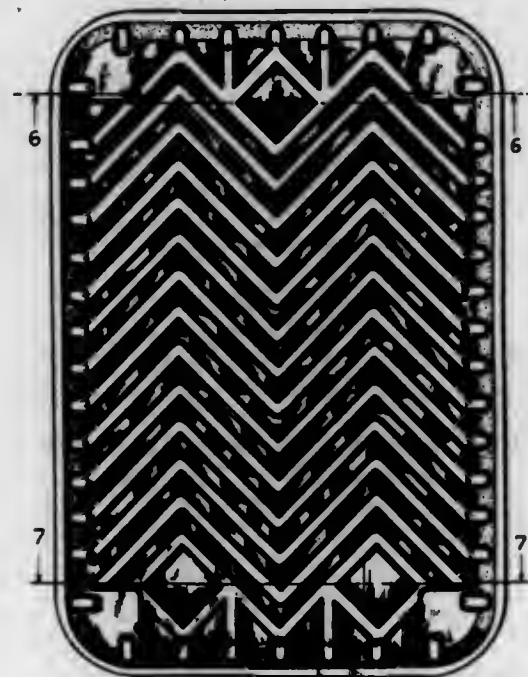
**FOOD PACKAGING TRAY OR THE LIKE**  
William Joseph Clayton, Fairport, N.Y., assignor to Mobil Oil Corporation, a corporation of New York

Filed Sept. 11, 1968, Ser. No. 13,482

Term of patent 14 years

Int. Cl. D9-04

U.S. Cl. D9-219



218,024

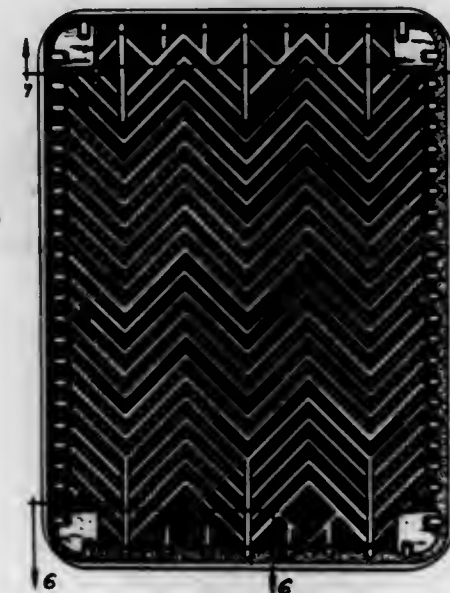
**FOOD PACKAGING TRAY OR THE LIKE**  
William Joseph Clayton, Fairport, N.Y., assignor to Mobil Oil Corporation, a corporation of New York

Filed Sept. 11, 1968, Ser. No. 13,497

Term of patent 14 years

Int. Cl. D9-04

U.S. Cl. D9-219



218,025

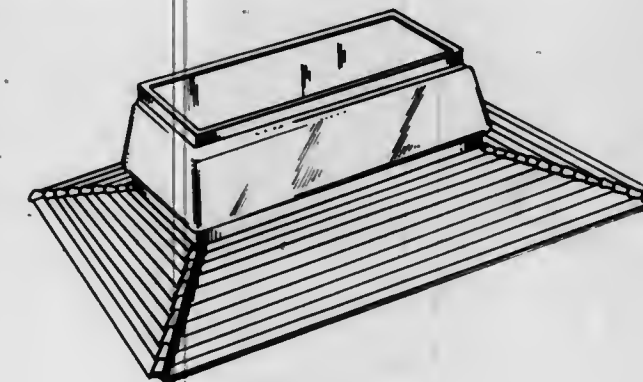
**ROOF FOR A BUILDING**  
Henry E. Stalvey, 948 Vistavia Circle, Decatur, Ga. 30033; Thomas G. Hucks, 211 Robin Lane, Marietta, Ga. 30060; and Carlos M. Suarez, 2650 Carolyn Drive, Smyrna, Ga. 30080

Filed Jan. 23, 1968, Ser. No. 10,280

Term of patent 14 years

Int. Cl. D25-01

U.S. Cl. D13-1



218,026

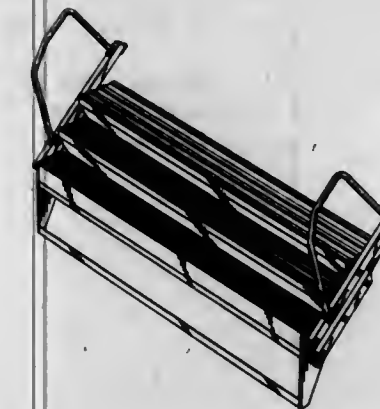
**SELF-LEVELLING RETRACTABLE STEPS**  
Jack Handley, 22 W. Row, North Kensington, London W. 10, England

Filed Jan. 28, 1969, Ser. No. 15,534

Term of patent 14 years

Int. Cl. D25-01

U.S. Cl. D13-7



218,027

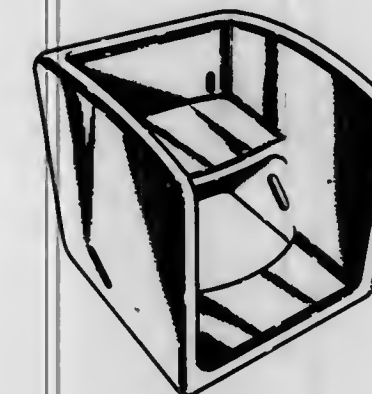
**CHILD'S CONVERTIBLE CHAIR**  
Robert C. Obermeyer, Allen County, Ohio, assignor to The Delphos Bending Company, Delphos, Ohio, a corporation of Ohio

Filed June 30, 1969, Ser. No. 17,954

Term of patent 3 1/2 years

Int. Cl. D6-01

U.S. Cl. D15-1



218,028

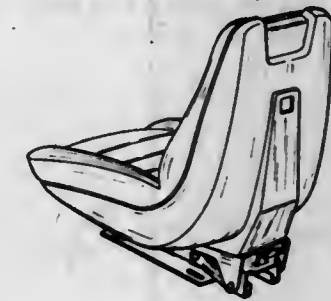
**VEHICLE SEAT**  
Thomas E. Lohr, Warren, Mich., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Apr. 18, 1969, Ser. No. 16,814

Term of patent 14 years

Int. Cl. D6-01

U.S. Cl. D15-8



218,029

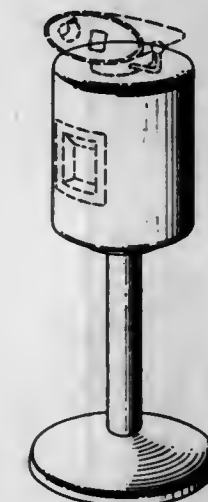
**ATOMIC IRRADIATOR HOUSING**  
Milton Packin, Livingston, and Bernard Seld, Cedar Grove, N.J., assignors to Radiation Machinery Corporation, a corporation of New Jersey

Filed Jan. 7, 1969, Ser. No. 15,236

Term of patent 14 years

Int. Cl. D24-99

U.S. Cl. D16-2



218,030

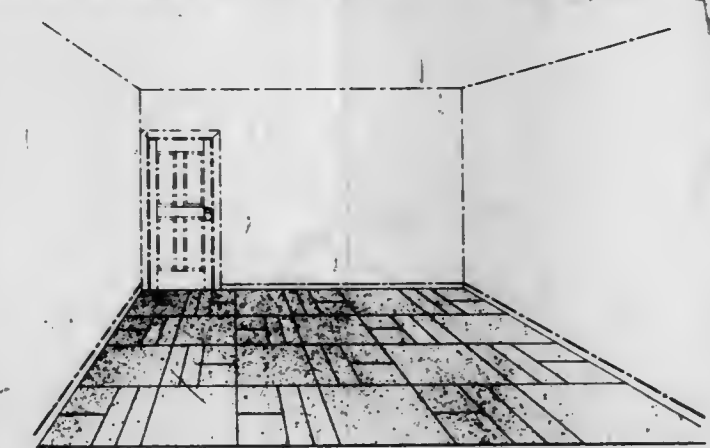
**ARCHITECTURAL SURFACE COVERING**  
John S. Ford, St. Louis, Mo., assignor to Monsanto Co., St. Louis, Mo.

Filed Apr. 12, 1968, Ser. No. 11,446

Term of patent 14 years

Int. Cl. D25-01

U.S. Cl. D18-2





218,031

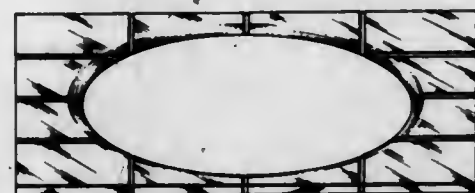
**CERAMIC TILE TRIM FOR A LAVATORY  
BASIN, OR THE LIKE**

Joseph Stephen Wheeler, Jr., Anaheim, Calif. (% Huntington Tile, Inc., 9223 Bolsa Ave., Westminster, Calif. 92683)

Original design application Dec. 29, 1966, Ser. No. 5,222.  
Divided and this application Oct. 28, 1968, Ser. No. 14,204

Term of patent 14 years  
Int. Cl. D25-01

U.S. Cl. D18-2



218,032

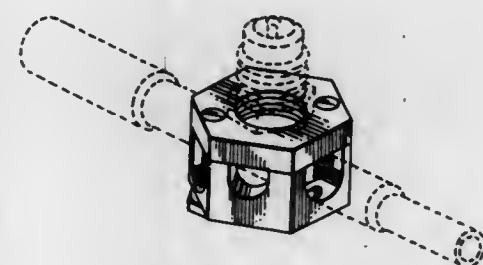
**SERVICE VALVE LINE CLAMP**

John W. Mullins, P.O. Box 20524,  
Oklahoma City, Okla. 73120

Filed Dec. 26, 1968, Ser. No. 15,123

Term of patent 14 years  
Int. Cl. D23-01

U.S. Cl. D23-19



218,033

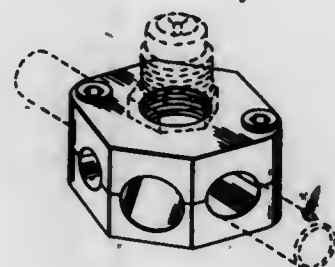
**SERVICE VALVE LINE CLAMP**

John W. Mullins, P.O. Box 20524,  
Oklahoma City, Okla. 73120

Filed Aug. 22, 1969, Ser. No. 18,820

Term of patent 14 years  
Int. Cl. D23-01

U.S. Cl. D23-19



218,034

**BATHTUB SPOUT**

Paul A. Mongerson, Elyria, and Joseph E. Ellison,  
Amherst, Ohio, assignors to Standard Screw Com-  
pany, Hartford, Conn., a corporation of Delaware

Filed July 18, 1969, Ser. No. 18,278

Term of patent 14 years

Int. Cl. D23-01

U.S. Cl. D23-32



218,035

**COMBINATION FLUSH VALVE AND CONTROL  
VALVE**

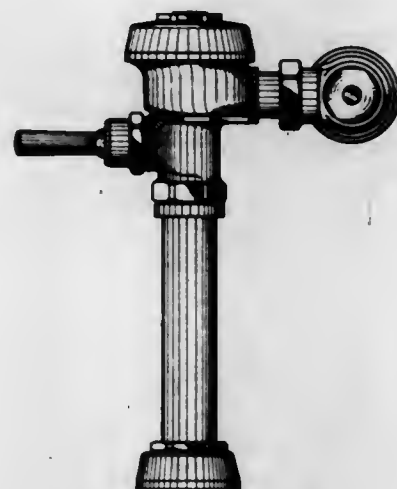
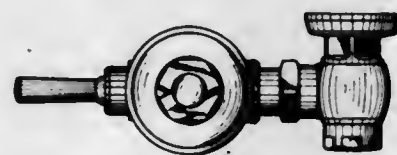
James A. Sloan, River Forest, and Axel B. Nelson, Mount  
Prospect, Ill., assignors to Sloan Valve Company, a  
corporation of Illinois

Filed May 23, 1969, Ser. No. 17,304

Term of patent 14 years

Int. Cl. D23-01

U.S. Cl. D23-38



218,036

**WATER SEPARATOR FOR AIR HANDLING  
SYSTEMS**

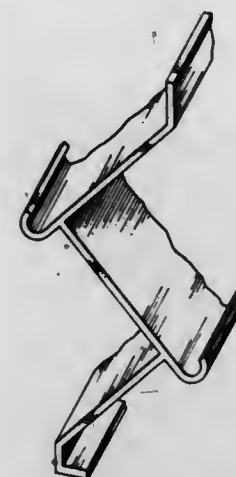
Ludwig A. Schirm, Huntingdon Valley, Pa., assignor to  
Harold E. Sweeney Corp., Philadelphia, Pa., a corpo-  
ration of Pennsylvania

Filed Feb. 5, 1969, Ser. No. 15,641

Term of patent 14 years

Int. Cl. D23-04; D25-03

U.S. Cl. D23-163



218,037

**TEACHING MACHINE IN THE FORM OF A  
STUDENT RESPONSE BOARD**

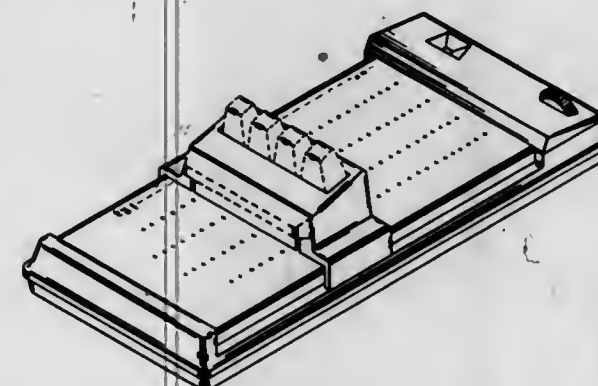
Leonard N. Albrecht, Mill Valley, Calif., assignor to  
Dymedia, Inc., Palo Alto, Calif., a corporation of  
California

Filed Oct. 31, 1968, Ser. No. 14,257

Term of patent 14 years

Int. Cl. D19-08

U.S. Cl. D25-1



218,038

**SHIELD FOR ELECTRICAL PLUG PRONGS**

James L. Husebo, 5132 Evans, Omaha, Nebr. 68104

Filed Apr. 15, 1968, Ser. No. 11,464

Term of patent 14 years

Int. Cl. D13-99

U.S. Cl. D26-1



218,039

**COMBINED ADHESIVE MAGNETIC-ELECTRIC  
TAPE AND POWER SOURCE THEREFOR**

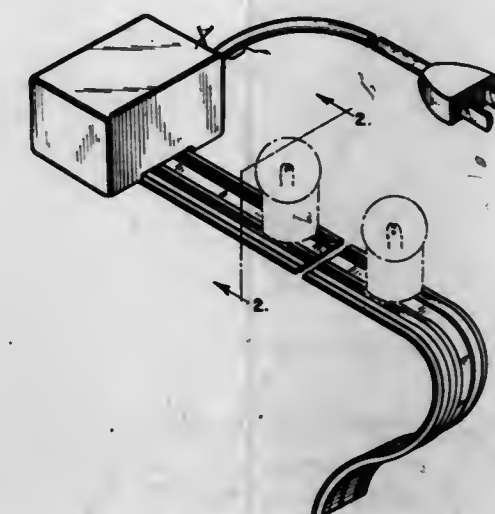
St. Barth Alaska, 3811 S. Scoville Ave.,  
Berwyn, Ill. 60402

Filed May 19, 1969, Ser. No. 17,218

Term of patent 14 years

Int. Cl. D13-03

U.S. Cl. D26-1



218,040

**ELECTRICAL CONNECTOR**

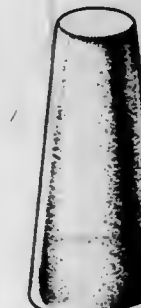
James W. M. Bee, Toronto, Ontario, Canada, assignor to  
Marr Electric Limited, Cooksville, Ontario, Canada

Filed June 4, 1969, Ser. No. 17,520

Term of patent 14 years

Int. Cl. D13-99

U.S. Cl. D26-1



218,041

**COMPUTER KEYBOARD INPUT CONSOLE**

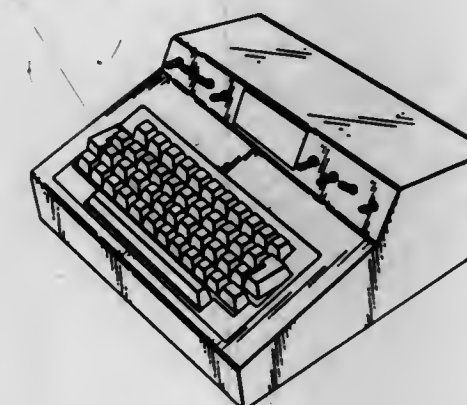
Jeremy Seley Connolly, New York, N.Y., and Donald  
Louis Smith, Maywood, N.J., assignors to Realtronics,  
Inc., a corporation of New Jersey

Filed Apr. 24, 1969, Ser. No. 16,889

Term of patent 3 1/2 years

Int. Cl. D14-02

U.S. Cl. D26-5





218,042

**ELECTRIC INCANDESCENT LAMP**

William L. Brundige, West Caldwell, N.J., assignor to Westinghouse Electric Corporation, a corporation of Pennsylvania

Filed Mar. 17, 1969, Ser. No. 16,283

Term of patent 14 years

Int. Cl. D26—01

U.S. Cl. D26—8



218,043

**TRANSMITTER-RECEIVER CRADLE**

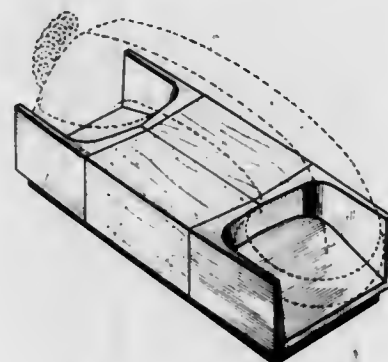
Fred C. Bolick, Jr., Atlanta, Ga., assignor to Lanier Electronic Laboratory, Inc., Atlanta, Ga., a corporation of Georgia

Filed Apr. 16, 1969, Ser. No. 16,767

Term of patent 14 years

Int. Cl. D14—03

U.S. Cl. D26—14



218,044

**ANIMAL CAGE COVER**

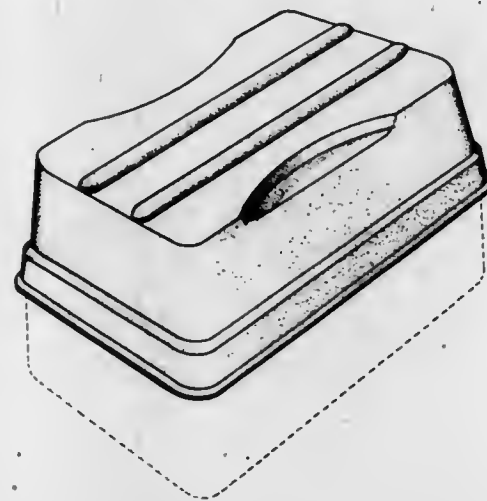
Charles A. Lee and Frank D. Sorrells, Knoxville, Tenn., assignors to Appleton Wire Works Corporation, Appleton, Wis., a corporation of Wisconsin

Filed July 1, 1969, Ser. No. 18,001

Term of patent 14 years

Int. Cl. D30—01

U.S. Cl. D30—1



218,045

**ANIMAL CAGE COVER**

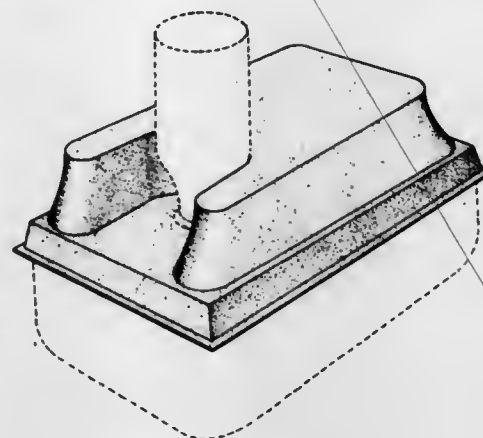
Charles A. Lee, and Frank D. Sorrells, Knoxville, Tenn., assignors to Appleton Wire Works Corporation, Appleton, Wis., a corporation of Wisconsin

Filed July 2, 1969, Ser. No. 18,014

Term of patent 14 years

Int. Cl. D30—01

U.S. Cl. D30—1



218,046

**ANIMAL CAGE COVER**

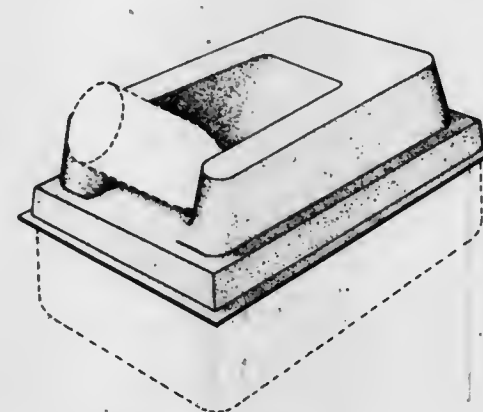
Charles A. Lee and Frank D. Sorrells, Knoxville, Tenn., assignors, by mesne assignments, to Appleton Wire Works Corporation, Appleton, Wis., a corporation of Wisconsin

Filed July 2, 1969, Ser. No. 18,021

Term of patent 14 years

Int. Cl. D30—01

U.S. Cl. D30—1



218,047

**COMBINED COFFEE TABLE AND AQUARIUM**

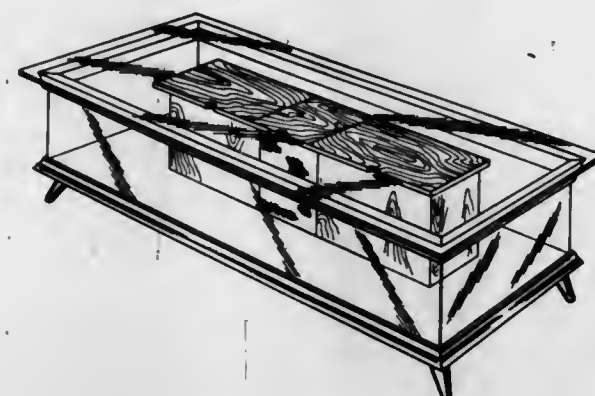
Richard Lee Schwach, 1620 Eagle Lane, Mound, Minn. 55364, and William E. Schwach, 260 W. Knoll Drive, Rosemount, Minn. 55068

Filed Mar. 26, 1969, Ser. No. 16,455

Term of patent 14 years

Int. Cl. D30—01; D6—01

U.S. Cl. D30—11



218,048

**AQUARIUM WORM FEEDER**

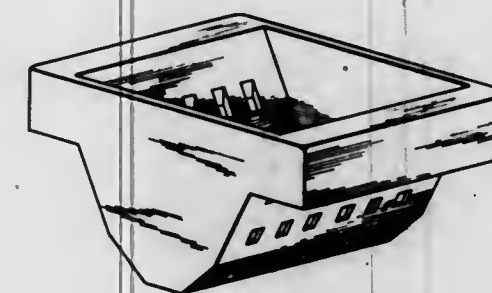
David D. Lovitz, Short Hills, N.J., assignor to Sternco Industries, Inc., Harrison, N.J., a corporation of New Jersey

Filed Mar. 6, 1969, Ser. No. 16,077

Term of patent 14 years

Int. Cl. D30—02

U.S. Cl. D30—12



218,049

**PANEL FOR A CABINET DOOR**

Herman W. Bernard, 304 Edgedale Drive, High Point, N.C. 27262

Filed Nov. 19, 1968, Ser. No. 14,538

Term of patent 3½ years

Int. Cl. D6—01

U.S. Cl. D33—1



218,050

**INSTRUCTION CUBICLE**

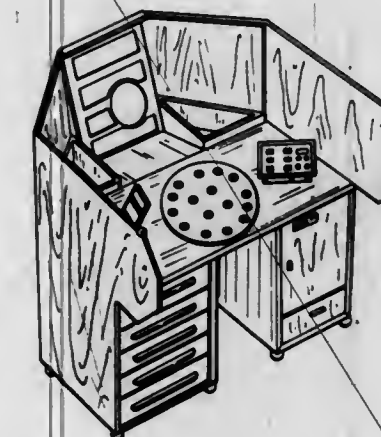
Lawrence H. Power, 710 Leona Drive, Ann Arbor, Mich. 48103

Filed May 26, 1969, Ser. No. 17,338

Term of patent 14 years

Int. Cl. D6—01

U.S. Cl. D33—7



218,051

**COMBINED TABLE AND BENCH**

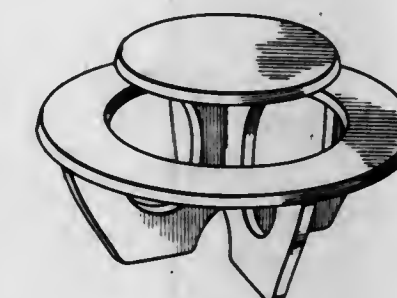
Melvin E. Schupbach, Elmer J. Schupbach, and Edward L. Boyden, Fenton, Mich., assignors to Schupbach Bros. Inc., a corporation of Michigan

Filed Dec. 31, 1968, Ser. No. 15,157

Term of patent 14 years

Int. Cl. D6—01

U.S. Cl. D33—14



218,052

**TWO-WHEELED VEHICLE**

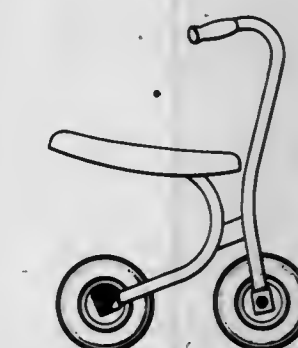
Rex L. Evatt, 3571 Shaefer Drive, Santa Clara, Calif. 95051, and Daniel R. Judd, Campbell, Calif.; said Judd assignor to said Evatt

Filed Dec. 2, 1968, Ser. No. 14,744

Term of patent 14 years

Int. Cl. D21—02

U.S. Cl. D34—15



218,053

**HAND-OPERATED SPARKING SPIN WHEEL TOY**

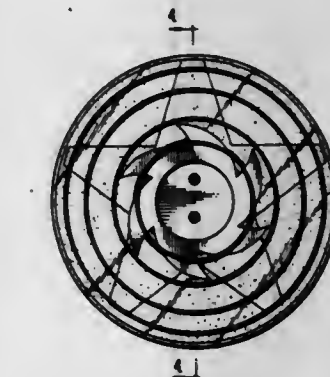
Robert C. Wohlstrom, 2305 S. Olive St., Santa Ana, Calif. 92707

Filed Apr. 8, 1969, Ser. No. 16,618

Term of patent 14 years

Int. Cl. D21—02

U.S. Cl. D34—15

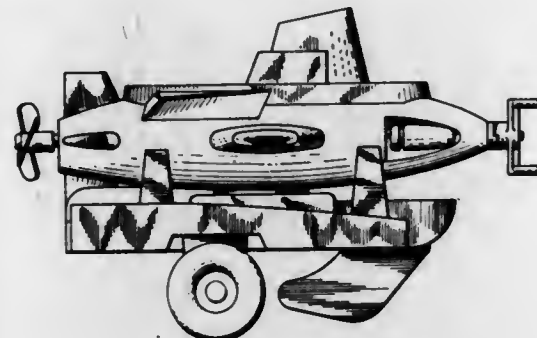




**218,054**  
**COMBINED SUBMARINE AND TRAILER UNIT**  
 Charles Fulcher, Livingston, N.J., assignor to Remco Industries, Inc., Harrison, N.J., a corporation of New Jersey  
 Original design application Jan. 14, 1969, Ser. No. 15,345.  
 Divided and this application July 24, 1969, Ser. No. 18,388

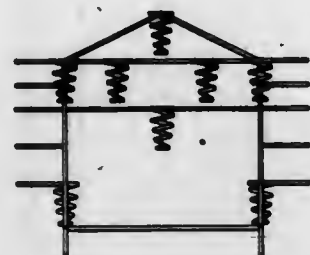
Term of patent 14 years  
 Int. Cl. D21—02

U.S. Cl. D34—15



**218,055**  
**FLOWER HOLDER FOR USE ON TOMBSTONES**  
 Oval P. Lairson, Rte. 1, P.O. Box 110, Noble, Okla. 73068  
 Filed July 11, 1969, Ser. No. 18,175  
 Term of patent 14 years  
 Int. Cl. D31

U.S. Cl. D35—1



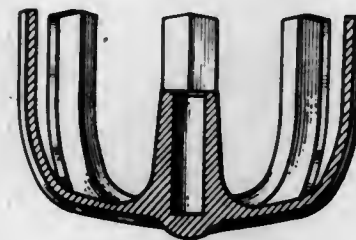
**218,056**  
**URN**  
 Mary L. Urrutia, 4 Manhattan St., Jackson, N.J. 08527  
 Filed Sept. 24, 1969, Ser. No. 19,271  
 Term of patent 14 years  
 Int. Cl. D11—02

U.S. Cl. D35—3



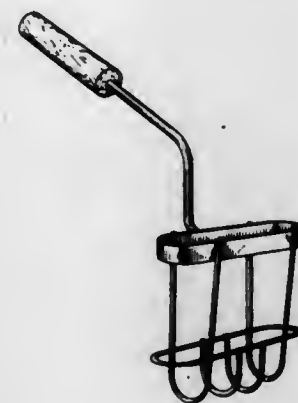
**218,057**  
**AGITATOR FOR CULINARY MIXER**  
 Casimir F. Gruska, Chicago, and William Lelyk, Medinah, Ill., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware  
 Filed Aug. 20, 1969, Ser. No. 18,773  
 Term of patent 14 years  
 Int. Cl. D7—05

U.S. Cl. D44—1



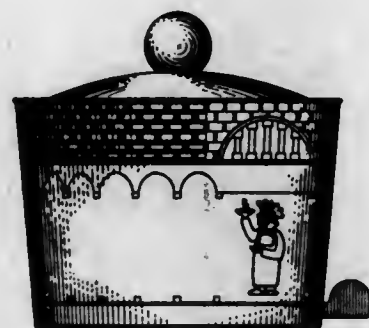
**218,058**  
**HOLDER FOR COOKING A PACKET OF COMESTIBLES**  
 Walter Warren Egee, Wallingford, Pa., assignor to Campbell Soup Company, Camden, N.J., a corporation of New Jersey  
 Filed Sept. 10, 1969, Ser. No. 19,087  
 Term of patent 14 years  
 Int. Cl. D7—02

U.S. Cl. D44—1



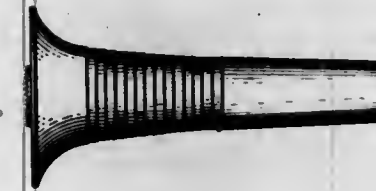
**218,059**  
**DISPENSER**  
 Victor J. Cassano, Dayton, Ohio, assignor to Cassano Enterprises, Inc., Dayton, Ohio, a corporation of Ohio  
 Filed Feb. 12, 1968, Ser. No. 10,553  
 Term of patent 14 years  
 Int. Cl. D7—99

U.S. Cl. D44—22



**218,060**  
**HANDLE FOR CULINARY IMPLEMENT**  
 Casimir F. Gruska, Chicago, Ill., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware  
 Filed Aug. 20, 1969, Ser. No. 18,779  
 Term of patent 14 years  
 Int. Cl. D8—02

U.S. Cl. D44—29



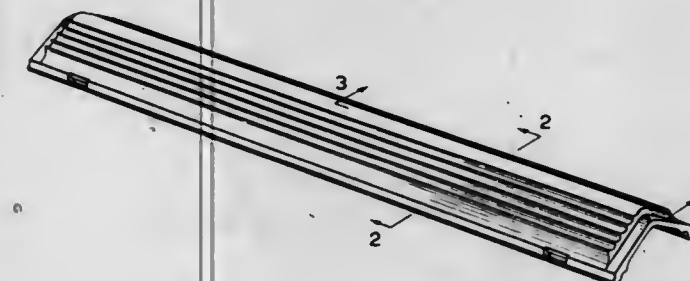
**218,061**  
**LINKAGE FOR AN IDENTIFICATION BRACELET OR SIMILAR ARTICLE**  
 Raymond C. Fontaine, Greenville, R.I., assignor to Textron Inc., Providence, R.I., a corporation of Delaware  
 Filed Aug. 25, 1969, Ser. No. 18,846  
 Term of patent 14 years  
 Int. Cl. D11—01

U.S. Cl. D45—4



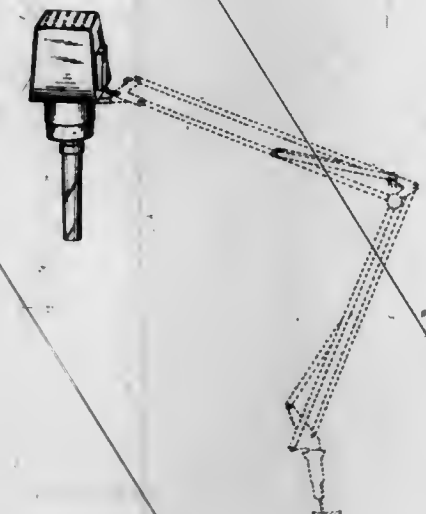
**218,062**  
**LENS**  
 Hugo Magi, Etobicoke, Ontario, Canada, assignor to Dominion Auto Accessories Limited, Toronto, Ontario, Canada  
 Filed Sept. 24, 1969, Ser. No. 19,288  
 Term of patent 14 years  
 Int. Cl. D26—06; D12—99

U.S. Cl. D48—16



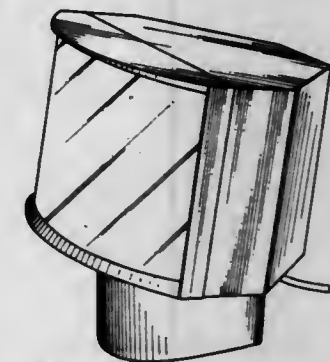
**218,063**  
**BEAM LAMP OR THE LIKE**  
 John B. Riis, 56 Weasum Wood Road, Riverside, Conn. 06878  
 Filed Oct. 1, 1968, Ser. No. 13,798  
 Term of patent 14 years  
 Int. Cl. D26—02

U.S. Cl. D48—20



**218,064**  
**COMBINED LAMP PROJECTOR AND SCREEN FOR PRODUCING VARIABLE LUMINOUS IMAGES**  
 Nicolas Schöffer, Paris, France, assignor, by mesne assignments, to U.S. Phillips Corporation, New York, N.Y., a corporation of Delaware  
 Filed Nov. 4, 1968, Ser. No. 14,444  
 Term of patent 14 years  
 Claims priority, application France May 10, 1968  
 Int. Cl. D26—02

U.S. Cl. D48—20



**218,065**  
**LIGHTER**  
 Henry Weiner, Taipei, Taiwan, assignor to Getz Bros. & Co., Inc., a corporation of Switzerland  
 Filed June 24, 1969, Ser. No. 17,840  
 Term of patent 14 years  
 Int. Cl. D27—05

U.S. Cl. D48—27

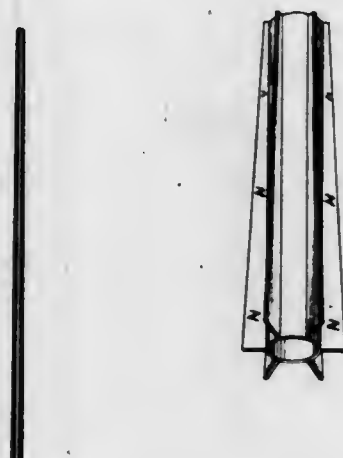




**218,066**  
**LAMP POST**

Bertil L. Habro, Lidings, Sweden, assignor to AB Linjebyggnad, Stockholm, a corporation of Sweden  
Filed Sept. 5, 1967, Ser. No. 8,487  
Term of patent 14 years  
Int. Cl. D26—03

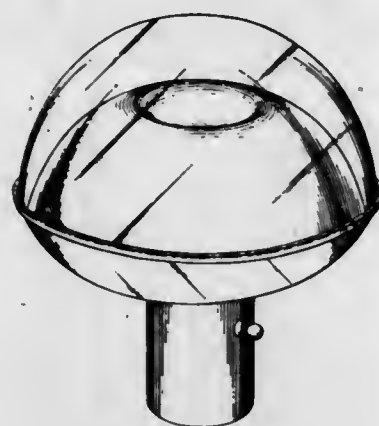
U.S. Cl. D48—31



**218,067**  
**EXTERIOR LAMP**

Robert P. DeVito, Montreal, Quebec, Canada, assignor to McElheron and DeVito Inc., Montreal, Quebec, Canada  
Filed July 22, 1969, Ser. No. 18,334  
Term of patent 14 years  
Int. Cl. D26—03, 02

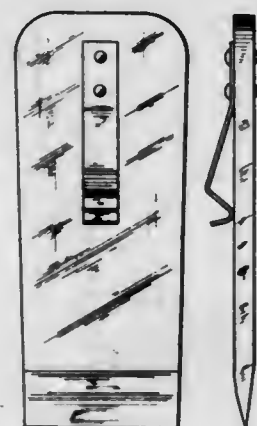
U.S. Cl. D48—31



**218,068**  
**AUTOMOBILE WINDSHIELD SCRAPER**

Sophia Stakis Psalidas, 24 N. Tacoma Ave., Tulsa, Okla. 74127  
Filed Apr. 10, 1969, Ser. No. 16,663  
Term of patent 14 years  
Int. Cl. D7—06

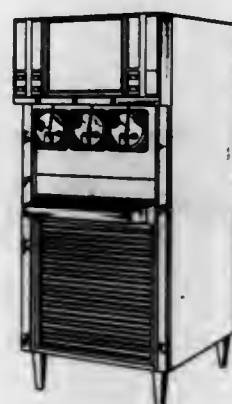
U.S. Cl. D49—23



**218,069**  
**FROZEN BEVERAGE DISPENSER OR SIMILAR ARTICLE**

Richard T. Cornelius, Minneapolis, and Clark L. Lofgren, Golden Valley, Minn., assignors to The Cornelius Company, Anoka, Minn., a corporation of Minnesota  
Filed Dec. 3, 1968, Ser. No. 14,768  
Term of patent 14 years  
Int. Cl. D20—01

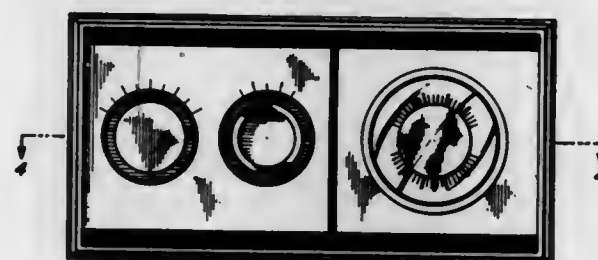
U.S. Cl. D52—3



**218,070**  
**CONDITION RESPONSIVE DEVICE**

Walter E. Edelman, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware  
Filed July 2, 1969, Ser. No. 18,028  
Term of patent 14 years  
Int. Cl. D10—09

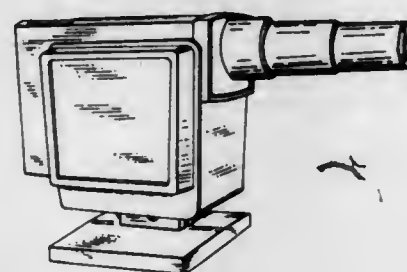
U.S. Cl. D52—7



**218,071**  
**OPHTHALMIC SLIDE PROJECTOR**

John T. Armbruster, Niagara Falls, N.Y., assignor to American Optical Corporation, Southbridge, Mass., a corporation of Delaware  
Filed Mar. 28, 1969, Ser. No. 16,500  
Term of patent 7 years  
Int. Cl. D16—03

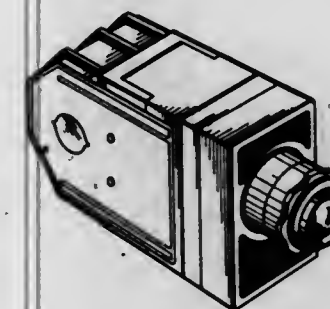
U.S. Cl. D61—1



**218,072**  
**RAPID SEQUENCE SURVEILLANCE CAMERA**

Isabel Longoria Moreno, Walnut, Calif., assignor to Granada Import Corporation, a corporation of California  
Filed July 7, 1969, Ser. No. 18,091  
Term of patent 14 years  
Int. Cl. D16—02

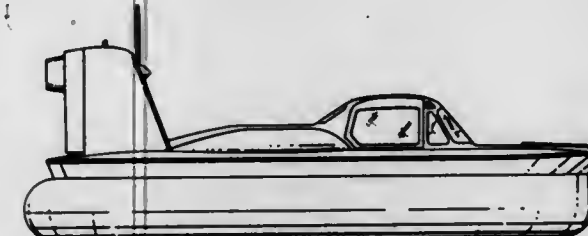
U.S. Cl. D61—1



**218,073**  
**AIR-CUSHION VEHICLE**

Paul Dominic Davis, Southampton, Hampshire, England, assignor to Hovermarine Limited, Woolston, Southampton, Hampshire, England, a British company  
Filed Dec. 16, 1968, Ser. No. 15,001  
Claims priority, application Great Britain July 17, 1968  
Term of patent 14 years  
Int. Cl. D12—13

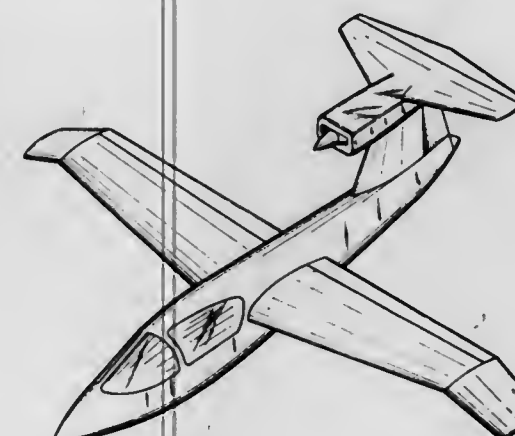
U.S. Cl. D71—1



**218,074**  
**AIRCRAFT**

Le Roy P. Lopresti, 10 Granada Ave., Merritt Island, Fla. 32952  
Filed Apr. 28, 1969, Ser. No. 16,920  
Term of patent 14 years  
Int. Cl. D12—07

U.S. Cl. D71—1

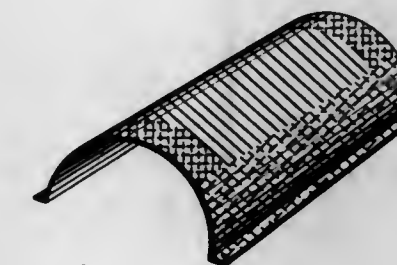


876 O.G.—21

**218,075**  
**RUNWAY MARKER**

Irvin L. Valley, 1550 Narrows Drive, Tacoma, Wash. 98406  
Filed Mar. 17, 1969, Ser. No. 16,267  
Term of patent 14 years  
Int. Cl. D29—99

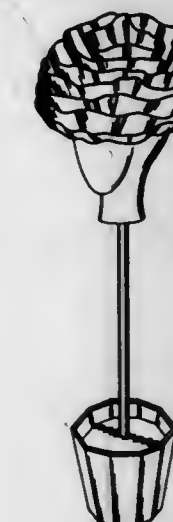
U.S. Cl. D72—1



**218,076**  
**COMBINED WIG STAND AND COVER**

Ana L. Douglas, 1302 E. Concord Ave., Orange, Calif. 92667  
Filed Feb. 24, 1969, Ser. No. 15,879  
Term of patent 14 years  
Int. Cl. D20—02

U.S. Cl. D80—8

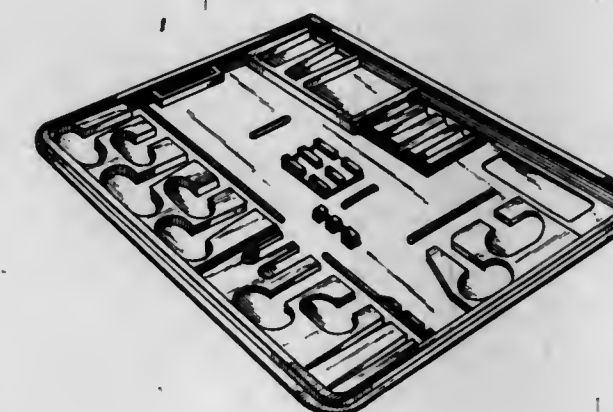


**218,077**  
**SURGICAL INSTRUMENT TRAY**

George S. Gabriel, Mahwah, N.J., assignor to Mediservice Inc., Wallington, N.J., a corporation of Delaware

Filed Sept. 19, 1969, Ser. No. 19,217  
Term of patent 14 years  
Int. Cl. D24—99

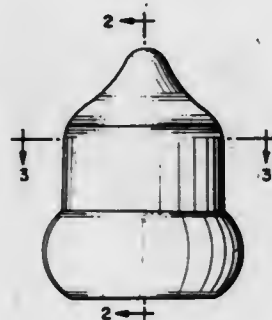
U.S. Cl. D83—1





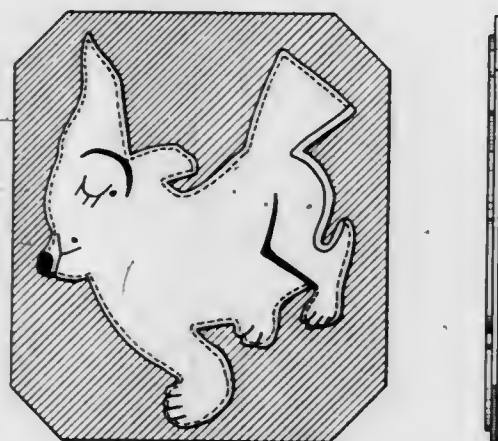
**218,078**  
**NURSING NIPPLE**  
 Sigrid C. Sherwood, 14 Steinweg,  
 655 Bad Kreuznach, Germany  
 Filed Jan. 13, 1969, Ser. No. 15,435  
 Term of patent 14 years  
 Int. Cl. D24-05

U.S. Cl. D83-8



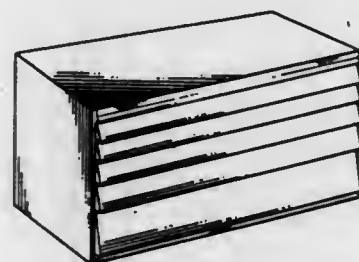
**218,079**  
**WASH CLOTH**  
 Katherine Price, 3944 Blaine St., NE.,  
 Washington, D.C. 20019  
 Filed Mar. 18, 1969, Ser. No. 16,336  
 Term of patent 14 years  
 Int. Cl. D28-03

U.S. Cl. D86-14



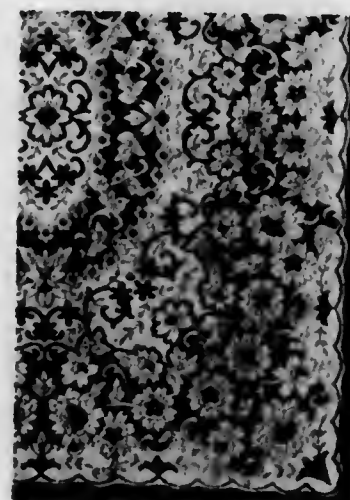
**218,080**  
**FISHING TACKLE BOX**  
 Raymond J. Sierzega, 17220 S. Wausau,  
 South Holland, Ill. 60473  
 Filed Dec. 26, 1968, Ser. No. 15,114  
 Term of patent 14 years  
 Int. Cl. D3-99

U.S. Cl. D87-1



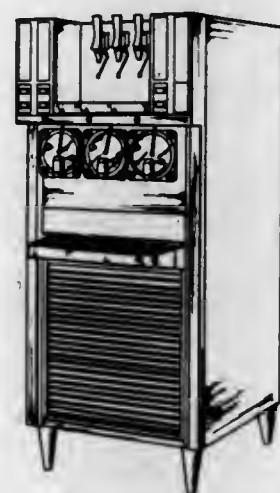
**218,081**  
**TABLECLOTH**  
 Francesco P. Castorani, Exton, Pa., assignor to Quaker  
 Lace Company, Philadelphia, Pa.  
 Filed Aug. 18, 1969, Ser. No. 18,746  
 Term of patent 7 years  
 Int. Cl. D6-09

U.S. Cl. D92-26



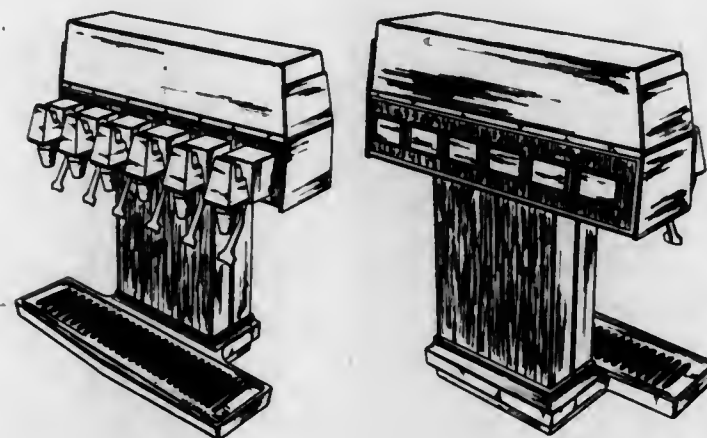
**218,082**  
**REFRIGERATED BEVERAGE DISPENSER OR  
 SIMILAR ARTICLE**  
 Richard T. Cornelius, Minneapolis, Clark L. Lofgren,  
 Golden Valley, and James R. Reichow, Edina, Minn.,  
 assignors to The Cornelius Company, Anoka, Minn.,  
 a corporation of Minnesota  
 Filed Dec. 3, 1968, Ser. No. 14,769  
 Term of patent 14 years  
 Int. Cl. D15-12

U.S. Cl. D94-3



**218,083**  
**BEVERAGE DISPENSER**  
 Robert B. Hartley, Columbia Heights, Minn., assignor to  
 The Cornelius Company, Anoka, Minn., a corporation  
 of Minnesota  
 Filed Jan. 30, 1969, Ser. No. 15,569  
 Term of patent 14 years  
 Int. Cl. D15-12

U.S. Cl. D94-3



## LIST OF PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF JULY, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Aalpoel, Marten G., to Patent Machine Bouw N.V. Device to squeeze flat and to weld together the projecting tubular portions of a sheet of thermoplastic wrapping material wound around a cigar. 3,520,106, Cl. 53-373.
- AB Hagglund & Soner: See—  
 Andersson, Gustaf Verner, 3,520,429.
- Abbott, Daniel B.: See—  
 Claydon, David R., and Abbott, Daniel B. 3,520,327.
- Abbott, Donald, to Rank Organisation Limited, The. Rotatable projection assembly. 3,520,601, Cl. 353-61.
- Abbott Laboratories: See—  
 Barr, Courtland H., Sr., Barr, Courtland H., Jr., and Barr, John W., 3,520,292.
- Abrahamson, Stephen, Denson, Judson S., Clark, Alfred P., Taback, Leonard, and Ronzoni, Pullio, said Clark said Taback and said Ronzoni assors to Aerojet-General Corporation: Anesthesiological training simulator. 3,520,071, Cl. 35-17.
- ACF Industries, Incorporated: See—  
 Casey, Edward H., 3,520,641.
- Crawford, Edward N., and White, Jack M., 3,520,320.
- Szwargulski, Jesse L., 3,520,330.
- Acker, Eric O. Slitting machine. 3,520,220, Cl. 83-529.
- Ackerman, Tracy R., and Schickler, John F., to General Motors Corporation. Flow process including viscosity control. 3,520,312, Cl. 137-4.
- Acme-Cleveland Corporation: See—  
 Von Wolff, Herbert H., and Bourassa, Hugh A., 3,520,347.
- Acrow (Engineers) Limited: See—  
 Sewell, John Barrington, and Tooley, Jack Raymond, 3,520,508.
- Adachi, Takao: See—  
 Shima, Takeo, Asami, Yukiharu, Hori, Yoshiaki, Urasaki, Takanori, Masuda, Masanori, and Adachi, Takao 3,520,770.
- Adams, George Leslie, and Landow, Irwin S., to National Sonics Corporation. Ultrasonic fluid interface sensing. 3,520,186, Cl. 73-290.
- Adams, Thomas, to United States of America, Navy, and/or Federal Aviation Agency. Calibration method and apparatus for a physiologic evaporative water loss measurement system. 3,520,194, Cl. 73-1.
- Adapa, Incorporated: See—  
 Halsey, Paul F., and Tevis, Daniel C., 3,520,382.
- Addamiano, Arrigo, to General Electric Company. Method of epitaxial growth of alpha silicon carbide by pyrolytic decomposition of a mixture of silane, propane and hydrogen at atmospheric pressure. 3,520,740, Cl. 148-175.
- Addressograph-Multigraph Corporation: See—  
 Shelffo, Loren E., 3,520,604.
- Aerojet-General Corporation: See—  
 Abrahamson, Stephen, Denson, Judson S., Clark, Alfred P., Taback, Leonard, and Ronzoni, Pullio, 3,520,071.
- King, William M., 3,520,743.
- Witz, Samuel, 3,520,742.
- AFA Corporation, The: See—  
 Malone, Carl E., 3,520,452.
- Agena, Francis M., and Agena, Shirley M. Decorative wreath. 3,520,759, Cl. 161-15.
- Agena, Shirley M.: See—  
 Agena, Francis M., and Agena, Shirley M. 3,520,759.
- Agfa-Gevaert Aktiengesellschaft: See—  
 Engelsmann, Dieter, Landbrecht, Franz, and Zobel, Siegfried, 3,520,237.
- Gotze, Johannes, Bockly, Erich, and Seidel, Bernhard, 3,520,693.
- Phleps, Konrad, Schnall, Gunter, and Ullrich, Hermann, 3,520,533.
- Ahlemeyer, William L., to Anaconda Aluminum Company. Fluid-tight container. 3,520,463, Cl. 229-4.5.
- Ahmadi, Mansoor A.: See—  
 Findl, Eugene, Ahmadi, Mansoor A., and Lui, Kenneth 3,520,780.
- Ahrens, Richard T., and Apelgren, Eric S., to Chicago Metallic Manufacturing Company. Bread set. 3,520,438, Cl. 220-23.2.
- Aktiebolaget Iwema: See—  
 Stenberg, Folke Gustav Adolf, 3,520,105.
- Aktiengesellschaft Brown, Boveri & Cie: See—  
 Bellati, Hans, Meylan, Pierre, and Rutti, Willi, 3,520,634.
- Oberle, Artur, 3,520,318.
- Alberts, Gene S., Brownlow, James M., and Grebe, Kurt R., to International Business Machines Corporation. Method of preparing a coupled-film device. 3,520,784, Cl. 204-38.
- Alcox, Ray Warren: See—  
 Crabtree, Clinton Larry, Alcox, Ray Warren, and Jameson, Wayne Reynold 3,520,060.
- Aldred, Francis Henry, and Savage, John, to Morganite Crucible Limited. Container having a composite refractory wall. 3,520,526, Cl. 266-43.
- Allanic, Jacques: See—  
 Verges, Paul Francois, and Allanic, Jacques 3,520,023.
- Allen, Johnny G. Garbage can rack. 3,520,505, Cl. 248-146.
- Allen, Norval F.: See—  
 Steele, Clarence R., and Allen, Norval F. 3,520,166.
- Allied Chemical Corporation: See—  
 Campbell, James C., and Ulmer, Harry E., 3,520,673.
- Li, Hsin L., Prevorsek, Dusan C., Oswald, Hendrikus J., Koch, Paul J., and Schmitt, George J., 3,520,750.
- Allied Industries, Inc.: See—  
 Placek, Eugene W., 3,520,222.
- Allison, William D., to Ford Motor Company. Motor vehicle rear suspension system having corrective steering. 3,520,553, Cl. 280-124.
- Allman, Cyril Joseph, to BTR Industries Limited. Floor covering. 3,520,761, Cl. 161-44.
- Allway Tools, Inc.: See—  
 Gringer, Donald, 3,520,059.
- Amati, Giovanni, Maneschi, Sergio, and Vantini, Nereo, to Centro Sperimentale Metallurgico S.p.A. Method and device for the analysis of hydrogen in steels. 3,520,171, Cl. 73-23.1.
- Amchem Products, Inc.: See—  
 Gerassimoff, Peter, and Dingeldey, Paul, 3,520,737.
- American Abrasive Corporation: See—  
 Meyer, Richard S., 3,520,666.
- American Air Filter Company, Inc.: See—  
 Bowen, Lonnie E., 3,520,115.
- Pond, Robert W., 3,520,085.
- Revell, Alan E., and Welch, Wilson A., 3,520,111.
- American Can Company: See—  
 Spiering, Robert Romaine, and Meyers, George Leroy, 3,520,465.
- American Cyanamid Company: See—  
 Richter, Ferdinand Joseph, and Granowitz, Jack Marks, 3,520,401.
- American Motors Corporation: See—  
 Swanney, Peter L., 3,520,159.
- Ammco Tools, Inc.: See—  
 Kushmuk, Walter P., 3,520,064.
- Amos, James L., Bird, Arnett L., and Snyder, Robert P., to Dow Chemical Company, The. Apparatus for the incorporation of filamentary material in resinous matrix. 3,520,027, Cl. 18-30.
- AMP Incorporated: See—  
 Flower, Guiles, Jr., 3,520,300.
- Ampex Corporation: See—  
 Bousky, Samuel, 3,520,586.
- Licht, Lazar, 3,520,578.
- Amsted Industries Incorporated: See—  
 Santilli, Arthur A., and Osdone, Thomas S., 3,520,151.
- Anaconda Aluminum Company: See—  
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TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF JULY, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AB Linjebyaggnad: See—  
 Habro, Bertil L. 218,066.  
 Aigner, Etienne, to Villager Industries, Inc. Buckle. 218,007, 7-14-70, Cl. D2—427.  
 Alaska, St. Barth. Combined adhesive magnetic-electric tape and power source therefor. 218,039, 7-14-70, Cl. D26—1.  
 Albrecht, Leonard N., to Dymedia, Inc. Teaching machine in the form of a student response board. 218,037, 7-14-70, Cl. D25—1.  
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 Lohr, Thomas E. 218,028.  
 American Home Products Corp.: See—  
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 Gruska, Casimir F. 218,060.  
 American Optical Corp.: See—  
 Armbruster, John T. 218,071.  
 Bosack, Irwin A. 218,009.  
 Appleton Wire Works Corp.: See—  
 Lee, Charles A., and Sorrells. 218,044.  
 Lee, Charles A., and Sorrells. 218,045.  
 Armbruster, John T., to American Optical Corp. Ophthalmic slide projector. 218,071, 7-14-70, Cl. D61—1.  
 Baker, Bernie B., to Keystone Consolidated Industries, Inc. Hinge or the like. 218,012, 7-14-70, Cl. D8—195.  
 Balick, Fred C., Jr., to Lanier Electronic Laboratory, Inc. Transmitter-receiver cradle. 218,043, 7-14-70, Cl. D26—14.  
 Bee, James W. M., to Marr Electric Ltd. Electrical connector. 218,040, 7-14-70, Cl. D26—1.  
 Bernard, Herman W. Panel for a cabinet door. 218,049, 7-14-70, Cl. D83—1.  
 Bosack, Irwin A., to American Optical Corp. Instrument adjusting knob. 218,009, 7-14-70, Cl. D8—145.  
 Boyden, Edward L.: See—  
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 Brundige, William L., to Westinghouse Electric Corp. Electric incandescent lamp. 218,042, 7-14-70, Cl. D26—8.  
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 Egee, Walter W. 218,058.  
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 Cassano, Victor J., to Cassano Enterprises, Inc. Dispenser. 218,059, 7-14-70, Cl. D44—22.  
 Castorani, Francesco P., to Quaker Lace Co. Tablecloth. 218,081, 7-14-70, Cl. D92—26.  
 Clayton, William J., to Mobil Oil Corp. Food packaging tray or the like. 218,022, 7-14-70, Cl. D9—219.  
 Clayton, William J., to Mobil Oil Corp. Food packaging tray or the like. 218,023, 7-14-70, Cl. D9—219.  
 Clayton, William J., to Mobil Oil Corp. Food packaging tray or the like. 218,024, 7-14-70, Cl. D9—219.  
 Connolly, Jeremy S., and D. L. Smith, to Realtronics, Inc. Computer keyboard input console. 218,041, 7-14-70, Cl. D26—5.  
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 Cornelius, Richard T., and Lofgren. 218,069.  
 Cornelius, Richard T., Lofgren, and Reichow. 218,082.  
 Hartley, Robert B. 218,083.  
 Cornelius, Richard T., and C. L. Lofgren, to The Cornelius Co. Frozen beverage dispenser or similar article. 218,069, 7-14-70, Cl. D52—3.  
 Cornelius, Richard T., C. L. Lofgren, and J. R. Reichow, to The Cornelius Co. Refrigerated beverage dispenser or similar article. 218,082, 7-14-70, Cl. D94—3.  
 Davis, Paul D., to Hovermarine Ltd. Air-cushion vehicle. 218,073, 7-14-70, Cl. D71—1.  
 Dazor Mfg. Corp.: See—  
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 Mongerson, Paul A., and Ellison. 218,034.  
 Eratt, Rex L., and D. R. Judd: said Judd assor. to said Eratt. Two-wheeled vehicle. 218,052, 7-14-70, Cl. D34—15.  
 Fontaine, Raymond C., to Textron Inc. Linkage for an identification bracelet or similar article. 218,061, 7-14-70, Cl. D45—4.  
 Ford, John S., to Monsanto Co. Architectural surface covering. 218,030, 7-14-70, Cl. D18—2.  
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 Handley, Jack. Self-leveling retractable steps. 218,026, 7-14-70, Cl. D13—7.  
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 Hogrebe, Herbert C., to Dazor Mfg. Corp. Wall bracket for article-supporting arms. 218,016, 7-14-70, Cl. D8—233.  
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 Lopresti, Le Roy P. Aircraft. 218,074, 7-14-70, Cl. D71—1.  
 Lovitz, David D., to Sterneo Industries, Inc. Aquarium worm feeder. 218,048, 7-14-70, Cl. D30—12.  
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 Magi, Hugo, to Dominion Auto Accessories Ltd. Lens. 218,062, 7-14-70, Cl. D48—16.  
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 Pawlow, Valentin, to Keystone Consolidated Industries, Inc. Hinge. 218,014, 7-14-70, Cl. D8—196.



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## CLASSIFICATION OF PATENTS

ISSUED JULY 14, 1970

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3,520,101	3,520,607	3,520,682	3,520,621	3,520,568	3,520,380
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### Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

**Reg. No. 148,119** (DAILY NEWS), News Syndicate Co., Inc., Newspapers published in the city of New York, filed Apr. 7, 1970, D.C., S.D.N.Y., Doc. 70-C-1389, *News Syndicate Co., Inc. v. Robert Cenedella*.

**Reg. No. 258,641** (PIQUENESE), Celanese Corporation, Fabrics made wholly or partially of cellulose derivatives, filed Apr. 14, 1970, D.C., W.D. Ky. (Owensboro), Doc. 2453, *Anderson Corp. v. V. E. Anderson Manufacturing Company*.

**Reg. No. 582,061** (HURRICANE AND DESIGN), Hurricane Manufacturing Company, Fishing tackle—namely, fishing rods, fishing reels, fishing lines, leader material, fishing lures, under-water spear guns, swim fins and fishing tackle boxes, filed Mar. 9, 1970, D.C., S.D. Fla. (Miami), Doc. 70-292-C-WM, *Hurricane International v. Southern Tackle Distributors, Inc.*

**Reg. No. 598,368** (AQUA NET), Rayette, Inc., Water soluble freon dispensed hair dressing, filed Apr. 7, 1970, D.C., N.D. Tex. (Fort Worth), Doc. CA-4-1428, *Faberge, Incorporated v. Robert A. Watson and Ronald C. Watson, doing business as R. A. Watson & Son et al.* Consent decree and dismissal, Faberge, Incorporated owns said registration; defendants have infringed and are permanently enjoined, Apr. 29, 1970.

**Reg. No. 606,536** (NATIONAL AUTOMOBILE CLUB AND DESIGN), National Automobile Club, Services rendered to motor vehicle owners, motorists, and travelers generally—

namely, disseminating travel information, rating tourists accommodations, recovering stolen automobiles, furnishing legal services, obtaining motor vehicle license plates and title certificates, sponsoring school safety patrols, conducting traffic and pedestrian safety campaigns, advocating legislation favorable to safe and economical motor vehicle travel, operation, and maintenance, filed Apr. 28, 1970, D.C., S.D.N.Y., Doc. 70-C-1741, *National Automobile Club v. National Auto Club, Inc.*

**Reg. No. 644,877** (KELLY GIRLS), Russell Kelly Office Service, Inc., Secretarial, clerical, and business machine services and operators for bookkeeping machines and employment services involving the furnishing of temporary office help:

**Reg. No. 736,554** (KELLY GIRL), Kelly Girl Service, Inc., Secretarial and clerical services, operators for bookkeeping and other business office machines and employment services involving the furnishing of temporary office help, filed Feb. 11, 1970, D.C., W.D. Okla. (Oklahoma City), Doc. 70-75-C, *Kelly Services, Inc. v. Grace E. Kelly, doing business as Kelly Secretarial Service*. Judgment in favor of defendant; plaintiff's prayer for preliminary and permanent injunction against defendant is denied, Apr. 21, 1970.

**Reg. No. 680,491** (MILADY), Henry Pollak, Inc., Hat bodies, filed Nov. 6, 1967, D.C., S.D.N.Y., Doc. C-67-4345, *Henry Pollak, Inc. v. Lisa Wig & Wiglets, Inc.* Filed stipulation and order, action discontinued, Apr. 8, 1970.

**Reg. No. 689,328** (PORTA-KAMP AND DESIGN), Porta-Kamp Manufacturing Co., Inc., Prefabricated, foldable porta-

### CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 24,830  
Date of oldest new application..... June 18, 1969  
Date of oldest amended application (filing date)..... October 20, 1966

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....		8-29-69	10-13-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....		10-1-69	10-20-66
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36, 44.....		9-4-69	2-17-67
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29, Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....		6-18-69	5-18-67
Renewals (All Classes).....		4-6-70	
Sec. 12(c) Publications (All Classes).....		4-10-70	

Applications filed during the month of May 1970—2,798

Registrations Issued ..... 488—No. 894,364 to No. 894,851  
Renewals Issued ..... 120

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.



ble buildings, filed Apr. 1, 1970, D.C.N.J. (Newark), Doc. 388-70, *Porta-Kamp Manufacturing Co., Inc. v. Bertram F. Ames and Ames International Construction Co.* Consent final judgment for permanent injunction, Apr. 24, 1970.

Reg. No. 736,554. (See Reg. No. 644,877.)

Reg. No. 769,138 (COMPUGRAPHIC), Compugraphic Corporation, Electrical, electronic, and electromechanical systems for control of typesetting, line casting and printing, and for the handling and processing of data storage tape used in control of typesetting, line casting and printing, and components therefor, filed May 14, 1970, D.C., S.D.N.Y., Doc. 70-C-1977, *Compugraphic Corp. v. Compu-Graphic Corp.*

Reg. No. 792,341. (See Reg. No. 792,653.)

Reg. No. 792,653 (MAGIC), Basic Vegetable Products, Inc., Dehydrated onions and dehydrated potatoes; Reg. No. 792,341, same, Dehydrated vegetable products—namely, granulated garlic, filed Feb. 11, 1970, D.C., W.D. Wash. (Tacoma), Doc. 4055, *Basic Vegetable Products, Inc. v. Bea & Johnny's Enterprises, Inc.* Consent decree enjoining defendant, May 13, 1970.

Reg. No. 801,473 (WELLA BALSAM), The Wella Corporation, Hair conditioner, filed Oct. 9, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2095, *The Wella Corporation v. Highland Laboratories*. Consent judgment; complaint hereby dismissed without prejudice, Mar. 30, 1970.

Reg. No. 816,922 (FOOSBALL), Patterson International, Inc., Coin-operated table soccer machines, filed Apr. 6, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70-C-187, *Patterson International Corp. v. Richard J. Mellen, doing business as Mellen Sales and Service Co.*

Reg. No. 832,507 (Carnaby), Sheffield Watch, Inc., Watches and clocks, filed Oct. 31, 1967, D.C., S.D.N.Y., Doc. 67-C-4249, *Sheffield Watch of New York, Inc. v. Continental Fifth Avenue, Ltd.* Voluntary dismissal, Mar. 26, 1970.

Reg. No. 834,645 (DOVRE), Dovre Ski Binding, Inc., Ski bindings, filed May 8, 1970, D.C. Mass. (Boston), Doc. 70-605-M, *Dovre Ski Binding, Inc. v. Stout & French, Inc.*

Reg. No. 859,703 (POLYGLAS), The Goodyear Tire & Rubber Company, Tires, filed Sept. 12, 1969, D.C., W.D.N.C. (Charlotte), Doc. 2538, *The Goodyear Tire & Rubber Company v. International Buyers Corporation, doing business as International Buyers Co-Op.* Same, filed Aug. 21, 1969, D.C., W.D.N.C. (Charlotte), Doc. 2526, *The Goodyear Tire & Rubber Co. v. Manufacturers Buyers Corp., doing business as Manufacturers Buyers Co-Op, et al.* Civil Actions Nos. 2526 and 2538 consolidated, defendants have infringed and are permanently enjoined, Apr. 29, 1970. Same, filed Jan. 29, 1970, D.C. Ariz. (Tucson), Doc. C-70-12, *The Goodyear Tire & Rubber Company v. The Tire King, Inc., doing business as Tire King*.

Reg. No. 861,955 (IFD), In-Flight Devices Corp., Computer for automatically actuating aircraft landing gear mechanism, filed Jan. 28, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c193, *IFD In-Flight Devices Corporation v. (IP) In-Flite Products, Inc.*

Reg. No. 869,719 (AMARET AND DESIGN), American Association of Recorded Talent, Inc., Phonograph records, filed Apr. 7, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70-739-AAH, *American Association of Recorded Talent, Inc. v. Canyon Records, Inc.*

Reg. No. 878,919 (ESP), Electronic Systems Personnel Agency, Inc., Job placement of computer-experienced personnel, filed May 1, 1970, D.C., E.D. Mich. (Detroit), Doc. 34809, *Electronic Systems Personnel Agency Inc. v. Electronic Systems Personnel Agency, Inc., formerly known as Tabulating Search and Development Agency, Superior Consulting Services, Inc. and Richard Starr*.

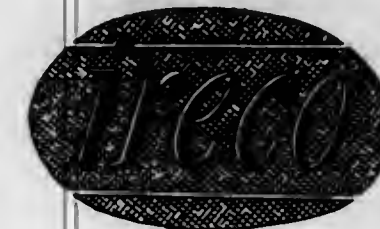
## MARKS PUBLISHED FOR OPPOSITION

### SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 269,990. Ireco Chemicals, Salt Lake City, Utah. Filed Apr. 25, 1967.



The drawing is lined for the color orange.

#### Class 9—Explosives, Firearms, Equipments, and Projectiles

For Explosives—Namely, Slurry Explosives, and Firing Boosters for Slurry Explosives (Int. Cl. 13).

#### Class 103—Construction and Repair

For Services in Connection With Blasting and Preparation of Blasting Materials (Int. Cl. 37).

First use Apr. 16, 1958.

SN 293,450. Alfred Teves GmbH, Frankfurt am Main, Germany. Filed Mar. 18, 1968.



Owner of German Reg. Nos. 436,823, dated Apr. 9, 1931; 472,953, dated June 27, 1933; 620,522, dated Aug. 1, 1940; 634,639, dated Jan. 31, 1951; and 643,137, dated July 10, 1940.

#### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Piston Bolts, Hose Couplings, Pipes, Connecting Ducts, and Valves (Int. Cl. 6).

#### Class 14—Metals and Metal Castings and Forgings

For Mechanically or Manually Treated Metal Castings (Int. Cl. 6).

#### Class 19—Vehicles

For Parts of Land and Air Vehicles—Namely, Brakeshoes, Steering Brakes and Parts Thereof, Vehicular and Aeronautic Brakes, Hydraulic and Pneumatic Shock Absorbers and Parts Thereof, Dished Springs, Master Cylinders for Brakes; Hydrodynamic and Hydrostatic Brakes for Automotive Vehicles (Int. Cl. 12).

#### Class 21—Electrical Apparatus, Machines, and Supplies

For Vehicular Stop-Light Switches, Electrical Directional Signals for Automotive Vehicles (Int. Cls. 9 and 12).

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Parts of Automotive-Vehicle and Aircraft Motors as Well as All Other Types of Motors (Except Electric Motors)—Namely, Pistons, Cylinders, Cylinder Bushings, Valves, Valve-Seal Rings, Valve Cones, Valve Pistons and Valve Guides; Pressure Lubricators for Automotive Vehicles; Hydraulic and Air-Pressure Devices—Namely, Compressors, Pumps, and Pressure Reservoirs; Hydraulic Systems for Farm Tractors; Car Jacks, Tire Pumps; Hydrostatic and Hydrodynamic Clutches for Automotive Vehicles and Hydraulic Control Valves Therefor; Agricultural and Industrial Wheel and Track Tractors, Power Shovels, and Harvesters (Int. Cls. 7 and 12).

#### Class 26—Measuring and Scientific Appliances

For Tire-Pressure Indicators, Tire-Pressure Testers; Brake-Fluid-Volume Indicators, Brake-Fluid-Quality Testers; Brake Failure Indicators, Brake-Wear Detectors and Testing Equipment, Brake-Fluid-Pressure Testers; and Fluid-Pressure Indicators and Manometers (Int. Cl. 9).

#### Class 31—Filters and Refrigerators

For Ice Boxes and Coolers, Refrigerators, Freezers and Refrigerated Display Cases, and Ice-Making Machinery (Int. Cl. 11).

#### Class 34—Heating, Lighting, and Ventilating Apparatus

For Domestic and Commercial Air-Conditioning, Heating, Cooling, Humidifying and Drying Units (Int. Cl. 11).

#### Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Seals and Gaskets; Piston Rings; Oil-Wiping Rings; Fluid-Pressure Tubes for Automotive Brakes and the Like (Int. Cls. 7 and 17).

SN 300,862. Pitney-Bowes, Inc., Stamford, Conn. Filed June 20, 1968.

### PITNEY-BOWES

Owner of Reg. Nos. 433,005 and 566,205.

#### Class 6—Chemicals and Chemical Compositions

For Toners and Intensifiers for Use in Electrostatic Copiers (Int. Cl. 1).

First use at least as early as January 1967.

#### Class 11—Inks and Inking Materials

For Inks for Printing Machines (Int. Cl. 2).  
First use at least as early as October 1921.



**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Postage Metering Machines, Postage Canceling Machines, Tax Stamping Machines, Check Signing Machines, Parcel Registering Machines, Address Printing Machines and Plates Therefor Inking Applicators, Carton Imprinting Machines, Sheet Folding Machines, Envelope Stuffing Machines, Article Stacking Machines, Letter Openers, Embossing Machines and Collators (Int. Cl. 7).

First use October 1921.

**Class 26—Measuring and Scientific Appliances**

For Counting Machines, Postal Weighing Scales, Electrostatic Copying Machines and Photocopy Papers for Use Therewith, Fluidic Devices Employing Fluid Input and/or Output Signals for Effecting Control, Sensing Logic or Indicating Functions or Any Combination Thereof, and Parts Therefor (Int. Cls. 9 and 16).

First use at least as early as 1950.

**Class 32—Furniture and Upholstery**

For Counters, Tables, Racks and Bins for Use in Mail Handling and Sorting, Machine Tables and Cabinets, and Printing Plate Storage Trays and Cabinets (Int. Cl. 20).

First use at least as early as 1950.

SN 301,077. Kinorello Verlag, G.m.b.H., Grosshesselohe/Isartal, Germany. Filed June 21, 1968.

**CINECARD**

Owner of German Reg. No. 836,111, dated Aug. 14, 1967.

**Class 22—Games, Toys, and Sporting Goods**

For Playing Cards and Other Equipment and Apparatus Sold as Units for Playing Card, Board, Folding and Similar-Type Parlor Games (Int. Cls. 16 and 28).

**Class 38—Prints and Publications**

For Photographic and Printed Products—Namely, Printed Labels, Art Objects Consisting of Graphic and Other Reproductions in the Form of Movable Cards, Instructional Material for Educational Purposes in the Form of Movable Cards, Books With Movable Parts Capable of Being Swung Open and Swung Out (Int. Cl. 16).

SN 301,576. Builders Resources Corporation, Los Angeles, Calif. Filed June 28, 1968.

**BRC****Class 101—Advertising and Business**

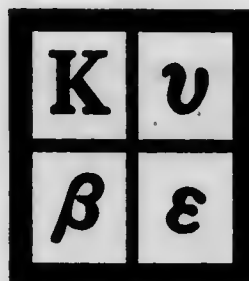
For Management Advisory and Marketing Services (Int. Cl. 35).

**Class 102—Insurance and Financial**

For Providing Equity Funds to Builders (Int. Cl. 36).

First use Apr. 9, 1968.

SN 304,731. Kybe Corporation, Waltham, Mass., by change of name from Cybetronics, Inc., Waltham, Mass. Filed Aug. 9, 1968.

**Class 21—Electrical Apparatus, Machines, and Supplies**

For Electro-Mechanical Equipment for Moving Magnetic Tape of Digital Computer Type, Instrumentation Type and Audio and Video Type From One Reel to Another Across Cleaning Mechanism, the Cleaners Including Motors, Controls, Electronic Components and Cleaning Mechanisms Operating Automatically To Move and Stop the Tape (Int. Cl. 9).

First use May 1967.

**Class 26—Measuring and Scientific Appliances**

For Tape Testers and Certifiers Comprising Mechanical and Electronic Equipment for Moving Magnetic Tape and Testing Tape With Magnetic Coding Simulating the Movement of the Tape if Used on a Computer (Int. Cl. 9).

First use May 1967.

**Class 103—Construction and Repair**

For Cleaning and Rehabilitation of Magnetic Computer Tape (Int. Cl. 37).

First use December 1963.

SN 305,594. Norcross, Inc., New York, N.Y. Filed Aug. 21, 1968.

# N

## NORCROSS

Owner of Reg. Nos. 659,843, 718,569, and others.

**Class 7—Cordage**

For Gift Wrapping Materials—namely, Ribbons, Bows, Twine, Cord, and Yarn (Int. Cls. 22, 23, and 26).

**Class 37—Paper and Stationery**

For Writing Paper, Note Paper and Envelopes; Gift Wrapping Materials—Namely, Wrapping Papers and Tissues, Folds Laminated to Paper or Wrapping Film, Cellophane; Seals, Labels and Tags, With or Without Attached Ornaments Partially Printed or Blank; Invitations Partially Printed or Blank; Announcements Partially Printed or Blank; Place Cards; Bridge Tallies; and Enclosure Cards Partially Printed or Blank (Int. Cl. 16).

First use July 15, 1956.

SN 309,133. Gold Eagle Products Co., Chicago, Ill. Filed Oct. 8, 1968.

**GOLD EAGLE**

Owner of Reg. No. 860,868.

**Class 6—Chemicals and Chemical Compositions**

For Cooling System Sealer, Deicer for Windshields and Locks, Combined Cooling System Rust Inhibitor and Water Pump Lubricant, and Hydraulic Brake Fluid (Int. Cls. 1 and 17).

First use Sept. 30, 1932.

**Class 52—Detergents and Soaps**

For Windshield Washer Solvent, Carburetor and Parts Cleaner, Car Wash Concentrate, and Glass Cleaner (Int. Cl. 3).

First use August 1941.

SN 322,609. National Union Electric Corporation, Jersey City, N.J. Filed Mar. 24, 1969.



Owner of Reg. Nos. 572,045, 594,163, and 669,214.

**Class 21—Electrical Apparatus, Machines, and Supplies**

For Radio Receivers, Television Receivers, Combinations of the Foregoing and Parts Therefor (Int. Cl. 9).

**Class 36—Musical Instruments and Supplies**

For Record Players, Tape Recorders and Reproducers, and Parts Therefor (Int. Cl. 9).

First use on or before Nov. 21, 1966.

SN 325,940. Acoustic Research, Inc., Cambridge, Mass. Filed Apr. 30, 1969.

**AR****Class 21—Electrical Apparatus, Machines, and Supplies**

For Audio Amplifiers (Int. Cl. 9).

First use Sept. 14, 1967.

**Class 36—Musical Instruments and Supplies**

For Turntables for Phonographs (Int. Cl. 9).

First use at least as early as September 1961.

SN 330,551. Natcol Crafts, Inc., d.b.a. Natcol Plastics, Redlands, Calif. Filed June 20, 1969.

**NATCOL****Class 5—Adhesives**

For Adhesives for Use in Hobbycraft Plastic Molding—Namely, Polyester Resin Paste for Adhering Decorative Embedments to Molded Plastic Articles, and Glues for Adhering Resin Castings, Embedments, and Glass Jewels to Jewelry Findings (Int. Cl. 1).

**Class 6—Chemicals and Chemical Compositions**

For Chemicals for Use in Hobbycraft Plastic Molding—Namely, Polyester Resins, Catalysts, Deodorant, Surface Hardeners, Promoter, and Mold Release; Preservative and Fixative Solutions for Biological Specimens (Int. Cls. 1 and 5).

**Class 16—Protective and Decorative Coatings**

For Coating Resins and Glazes for Use in Coloring, Protecting, or Applying a High Gloss Finish to Resin Castings and Decorative Articles; and Glitter Colors for Use on Glass and Plastics (Int. Cl. 2).

**Class 22—Games, Toys, and Sporting Goods**

For Molds for Hobbycraft Casting of Decorative and Ornamental Resin Articles; and Kits for Embedding Biological Specimens in Resin (Int. Cl. 28).

**Class 28—Jewelry and Precious-Metal Ware**

For Jewelry Findings—Namely, Key Chains, Pin Backs, Earring Backs, Artificial Fruit Backings, Tie Tacks, Tie Bars, and Like Jewelry Backings for Use in Hobbycraft Plastic Molding and Decorating (Int. Cl. 14).

**Class 50—Merchandise Not Otherwise Classified**

For Hobbycraft Kits for Production of Decorative Cast Resin or Jewelry Items, Including in Such Kits Casting Resin, Resin Molds, Colorants, Embedments or Jewelry Findings, and Accessories (Int. Cl. 28).

First use at least as early as 1958.

SN 332,196. Nunn Bush Shoe Company, Milwaukee, Wis. Filed July 10, 1969.

**BRASS BOOT**

The word "Boost" is disclaimed apart from the mark as shown, without waiver of common law rights.

**Class 39—Clothing**

For Men's Shoes (Int. Cl. 25).

First use May 7, 1969.

**Class 101—Advertising and Business**

For Shoe Store Services (Int. Cl. 35).

First use Jan. 1, 1969.

SN 333,023. Avon Products, Inc., New York, N.Y. Filed July 22, 1969.

**ALAGANDO****Class 51—Cosmetics and Toilet Preparations**

For Cologne and Dusting Powder (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Apr. 30, 1969.

SN 333,038. Avon Products, Inc., New York, N.Y. Filed July 22, 1969.

**ZAMBUJAL****Class 51—Cosmetics and Toilet Preparations**

For Cologne and Dusting Powder (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Apr. 30, 1969.

SN 337,964. Pilgrim Industries Inc., New York, N.Y. Filed Sept. 15, 1969.

**3-D-CAL****Class 38—Prints and Publications**

For Stickers (Int. Cl. 16).

**Class 40—Fancy Goods, Furnishings, and Notions**

For Adhesive Appliques (Int. Cl. 26).

First use July 30, 1969.

SN 339,655. Spectrachem Corporation, Paterson, N.J. Filed Oct. 3, 1969.

**Class 5—Adhesives**

For Flock Adhesives (Int. Cl. 1).

**Class 11—Inks and Inking Materials**

For Gravure and Textile Printing Inks (Int. Cl. 2).

First use August 1969; December 1967, in another form.

SN 343,034. Gem, Incorporated, Byhalia, Miss. Filed Nov. 10, 1969.

**HYLON**



**Class 4—Abrasives and Polishing Materials**

For Wax Polish for Use on Furniture, Woodwork, Cabinets, Plastic, Leather, Vinyl, Ceramic and Plastic Tile, Metal Items, Appliances and Marble, Preparation for Cleaning and Polishing Metal (Int. Cl. 3).

**Class 6—Chemicals and Chemical Compositions**

For Disinfectant-Deodorant, Room Deodorant, Combination Fly and Mosquito Spray, Residual Insecticide, and Dust-Absorbing Composition for Application to Dust Mops and Dust Cloths (Int. Cls. 4 and 5).

**Class 15—Oils and Greases**

For Silicone Lubricant (Int. Cl. 4).

**Class 51—Cosmetics and Toilet Preparations**

For Hair Spray (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Glass Cleaner, and Chalkboard Cleaner (Int. Cl. 3).

First use Nov. 7, 1969.

SN 343,460. E. R. Squibb & Sons, Inc., New York, N.Y. Filed Nov. 14, 1969.

**UNILOG****Class 37—Paper and Stationery**

For Cardboard Folders for Containing and Recording the Dispersment of Pharmaceuticals (Int. Cl. 16).

**Class 38—Prints and Publications**

For Series of Printed Catalogues and Lists of Identification Codes for Pharmaceutical Capsules and Tablets (Int. Cl. 16).

First use Oct. 25, 1967.

SN 345,504. Schenult Industries, Inc., Baltimore, Md. Filed Dec. 5, 1969.

**DURA-TECH****Class 2—Receptacles**

For Stylized Decorative Plastic Planters (Int. Cl. 21).  
First use in or about April 1969.

**Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires**

For Tires (Int. Cl. 12).  
First use in or about October 1966.

SN 346,020. Union Manufacturing Company, New Britain, Conn. Filed Dec. 12, 1969.



No claim is made to the words "Mfg. Co." and "New Britain, Conn. U.S.A." apart from the mark as shown. Owner of Reg. Nos. 125,852, 518,620 and 640,983.

**Class 2—Receptacles**

For Stock Reels and Vacuum-Insulated Bottles (Int. Cls. 6, 7, and 21).  
First use December 1969.

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Vises, Precision Die Sets, Airborne Fixture Tables, Pulleys, V-Block Parallels, and Food Choppers (Int. Cls. 6, 7, and 8).

First use about 1880.

SN 346,549. Avon Products, Inc., New York, N.Y. Filed Dec. 18, 1969.

**SUN DECK****Class 51—Cosmetics and Toilet Preparations**

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Nov. 25, 1969.

SN 346,550. Avon Products, Inc., New York, N.Y. Filed Dec. 18, 1969.

**FRIVOLE****Class 51—Cosmetics and Toilet Preparations**

For Cologne and Dusting Powder (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Nov. 17, 1969.

SN 348,715. Pavco Industries, Inc., Pascagoula, Miss. Filed Jan. 16, 1970.



Owner of Reg. No. 758,673.

**Class 12—Construction Materials**

For Insulating Fibreboard Tile, Acoustical Fibreboard Tile, Non-Combustible Mineral Fibre Tile, Hardboard, Particleboard, Chipboard, Plywood, Composition Flooring, and Wood Block Flooring (Int. Cl. 19).

**Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor**

For Woven Carpets (Int. Cl. 27).

First use Oct. 7, 1969.

SN 349,240. Avon Products, Inc., New York, N.Y. Filed Jan. 22, 1970.

**STAR BORN****Class 51—Cosmetics and Toilet Preparations**

For Cologne, Lipstick, and Filled Powder Compact (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Dec. 30, 1969.

SN 349,241. Avon Products, Inc., New York, N.Y. Filed Jan. 22, 1970.

**STARCASTER****Class 51—Cosmetics and Toilet Preparations**

For Cologne, Filled Powder Compact, and Lipstick (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Dec. 30, 1969.

SN 349,242. Avon Products, Inc., New York, N.Y. Filed Jan. 22, 1970.

**ATMOSPHERE****Class 51—Cosmetics and Toilet Preparations**

For Cologne and Dusting Powder (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Dec. 30, 1969.

SN 349,243. Avon Products, Inc., New York, N.Y. Filed Jan. 22, 1970.

**HEAVEN AND EARTH****Class 51—Cosmetics and Toilet Preparations**

For Lipstick, Filled Powder Compact, and Cologne (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Dec. 30, 1969.

SN 354,056. W. R. Grace & Co., New York, N.Y. Filed Mar. 16, 1970.



Owner of Reg. Nos. 718,075, 740,775, and others.

**Class 1—Raw or Partly Prepared Materials**

For Seeds and Plastic Sheetting (Int. Cls. 17 and 31).  
First use 1964.

**Class 2—Receptacles**

For Foamed Plastic Containers for All Types of Articles Including Food; Polyethylene Bags, Pouches and Casings Mainly for Wrapping Fresh and Frozen Foods (Int. Cls. 16 and 21).

First use 1963.

**Class 4—Abrasives and Polishing Materials**

For Rare Earth Polishing Powders (Int. Cl. 3).  
First use Apr. 4, 1960.

**Class 6—Chemicals and Chemical Compositions**

For Cloth Wrapper Impregnated With Chemically Compounder Rust Inhibitors for Wrapping and Enclosing Metal Pipes and Metallic Products in General To Protect Against Rust; Adsorbents, Water Treatment Chemicals, Return Line Chemicals, Polyester Molding Compounds, Ammonia, Urea, Pesticides and Phthalic Anhydride (Int. Cls. 1 and 2).  
First use Apr. 4, 1960.

**Class 12—Construction Materials**

For Fireproofing Insulation for Direct Application to Steel and Other Surfaces (Int. Cl. 17).  
First use at least as early as Jan. 21, 1965.

**Class 16—Protective and Decorative Coatings**

For Organic, Zinc-Rich Protective Coating Preparations (Int. Cl. 2).  
First use at least as early as Oct. 25, 1965.

**Class 20—Linoleum and Oiled Cloth**

For Vinyl Wallcovering Material (Int. Cl. 27).  
First use 1968.

**Class 37—Paper and Stationery**

For Transparent and Translucent Thermoplastic Wrapping and Packaging Material in the Form of Sheets and Films and Laminated Thermoplastic Packaging Film (Int. Cl. 16).  
First use 1964.

**Class 52—Detergents and Soaps**

For Alkaline, Acid and Neutral Cleaners for Use on Wood, Metal and Plastic Surfaces (Int. Cl. 3).  
First use at least as early as Sept. 22, 1966.

**SECTION 2**

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

**Class 1—Raw or Partly Prepared Materials**

SN 317,026. Free-Flow Packaging Corporation, Redwood City, Calif. Filed Jan. 21, 1969.

SN 310,250. Saat- und Erntetechnik GmbH, Eschwege, Germany. Filed Oct. 22, 1968.

**GRANUSAT**

Owner of German Reg. No. 833,836, dated Oct. 6, 1966.  
For Grass Seeds, Flower Seeds, Vegetable Seeds, Forest Plant Seeds, Agricultural Fodder Seeds, Herbicidal and Medicinal Plant Seeds, Shrub and Brush Seeds, and Spores of Seedless Plants (Int. Cl. 31).

For Loose Fill Cushioning Material for Use in the Packaging and Shipping of Goods (Int. Cl. 17).  
First use Apr. 22, 1968.





SN 326,262. Standard Oil Company, Flemington, N.J. Filed May 2, 1969.

**FIOR**

For Reduced Iron Ore (Int. Cl. 6).  
First use Jan. 16, 1968.

SN 327,628. Interpace Corporation, Parsippany, N.J. Filed May 19, 1969.

**CORCEL**

For Volcanic Ash Usable as a Filler and as a Carrier for Fertilizers, Pesticides, and Catalysts (Int. Cl. 1).  
First use Mar. 6, 1969.

SN 329,987. Insta-Foam Products, Inc., Addison, Ill. Filed June 13, 1969.

**FROTH-PAK**

For Aerosol Dispenser Containers Containing Materials for Producing Urethane Foam (Int. Cl. 1).  
First use June 26, 1968.

SN 333,682. The Conard-Pyle Company, West Grove, Pa. Filed July 28, 1969.

**STAR**

Owner of Reg. No. 556,945.  
For Rose Plants, Tree Rose Plants, Miniature Rose Plants, Chrysanthemum Plants, Delphinium Plants, Shasta Daisy Plants, Phlox Plants, Canna Plants, Azaleas, Clematis, Cotton-asters, Cupressocyparis Leylandi, Euonymus, Ilex, Junipers, Leucothoes, Pieris Japonica Compacta, Pinus, Pyracanthas and Rhododendrons (Int. Cl. 31).  
First use in or about 1909.

SN 346,303. Sekisui Chemical Company, Ltd., Osaka, Japan. Filed Dec. 15, 1969.

**LIGHTLON**

For Foamed Polyethylene Sheet (Int. Cl. 17).  
First use Feb. 26, 1968; in commerce July 5, 1969.

SN 346,304. Sekisui Chemical Company, Ltd., Osaka, Japan. Filed Dec. 15, 1969.

**SOFTLON**

For Foamed Polyethylene Sheet (Int. Cl. 17).  
First use Apr. 9, 1965; in commerce May 20, 1967.

SN 346,389. Emba Mink Breeders Association, Racine, Wis., assignee of Larry Moore-Gilbert Tuttle Mink Ranch, Salem Wis. Filed Dec. 16, 1969.

**APOLLO XII**

For Mink Fur Pelts (Int. Cl. 18).  
First use Dec. 1, 1969.

SN 346,471. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Dec. 17, 1969.

**BAYDUR**

Owner of German Reg. No. 793,078, dated Sept. 24, 1962; and U.S. Reg. No. 796,975.  
For Polyurethane Plastics for Use in the Industrial Arts (Int. Cl. 1).

SN 346,494. Emba Mink Breeders Association, Racine, Wis., assignee of Larry Moore-Gilbert Tuttle Mink Ranch, Salem, Wis. Filed Dec. 17, 1969.

**APOLLO XIII**

For Mink Fur Pelts (Int. Cl. 18).  
First use Dec. 1, 1969.

SN 346,533. Emba Mink Breeders Association, Racine, Wis., assignee of Larry Moore-Gilbert Tuttle Mink Ranch, Salem, Wis. Filed Dec. 17, 1969.

**APOLLO XIV**

For Mink Fur Pelts (Int. Cl. 18).  
First use Dec. 1, 1969.

SN 346,535. Emba Mink Breeders Association, Racine, Wis., assignee of Larry Moore-Gilbert Tuttle Mink Ranch, Salem, Wis. Filed Dec. 17, 1969.

**APOLLO XI**

For Mink Fur Pelts (Int. Cl. 18).  
First use July 22, 1969.

SN 346,544. Albert Zollinger Inc., Downers Grove, Ill. Filed Dec. 17, 1969.

**fibracrine**

For Reinforced Polyester Molding Compound (Int. Cl. 1).  
First use in or about July 1968.

SN 346,739. J. M. Huber Corporation, Borger, Tex. Filed Dec. 19, 1969.

**SUPREX**

Owner of Reg. No. 508,544.  
For Clay (Int. Cl. 19).  
First use July 1, 1946.

SN 351,151. Societe d'Emballages Plastiques, Neuilly-sur-Seine, France. Filed Feb. 11, 1970.

**VITEPACK**

Owner of French Reg. No. 752,457, dated Oct. 18, 1968.  
For Plastic Sheets, Rods, Plates, Sections, and Tubes for General Use in the Industrial Arts; and Plastic Sheet Material for Packaging Purposes (Int. Cl. 17).

SN 351,154. Societe d'Emballages Plastiques, Neuilly-sur-Seine, France. Filed Feb. 11, 1970.

**VIPATHENE**

Owner of French Reg. No. 752,455, dated Oct. 18, 1968.  
For Plastic Sheets, Rods, Plates, Sections, and Tubes for General Use in the Industrial Arts; and Plastic Sheet Material for Packaging Purposes (Int. Cl. 17).

SN 355,715. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Apr. 2, 1970.



Owner of Reg. Nos. 583,193, 616,694, and others.  
For Aluminum Silicate Sand (Int. Cl. 1).  
First use Feb. 6, 1970.

SN 357,031. Ethyl Corporation, Richmond, Va. Filed Apr. 16, 1970. SN 343,009. Shaw-Clayton Plastics Incorporated, San Rafael, Calif. Filed Nov. 7, 1969.

**VISPOSE**

For Polyethylene Film (Int. Cl. 17).  
First use Apr. 1, 1970.

SN 357,285. Northrup, King & Company, Minneapolis, Minn. Filed Apr. 20, 1970.

**SUPER PRO**

For Farm Seeds—Namely, Hybrid Seed Corn (Int. Cl. 31).  
First use on or before Mar. 20, 1970.

**Class 2—Receptacles**

SN 337,290. Farmaster Products, Inc., Shenandoah, Iowa. Filed Sept. 8, 1969.

**FARMMASTER**

For Hog Troughs (Int. Cl. 21).  
First use Oct. 28, 1968.

SN 337,916. Farmaster Products, Inc., Shenandoah, Iowa. Filed Sept. 15, 1969.



The drawing is lined for the color red.  
For Hog Troughs (Int. Cl. 21).  
First use Oct. 28, 1968.

SN 338,147. General Plastics Company, Limited, Cookshire, Quebec, Canada. Filed Sept. 17, 1969.

**GENPAK**

Owner of Canadian Reg. No. 163,587, dated June 27, 1969.  
For Containers—Namely, Shipping and Displaying Containers (Int. Cls. 20 and 22).

SN 339,842. CTP Industries Inc., Brooklyn, N.Y. Filed Oct. 6, 1969.

**SHOP-R**

For Thermoplastic Bags (Int. Cl. 22).  
First use Aug. 21, 1969.

SN 340,705. Deering Milliken, Inc., New York, N.Y. Filed Oct. 15, 1969.



Owner of Reg. No. 848,200.  
For Transparent Packages Made of Heat Shrinkable Polyethylene Film, for Use in Packaging Coins (Int. Cl. 20).  
First use Oct. 15, 1967.

SN 343,009. Shaw-Clayton Plastics Incorporated, San Rafael, Calif. Filed Nov. 7, 1969.

**FLEX-A-TOP**

For Molded Plastic Boxes (Int. Cl. 20).  
First use Mar. 26, 1968.

SN 346,770. Sani-Gard Manufacturing Co., Los Angeles, Calif. Filed Dec. 19, 1969.

**INSULITE**

For Foam Plastic Drinking Cups (Int. Cl. 21).  
First use Aug. 3, 1960.

SN 347,728. David Douglas Co., Inc., Manitowac, Wis. Filed Jan. 5, 1970.

**CORKER**

For Plastic Food Container With Removable Cover (Int. Cl. 21).  
First use Aug. 25, 1969.

**Class 4—Abrasives and Polishing Materials**

SN 331,528. Pelletronics, Inc., Trenton, N.J. Filed July 1, 1969.

**PELLITE**

For Glass Beads Used in Tumbling and Blast-Cleaning Equipment for Peening, Polishing, and Cleaning Metal Surfaces (Int. Cl. 3).  
First use Apr. 8, 1969.

SN 331,529. Pelletronics, Inc., Trenton, N.J. Filed July 1, 1969.

**PELL-A-CUT**

For Aluminum Oxide Abrasive Media in Grit, Chip, and Nugget Form (Int. Cl. 3).  
First use Apr. 16, 1969.

SN 331,533. Pelletronics, Inc., Trenton, N.J. Filed July 1, 1969.

**PELL-A-FORM**

For Fired Ceramic Media in Geometric Forms for Finishing Metal Surfaces in Barrel or Vibratory Equipment (Int. Cl. 3).  
First use Apr. 8, 1969.

SN 346,252. J & M Mfg. Company, Southport, Ind. Filed Dec. 15, 1969.

**POLYSHARP**

For Whetstones (Int. Cl. 8).  
First use June 30, 1967.

**Class 6—Chemicals and Chemical Compositions**

SN 298,221. Faultless Starch Company, Kansas City, Mo. Filed May 15, 1968.

**SANISUN**

For Anti-Bacterial and Antifungal Ingredient Incorporated in a Laundry Preparation—Namely, a Sizing and Finishing Agent for Fabrics (Int. Cl. 3).  
First use May 3, 1968.



SN 306,254. Masanori Konaka, Chuo-ku, Tokyo, Japan. Filed Aug. 29, 1968.

**Hakubai**  
**白梅**

The translation of the mark is "white plum."  
For Incense (Int. Cl. 3).  
First use May 1, 1950; in commerce May 1, 1962.

SN 320,383. Nor-Am Agricultural Products, Inc., Chicago, Ill., assignee of Schering Aktiengesellschaft, Berlin, Germany. Filed Feb. 28, 1969.

### BETANAL

For Herbicides (Int. Cl. 5).  
First use October 1967; in commerce Nov. 1, 1968.

SN 321,269. Private Brands, Inc., Kansas City, Kans. Filed Mar. 10, 1969.

### AGRI-OIL PLUS

For Blend of a Surfactant and Agricultural Spray Oil for Use With Herbicidal Sprays (Int. Cl. 4).  
First use Feb. 3, 1969.

SN 321,755. Bazar, Inc., Portland, Ore. Filed Mar. 14, 1969.



For Bleach-Disinfectant (Int. Cl. 3).  
First use March 1964.

SN 322,828. Caled Products Company, Inc., Brentwood, Md. Filed Mar. 26, 1969.

### CAL DRY

Applicant disclaims the word "Dry" apart from the mark as shown.  
For Water Repellent Composition for Clothes and Fabrics (Int. Cl. 1).  
First use January 1969.

SN 326,675. Moore Business Forms, Inc., Niagara Falls, N.Y. Filed May 7, 1969.



For Fluid To Correct Errors Made by Typing or Ball Point Pen (Int. Cl. 16).  
First use Apr. 16, 1969.

SN 326,882. Interstate Foods Corporation, Chicago, Ill. Filed May 19, 1969.

### FACT

For Chemical Tester for Testing Fatty Acids Content of Edible Oil (Int. Cl. 1).  
First use in April 1969.

SN 330,177. National Service Industries, Inc., Atlanta, Ga. Filed June 16, 1969.

### SE-FLY-GO

For Insecticides (Int. Cl. 5).  
First use Mar. 1, 1925.

SN 331,392. The Kroger Co., d.b.a. Jubilee Products Inc., Cincinnati, Ohio. Filed June 30, 1969.

### AUTO PRIDE

Applicant disclaims the word "Auto" apart from the mark as shown.  
For Automobile Radiator Antifreeze (Int. Cl. 1).  
First use at least as early as Oct. 17, 1968.

SN 337,931. Haviland Products Company, Grand Rapids, Mich. Filed Sept. 15, 1969.

### ND-68

For Chemical Additive for Aluminum Etching Bath (Int. Cl. 1).  
First use on or about July 1, 1968.

SN 338,267. Rohm and Haas Company, Philadelphia, Pa. Filed Sept. 18, 1969.

### KERB

For Herbicides (Int. Cl. 5).  
First use on or about Aug. 18, 1969.

SN 340,405. Malmstrom Chemical Corp., Linden, N.J. Filed Oct. 10, 1969.

### ACETOL

For Acetylated Lanolin Alcohol Liquid (Int. Cl. 1).  
First use Sept. 19, 1963.

SN 340,407. Malmstrom Chemical Corp., Linden, N.J. Filed Oct. 10, 1969.

### HYDROXYOL

For Hydrogenated Lanolin (Int. Cl. 4).  
First use Mar. 8, 1968.

SN 340,409. Malmstrom Chemical Corp., Linden, N.J. Filed Oct. 10, 1969.

### TRISOLAN

For Lanolin-Isopropyl Ester (Int. Cl. 1).  
First use June 1966.

SN 344,884. R.I.T.A. Organics, Inc., Chicago, Ill. Filed Nov. 28, 1969.

### DEW PEARL

For Guanine (Int. Cl. 1).  
First use Nov. 10, 1967.

SN 345,314. The Dow Chemical Company, Midland, Mich. Filed Dec. 4, 1969.

### VERTAN

Owner of Reg. No. 578,685.  
For Sodium Salt of a Synthetic Amino Acid; Chelant Compositions for Prevention of Scale Deposition (Int. Cl. 1).  
First use Dec. 18, 1952.

SN 348,942. Hercules Incorporated, Wilmington, Del. Filed Jan. 19, 1970.

### NORABEN

For Herbicide (Int. Cl. 5).  
First use Apr. 10, 1969.

SN 350,700. Certified Laboratories, Inc., Fort Worth, Tex. Filed Feb. 6, 1970.

### LIQUA-SECT

For Insecticide (Int. Cl. 5).  
First use January 1959.

SN 350,721. Continental Oil Company, Ponca City, Okla. Filed Feb. 6, 1970.



For Chemical Composition for Destroying Crabgrass (Int. Cl. 5).  
First use Apr. 23, 1962.

SN 350,966. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Feb. 9, 1970.

### NEPOL

Owner of Reg. No. 730,269.  
For Industrial Starch (Int. Cl. 1).  
First use as early as Apr. 21, 1969.

SN 354,832. First Mississippi Corporation, Jackson, Miss. Filed Mar. 28, 1970.

### URIFINE

For Industrial Grade Urea (Int. Cl. 1).  
First use July 15, 1969.

SN 356,552. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 13, 1970.

### FEATHER

For Fabric Softener (Int. Cl. 3).  
First use Nov. 6, 1969.

SN 356,569. The Kingston Company, Skokie, Ill. Filed Apr. 13, 1970.

### DARTMOUTH

For Ammonia (Int. Cl. 1).  
First use Mar. 17, 1970.

### Class 10 - Fertilizers

SN 341,779. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Oct. 27, 1969.

### STYROMULL

For Soil Conditioners and Ameliorants (Int. Cl. 1).  
First use Sept. 26, 1961; in commerce Sept. 15, 1969.

### Class 11 - Inks and Inking Materials

SN 324,253. USM Corporation, Boston, Mass. Filed Apr. 10, 1969.



Owner of Reg. Nos. 750,359, 803,747, and others.  
For Sole Edge Finishing Ink (Int. Cl. 2).  
First use Jan. 29, 1969.

SN 333,371. The Carter's Ink Company, Cambridge, Mass. Filed July 24, 1969.

### KLEEN-PAK

For Typewriter Ribbons (Int. Cl. 16).  
First use Mar. 12, 1969.

### Class 12 - Construction Materials

SN 294,747. Parr Inc., Cleveland, Ohio, by change of name from Parr Paint and Sealants Inc., Cleveland, Ohio. Filed Apr. 2, 1968.



The drawing is lined for blue, but that specific color is not claimed as a feature of the mark. Owner of Reg. Nos. 693,843, 845,724, and others.  
For Extrudable One Part Polysulfide Sealing Compound (Int. Cl. 17).  
First use on or about Mar. 6, 1968.



SN 336,285. Georgia-Pacific Corporation, Portland, Ore. Filed Aug. 12, 1969.

## OLD WORLD

For Prefinished Plywood Paneling (Int. Cl. 19).  
First use Jan. 20, 1969.

SN 340,747. United States Mineral Products Company, Stanhope, N.J. Filed Oct. 15, 1969.

## DECK-SHIELD

Owner of Reg. Nos. 687,456, 788,922, and others.  
For Construction Material Having Fireproofing Properties—Namely, a Cementitious, Mineral Fiber Reinforced Mass (Int. Cl. 19).  
First use Oct. 8, 1969.

SN 346,992. Washington Aluminum Company, Inc., Baltimore, Md. Filed Dec. 22, 1969.

## GRIP-STEP

For Floor Gratings (Int. Cl. 6).  
First use Sept. 9, 1969.

SN 347,112. Morgan Company, Oshkosh, Wis. Filed Dec. 24, 1969.



For Door and Frame Assembly (Int. Cl. 19).  
First use Sept. 15, 1969.

SN 347,124. The Soundlock Corporation, Hazlehurst, Ga. Filed Dec. 24, 1969.

## SOUNDSPAN

Owner of Reg. Nos. 703,775, 713,354, and 857,776.  
For Acoustic Panels (Int. Cl. 19).  
First use Feb. 4, 1969.

SN 348,046. Michigan Birch Door Manufacturers, Inc., Mount Clemens, Mich. Filed Jan. 8, 1970.

## AQUACLAD

For Pre-Finished Doors (Int. Cl. 19).  
First use on or before Nov. 17, 1969.

SN 348,420. Georgia-Pacific Corporation, Portland, Ore. Filed Jan. 13, 1970.

## DENSCAL

For Gypsum Plaster for Industrial Uses (Int. Cl. 19).  
First use Oct. 30, 1967.

SN 348,691. Sonoco Products Company, Hartsville, S.C. Filed Jan. 15, 1970.

## ECON-O-SHIM

For Shims in Installation of Windows, Doors, Curtain Walls, and Similar Construction (Int. Cl. 19).  
First use Nov. 1, 1969.

SN 348,933. Georgia-Pacific Corporation, Crossett, Ark. Filed Jan. 19, 1970.

## ROYAL OAK

The word "Oak" is disclaimed apart from the mark as shown. Owner of Reg. No. 294,978.  
For Oak Flooring (Int. Cl. 19).  
First use Dec. 1, 1926.

SN 349,878. Masonite Corporation, Chicago, Ill. Filed Jan. 28, 1970.

## Crestwall

Owner of Reg. No. 808,330.  
For Construction Board—Namely, Fiber Board, Composite Board, Hardboard and Synthetic Lumber or Artificial Lumber for Various Construction Purposes (Int. Cl. 19).  
First use Dec. 8, 1969.

SN 355,723. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Apr. 2, 1970.



Owner of Reg. Nos. 79,840, 836,967, and others.  
For Hydrated Lime for Building and Construction Purposes (Int. Cl. 19).  
First use as early as 1957.

SN 355,724. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Apr. 2, 1970.

## TIGER

Owner of Reg. Nos. 79,840, 836,967, and others.  
For Hydrated Lime for General Use (Int. Cl. 19).  
First use as early as 1957.

## Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 313,392. American Fence Construction Company, d.b.a. AFCCO Fences, Baltimore, Md. Filed Dec. 2, 1968.



Owner of Reg. No. 607,824.  
For Plastic Coated Metallic Chain Link Fabric for Fencing, Including Residential Fencing, Fencing for Industrial Plants, Playgrounds, Athletic Fields, Stadiums, Swimming Pools, Right-of-Way Fencing Along Highways and Highway Guard Rails and Related Components; Fencing for Security and Decorative Purposes; Area Security Systems of Various Types and for Marking Boundary Lines, Balcony Rails, Protective Netting for Mine Proofs, Safety Nets, Rock Barriers, and Metal Fences, Fence Posts, and Metal Fence and Post Fittings (Int. Cl. 6).  
First use in December 1908.

SN 321,471. Cordova Creations, Inc., Los Angeles, Calif. Filed Mar. 12, 1969.

## CORDOVA

Owner of Reg. No. 871,250.  
For Holloware—Namely, Bowls, Trays, Plates, Dishes, Caseroles, Hostess Accessories, Platters, Gift Sets, Cream and Sugar Sets, Butter Dishes, Servers, Condiment Sets, Pitchers, Coffee Pots, Fondue Pots, Lazy Susans, and Serving Pieces, All Made From Non-Precious Metals (Int. Cl. 21).  
First use on about Dec. 1, 1968.

SN 336,881. Vistron Corporation, Cleveland, Ohio. Filed Sept. 2, 1969.

## SABLE

For Plastic Pipe (Int. Cl. 17).  
First use prior to June 19, 1969.

SN 349,700. The Steel Company of Canada, Limited, Hamilton, Ontario, Canada. Filed Jan. 26, 1970.

## MONOVA

For Barbed Wire (Int. Cl. 6).  
First use 1966; in commerce February 1969.

SN 349,775. Leonard Valve Company, Cranston, R.I. Filed Jan. 27, 1970.

## SURFASHOWER

For Mixing Valves (Int. Cl. 6).  
First use Nov. 5, 1969.

SN 350,496. Marscar Limited, London, England. Filed Feb. 4, 1970.

## MARSCAR

Owner of British Reg. No. 911,538, dated July 4, 1967.  
For Bowls and Parts and Fittings Therefor, All Being Made of Plastics and for Use in Drainage Systems (Int. Cl. 19).

SN 350,804. Olin Corporation, East Alton, Ill. Filed Feb. 5, 1970.

## FINEWELD

For Metal Tubing (Int. Cl. 6).  
First use on or about Dec. 10, 1969.

SN 350,842. Ajax Hardware Corporation, City of Industry, Calif. Filed Feb. 9, 1970.

## AQUARIUS COLLECTION

For Cabinet Hardware (Int. Cl. 6).  
First use Jan. 9, 1970.

SN 351,440. Emhart Corporation, Hartford, Conn. Filed Feb. 16, 1970.

## Cross-trim

Owner of Reg. Nos. 286,989, 661,822, and 882,007.  
For Tack Strips (Int. Cl. 6).  
First use Aug. 26, 1966.

SN 351,519. Northern Petrochemical Company, Des Plaines, Ill. Filed Feb. 16, 1970.

## NORCHEM

For Plastic Pipe or Tubing and Plastic Fittings (Int. Cl. 17).  
First use June 30, 1969.

SN 351,621. Mechanized Science Seals, Inc., Los Angeles, Calif. Filed Feb. 17, 1970.

## NICOPLY

For Metal Bellows (Int. Cl. 6).  
First use on or about Jan. 15, 1970.

SN 352,451. Celanese Corporation, New York, N.Y. Filed Feb. 26, 1970.

## SUPER GOLDEN JET

Owner of Reg. No. 689,358.  
For Plastic Pipe and Fittings (Int. Cl. 17).  
First use since September 1964.

## Class 14—Metals and Metal Castings and Forgings

SN 344,689. Diversified Industries, Inc., Clayton, Mo. Filed Nov. 26, 1969.

## CU-CHOPS

Owner of Reg. No. 855,831.  
For Pre-Measured Copper Granules (Int. Cl. 6).  
First use Oct. 29, 1969.



SN 344,690. Diversified Industries, Inc., Clayton, Mo. Filed Nov. 26, 1969. SN 326,628. Carlisle Chemical Works, Inc., Reading, Ohio. Filed May 7, 1969.

**MINIBRIQ**

Owner of Reg. Nos. 855,831 and 855,832.  
For Compressed Metal Granules (Int. Cl. 6).  
First use Oct. 29, 1969.

SN 344,692. Diversified Industries, Inc., Clayton, Mo. Filed Nov. 26, 1969.

**ELECTROPAK**

Owner of Reg. No. 830,911.  
For Pre-Measured Copper Granules (Int. Cl. 6).  
First use Oct. 29, 1969.

SN 344,696. Diversified Industries, Inc., Clayton, Mo. Filed Nov. 26, 1969.

**ALUMAPAK**

Owner of Reg. No. 830,913.  
For Pre-Measured Aluminum Granules (Int. Cl. 6).  
First use Oct. 29, 1969.

SN 344,697. Diversified Industries, Inc., Clayton, Mo. Filed Nov. 26, 1969.

**AL-GRAINS**

Owner of Reg. No. 830,913.  
For Aluminum Granules (Int. Cl. 6).  
First use Oct. 29, 1969.

SN 344,698. Diversified Industries, Inc., Clayton, Mo. Filed Nov. 26, 1969.

**AL-CHOPS**

Owner of Reg. No. 830,913.  
For Aluminum Granules (Int. Cl. 6).  
First use Oct. 29, 1969.

SN 349,414. Youngstown Sheet and Tube Company, Youngstown, Ohio. Filed Jan. 22, 1970.

**DUXTAL**

For Steel Coated With a Chemical Composition (Int. Cl. 6).  
First use at least as early as March 1969.

**Class 15—Oils and Greases**

SN 321,079. Publix Oil Company, Incorporated, Morristown, Tenn. Filed Mar. 7, 1969.



For Gasoline, Lubricating Oils, and Greases (Int. Cl. 4).  
First use on or about Apr. 23, 1968.

SN 326,628. Carlisle Chemical Works, Inc., Reading, Ohio. Filed May 7, 1969.

**ADVAWAX**

Owner of Reg. No. 489,076.  
For Mineral Waxes for Use in Paints, Adhesives, Asphalts, and Resins (Int. Cl. 4).  
First use Jan. 13, 1950.

SN 337,704. Sun Oil Company, Philadelphia, Pa. Filed Sept. 11, 1969.

**OTTAWA**

For Lubricating and Hydraulic Oils (Int. Cl. 4).  
First use Dec. 1, 1968.

SN 337,707. Sun Oil Company, Philadelphia, Pa. Filed Sept. 11, 1969.

**GEARTRAN**

For Gear Lubricants (Int. Cl. 4).  
First use Apr. 10, 1968.

SN 337,717. Sun Oil Company, Philadelphia, Pa. Filed Sept. 11, 1969.

**GENMAC**

For Oils Used as General Purpose Lubricants (Int. Cl. 4).  
First use Aug. 1, 1968.

SN 349,512. The Standard Oil Company, Cleveland, Ohio. Filed Jan. 23, 1970.

**GOLDEN BORON**

Owner of Reg. Nos. 623,892 and 809,138.  
For Gasoline (Int. Cl. 4).  
First use July 21, 1969.

**Class 16—Protective and Decorative Coatings**

SN 321,694. The Studio-Creative Crafts, Inc., Arlington, Va. Filed Mar. 13, 1969.

**CREATABILITY**

For Handicraft Kits Comprising Paints, Glazes and Brushes (Int. Cl. 16).  
First use December 1967.

**Class 17—Tobacco Products**

SN 348,003. Badische Tabakmanufaktur, Lahr, Black Forest, Germany. Filed Jan. 8, 1970.

**PILOT**

Owner of German Reg. No. 286,535, dated Dec. 24, 1921.  
For Cigarettes (Int. Cl. 34).

SN 350,391. Lane Limited, New York, N.Y. Filed Feb. 3, 1970.

**SWISS CHALET**

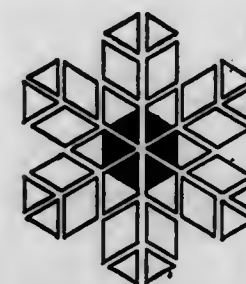
For Smoking Tobacco (Int. Cl. 34).  
First use November 1969.

SN 350,416. Camacho Cigars, Inc., Miami, Fla. Filed Feb. 4, 1970.

**COUNT CHRISTOPHER**

For Cigars (Int. Cl. 34).  
First use Jan. 22, 1970.

SN 351,878. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Feb. 20, 1970.



For Cigarettes (Int. Cl. 34).  
First use Jan. 28, 1970.

SN 355,609. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Apr. 1, 1970.

**JESTERS**

For Cigars (Int. Cl. 34).  
First use Mar. 2, 1970.

SN 356,584. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Apr. 13, 1970.

**DELLWOOD**

For Smoking Tobacco (Int. Cl. 34).  
First use Apr. 8, 1970.

SN 356,585. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Apr. 13, 1970.

**PUB**

For Smoking Tobacco (Int. Cl. 34).  
First use Apr. 8, 1970.

SN 356,589. Senior Service (Overseas) Limited, London, England. Filed Apr. 13, 1970.

**Junior Member**

Owner of British Reg. No. 934,188, dated Nov. 21, 1968.  
For Cigarettes (Int. Cl. 34).

**Class 18—Medicines and Pharmaceutical Preparations**

SN 297,526. Bristol-Myers Company, New York, N.Y. Filed May 7, 1968.

**NEOTREX**

For Analgesic (Int. Cl. 5).  
First use Mar. 21, 1968.

SN 308,773. Johnson & Johnson, New Brunswick, N.J., assignee of The Dow Chemical Company, Midland, Mich. Filed Oct. 3, 1968.

**RHIVAX**

For Vaccines for Immunizing Cattle Against Rhinotracheitis and Parainfluenza (Int. Cl. 5).  
First use at least as early as June 1957.

SN 324,105. Para-Pharma Salvisberg & Co., Zurich, Switzerland. Filed Apr. 9, 1969.

**REDUFORM**

Owner of Swiss Reg. No. 148,166, dated Oct. 6, 1953.  
For Pharmaceutical Preparation for Aid in Reducing (Int. Cl. 5).

SN 324,458. Hoffmann-La Roche Inc., Nutley, N.J. Filed Apr. 14, 1969.

**ZESTABS**

Owner of Reg. No. 737,763.  
For Vitamin Supplement (Int. Cl. 5).  
First use Oct. 19, 1960.

SN 329,421. Alfa Pet, Inc., St. Louis, Mo. Filed June 9, 1969.

**CHLORPETS**

For Chlorophyll Powder for Internal Use by Dogs (Int. Cl. 5).  
First use June 4, 1969.

SN 330,833. The Governors of the University of Toronto, d.b.a. Connaught Medical Research Laboratories, Toronto, Ontario, Canada. Filed June 24, 1969.

**ERA STRAIN**

Applicant disclaims the right to the exclusive use of the word "Strain" apart from the mark as shown.  
For Rabies Vaccine for Veterinary Use (Int. Cl. 5).  
First use Apr. 5, 1967; in commerce Apr. 5, 1967.

SN 330,856. Smith, Miller & Patch, Inc., New York, N.Y. Filed June 24, 1969.

**MILIFERIN**

Owner of Reg. No. 500,654.  
For Iron, Vitamin and Liver Preparation (Int. Cl. 5).  
First use May 29, 1946.



SN 330,947. Noxell Corporation, Baltimore, Md. Filed June 25, 1969.

**GOURMET**

For Medicated Hand Lotion for the Treatment of Minor Skin Irritations (Int. Cl. 5).  
First use May 19, 1969.

SN 332,264. Southwestern Drug Corporation, d.b.a. Truett Laboratories, Dallas, Tex. Filed July 10, 1969.

**PALVITE**

For Dietary Supplement Containing Vitamins (Int. Cl. 5).  
First use Jan. 1, 1950.

SN 337,396. Adrien Arpel, Inc., New York, N.Y. Filed Sept. 9, 1969.

**WHITE EYES**

Without relinquishing any of its common law rights, applicant disclaims the word "Eyes" apart from the mark as shown.

For Eye Drops (Int. Cl. 5).  
First use Aug. 6, 1969.

SN 340,763. Bristol-Myers Company, New York, N.Y. Filed Oct. 15, 1969.

**AMPIVET**

For Antibiotic Preparation (Int. Cl. 5).  
First use July 15, 1969.

SN 340,765. Bristol-Myers Company, New York, N.Y. Filed Oct. 15, 1969.

**CEPHAPYRIN**

For Antibiotic Preparation (Int. Cl. 5).  
First use July 15, 1969.

SN 340,767. Bristol-Myers Company, New York, N.Y. Filed Oct. 15, 1969.

**KANAPEN**

For Antibiotic Preparation (Int. Cl. 5).  
First use July 15, 1969.

SN 342,307. Pan American Laboratories, Inc., New Orleans, La. Filed Oct. 31, 1969.

**URIPAN**

For Preparation for Use in Gynecology Urinary Therapy (Int. Cl. 5).  
First use May 1, 1966.

SN 343,490. Barth Vitamin Corp., Valley Stream, N.Y. Filed Nov. 14, 1969.

**B-MAJOR**

For Vitamin Capsules (Int. Cl. 5).  
First use Mar. 24, 1969.

SN 343,496. Barth Vitamin Corp., Valley Stream, N.Y. Filed Nov. 14, 1969.

**HEMALIVE**

For Vitamin and Iron Tablets and Liquid (Int. Cl. 5).  
First use Jan. 12, 1959.

SN 343,498. Barth Vitamin Corp., Valley Stream, N.Y. Filed Nov. 14, 1969.

**SEA MASTER**

For Vitamin Capsules (Int. Cl. 5).  
First use Oct. 23, 1968.

SN 343,517. Chesebrough-Pond's Inc., New York, N.Y. Filed Nov. 14, 1969.

**BUSY GIRL**

For Medicated Acne Preparation (Int. Cl. 5).  
First use Oct. 29, 1969.

SN 350,551. Uni-Products Corporation, Omaha, Nebr. Filed Feb. 5, 1970.

**N-DUR**

For Desensitizing Agent (Int. Cl. 5).  
First use at least as early as Nov. 10, 1969.

SN 355,589. A. H. Robins Company, Incorporated, Richmond, Va. Filed Apr. 1, 1970.

**DIMACOL**

For Cough-Cold Preparation (Int. Cl. 5).  
First use Oct. 15, 1969.

SN 355,966. The Gillette Company, Boston, Mass. Filed Apr. 6, 1970.



For Medicated Eye Drops (Int. Cl. 5).  
First use Feb. 13, 1970.

**Class 19—Vehides**

SN 312,237. Stolper Industries, Inc., Menomonee Falls, Wis. Filed Nov. 14, 1968.



For Gasoline Tanks and Hydraulic Reservoirs and Fenders for Motor Vehicles, and Vehicle Cabs for Motor Vehicles (Int. Cl. 12).  
First use on or about Nov. 4, 1968.

SN 329,816. Textron Inc., Providence, R.I. Filed June 12, 1969.

**COLT**

For Snowmobiles and Parts Therefor, for Recreational Use (Int. Cl. 12).  
First use during May 1965.

SN 333,507. Universal Oil Products Company, Des Plaines, Ill. Filed July 25, 1969.

**LEVELAIR**

For Seats for Automotive Trucks, and Parts Thereof for Replacement and Repair (Int. Cl. 12).  
First use July 9, 1965.

**Class 20—Linoleum and Oiled Cloth**

SN 345,279. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed Dec. 4, 1969.

**ROULETTE**

For Vinyl Flooring (Int. Cl. 27).  
First use Nov. 7, 1969.

SN 349,059. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed Jan. 20, 1970.

**ECLAT**

For Vinyl Flooring (Int. Cl. 27).  
First use Dec. 3, 1969.

SN 350,378. Dwoskin, Inc., Atlanta, Ga. Filed Feb. 3, 1970.

**ULTRA TEX**

For Vinyl Wallcovering (Int. Cl. 27).  
First use Mar. 28, 1969.

**Class 21—Electrical Apparatus, Machines, and Supplies**

SN 331,111. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed June 27, 1969.

**MULTILOX**

For Ceramic Wiring Structures for Use in the Electrical Industry (Int. Cl. 9).  
First use June 11, 1969.

SN 331,756. John J. Horan, d.b.a. Horan Design Studios, Willow Grove, Pa. Filed July 3, 1969.

**PRESENTATION STRUCTURE**

For Electrical Interior Lamp (Int. Cl. 11).  
First use May 20, 1969.



The drawing is lined for the colors silver and red. Color and orientation of the features of the mark with respect to each other are disclaimed as features of the mark. Owner of Reg. Nos. 302,874; 842,305, and others.  
For Electric Coffee Percolators and Coffee Urns (Int. Cl. 11).  
First use May 21, 1969.

SN 337,971. Proctor-Silex Incorporated, Philadelphia, Pa. Filed Sept. 15, 1969.

**LEWYT**

For Vacuum Cleaners and Accessories and Attachments Therefor—Namely, Carpet and Floor Nozzles, Beater Nozzles, Duster Brushes, Drapery Nozzles, Upholstery Nozzles, Crevice Tools, Hoses, and Wands, Floor Polishers, Rug Cleaners, Liquid Section Pick-Up Units, Vacuum Cleaner and Liquid Suction Pick-Up Unit Combinations (Int. Cl. 9).  
First use in or about October 1946 on vacuum cleaners.

SN 338,063. Proctor-Silex Incorporated, Philadelphia, Pa. Filed Sept. 16, 1969.

**LIFELONG**

Owner of Reg. No. 850,107.  
For Vacuum Cleaners, Irons, Toasters, and Coffeemakers (Int. Cls. 9 and 11).  
First use in or about May 1966.

SN 340,088. Electrovit International, Inc., Miami, Fla. Filed Oct. 8, 1969.

**ELECTROVIT**

For Equipment for Controlling the Environment of Enclosures—Namely, Electrical Equipment for Reproducing Indoors Electrical Fields Which Occur Naturally Out of Doors (Int. Cl. 9).  
First use January 1968.

SN 341,062. The Scott & Fetzer Company, Lakewood, Ohio. Filed Oct. 17, 1969.

**VIRDEN LIGHTING**

The word "Lighting" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 635,848 and 636,412.  
For Electrical Light Fixtures (Int. Cl. 11).  
First use Dec. 30, 1955.

**Class 22—Games, Toys, and Sporting Goods**

SN 335,449. Gym Dandy, Inc., Bossier City, La. Filed Aug. 15, 1969.

**GYM-EE**

For Home Play Equipment—Namely, a Play Unit Comprising a Swing, Climbers, a Slide, Chinning Bars and a Table and Benches; and Parts and Assemblies Thereof (Int. Cl. 28).  
First use July 21, 1969.



SN 336,131. E. S. Lowe Company, Inc., Long Island City, N.Y. Filed Aug. 25, 1969.

**WORDMASTER**

For Equipment Sold as a unit for Playing a Parlor-Type Word Game (Int. Cl. 28).  
First use June 1969.

SN 337,996. Wilson Sporting Goods Co., River Grove, Ill. Filed Sept. 15, 1969.

**ASTRON**

For Golf Club Shafts (Int. Cl. 28).  
First use July 24, 1969.

SN 338,214. "Automatic" Sprinkler Corporation of America, Cleveland, Ohio. Filed Sept. 18, 1969.

**TRAPPER**

For Baseball Mitts and Gloves (Int. Cl. 28).  
First use December 1940.

SN 338,218. Brunswick Corporation, Chicago, Ill. Filed Sept. 18, 1969.

**VIP**

Owner of Reg. Nos. 841,596 and 865,675.  
For Golf Balls (Int. Cl. 28).  
First use June 13, 1969.

SN 338,903. Gentex Corporation, New York, N.Y. Filed Sept. 25, 1969.

**REGENCY**

For Life Jackets (Int. Cl. 9).  
First use Sept. 18, 1969.

SN 339,172. Formex Corporation, Elkhart, Ind. Filed Sept. 29, 1969.



For Water Sled (Int. Cl. 28).  
First use Aug. 25, 1969.

SN 339,253. Uniroyal, Inc., New York, N.Y. Filed Sept. 29, 1969.

**DURA-RANGE**

For Golf Balls (Int. Cl. 28).  
First use Nov. 11, 1968.

SN 339,409. Abbott Laboratories, d.b.a. The Faultless Rubber Company, North Chicago, Ill. Filed Oct. 1, 1969.

**DURA-BALL**

For Golf Balls (Int. Cl. 28).  
First use Jan. 21, 1969.

SN 339,740. McClellan Industries, Inc., Traverse City, Mich. Filed Oct. 3, 1969.

**DOWNRIGGER**

For Apparatus for Lowering Weighted Lines Overboard From a Fishing Boat, for Further Attachment and Sinking of Fishing Lines and Lures (Int. Cl. 28).  
First use Sept. 17, 1969.

SN 339,755. Stan Thompson Golf Club Co., Culver City, Calif. Filed Oct. 3, 1969.

**GINTY**

For Golf Clubs (Int. Cl. 28).  
First use Jan. 29, 1969.

SN 340,166. Knickerbocker Toy Company, Inc., New York, N.Y. Filed Oct. 8, 1969.

**TEACH -N-PLAY**

For Dolls (Int. Cl. 28).  
First use Feb. 11, 1968.

SN 340,247. Champion Glove Mfg. Co., Inc., Des Moines, Iowa. Filed Oct. 9, 1969.



For Handball Gloves (Int. Cl. 28).  
First use Aug. 27, 1965.

SN 340,285. Richard Shubert, Hawley, Pa. Filed Oct. 9, 1969.

**CANDUIT**

For Fishing Lure (Int. Cl. 28).  
First use June 1969.

SN 340,559. Aaron A. Johnson, Baltimore, Md. Filed Oct. 13, 1969.

**MINI DUNKER**

For Scaled Down Basketball Backboard as a Game Toy or Piece of Sporting Goods (Int. Cl. 28).  
First use May 9, 1969.

SN 340,560. Aaron A. Johnson, Baltimore, Md. Filed Oct. 13, 1969.

**MINI HOOPSTER**

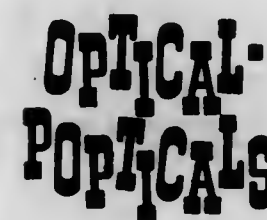
For Scaled Down Basketball Backboard as a Game Toy or Piece of Sporting Goods (Int. Cl. 28).  
First use May 9, 1969.

SN 340,680. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed Oct. 14, 1969.

**FUN 'N FIT**

For Puzzle-Like Stand Up Toys (Int. Cl. 28).  
First use on or prior to Sept. 9, 1969.

SN 340,945. The Saalfeld Publishing Company, Akron, Ohio. Filed Oct. 16, 1969.



For Puzzles—Namely, Jigsaw Puzzles (Int. Cl. 28).  
First use May 1, 1969.

SN 341,370. A. Daigger and Company, Inc., Chicago, Ill. Filed Oct. 22, 1969.

**ETA**

For Teaching Aids—Namely, Games and Toys Designed To Assist Children in Their Learning and Education (Int. Cl. 28).  
First use Mar. 14, 1968.

SN 349,732. Challenger Manufacturing Corporation, Jamaica, N.Y. Filed Jan. 27, 1970.

**MINNIE MITE**

For Fishing Tackle Boxes (Int. Cl. 28).  
First use July 1969.

SN 353,827. Mattel, Inc., Hawthorne, Calif. Filed Mar. 12, 1970.

**SPEED TEST**

For Toy Automobile Race Set (Int. Cl. 28).  
First use Nov. 24, 1969.

SN 353,828. Mattel, Inc., Hawthorne, Calif. Filed Mar. 12, 1970.

**SWINGIN' WING**

For Toy Automobile (Int. Cl. 28).  
First use Jan. 20, 1970.

SN 353,830. Mattel, Inc., Hawthorne, Calif. Filed Mar. 12, 1970.

**ICE T**

For Toy Automobile (Int. Cl. 28).  
First use Jan. 28, 1970.

SN 355,574. Mattel, Inc., Hawthorne, Calif. Filed Apr. 1, 1970.

**EYE TRY**

For Equipment Sold as a Unit for Playing a Board Game (Int. Cl. 28).  
First use Nov. 25, 1969.

SN 355,575. Mattel, Inc., Hawthorne, Calif. Filed Apr. 1, 1970.

**GREAT HUFF**

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use Nov. 25, 1969.

SN 355,576. Mattel, Inc., Hawthorne, Calif. Filed Apr. 1, 1970.

**WORLD'S WILDEST WHIRLER**

For Toy Tops (Int. Cl. 28).  
First use Dec. 16, 1969.

SN 355,974. Mattel, Inc., Hawthorne, Calif. Filed Apr. 6, 1970.

**REVWAY**

For Toy Automobile Race Set. (Int. Cl. 28).  
First use Nov. 13, 1969.

SN 355,976. Mattel, Inc., Hawthorne, Calif. Filed Apr. 6, 1970.

**SPEED STEED**

For Toy Miniature Automobile (Int. Cl. 28).  
First use Nov. 25, 1969.

SN 355,977. Mattel, Inc., Hawthorne, Calif. Filed Apr. 6, 1970.

**ROMA M70**

For Toy Miniature Automobile (Int. Cl. 28).  
First use Nov. 25, 1969.

SN 356,926. The United States Playing Card Company, Cincinnati, Ohio. Filed Apr. 15, 1970.

**868 LADY BICYCLE**

Owner of Reg. Nos. 48,891, 829,407, and others.  
For Playing Cards (Int. Cl. 16).  
First use Mar. 19, 1970.

SN 357,174. Mattel, Inc., Hawthorne, Calif. Filed Apr. 17, 1970.

**TINY TICKLISH**

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use Feb. 26, 1970.



SN 357,920. Mattel, Inc., Hawthorne, Calif. Filed Apr. 27, 1970. SN 314,875. Combustion Engineering, Inc., Windsor, Conn. Filed Dec. 19, 1968.

## STREET FIGHTER

For Toy Automobile and Kit for Making Same (Int. Cl. 28).  
First use Feb. 11, 1970.

SN 357,921. Mattel, Inc., Hawthorne, Calif. Filed Apr. 27, 1970.

## CHERRY BOMB

For Toy Automobile and Kit for Making Same (Int. Cl. 28).  
First use Feb. 11, 1970.

SN 357,922. Mattel, Inc., Hawthorne, Calif. Filed Apr. 27, 1970.

## DUNE RAT

For Toy Automobile and Kit for Making Same (Int. Cl. 28).  
First use Feb. 11, 1970.

SN 357,923. Mattel, Inc., Hawthorne, Calif. Filed Apr. 27, 1970.

## BABY LAUGHTER

No claim of exclusive right is made to the word "Baby" apart from the mark. Owner of Reg. No. 839,505.  
For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).  
First use Feb. 26, 1970.

SN 357,924. Mattel, Inc., Hawthorne, Calif. Filed Apr. 27, 1970.

## BABY LAUGH 'N LAUGH

No claim of exclusive right is made to the word "Baby" apart from the mark. Owner of Reg. No. 839,505.  
For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).  
First use Feb. 26, 1970.

## Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 305,642. Douglas Dynamics Corporation, Milwaukee, Wis. Filed Aug. 21, 1968.

## WESTERN

For Snow Plows Including Associated Equipment for Supporting the Snow Plow Blade On and for Manipulating the Snow Plow Blade Relative to a Vehicle; Concrete and Mortar Mixers; Concrete Placement Equipment—Namely, Buckets Having a Selectively Operable Discharge Valve; Concrete Finishing Equipment—Namely, Finishing Screeds and Power Trowels; Static and Vibratory Rollers; and Water Pumps (Int. Cl. 7).

First use Sept. 21, 1958.

SN 312,042. Husqvarna Vapenfabriks Aktiebolag, Huskvarna, Sweden. Filed Nov. 13, 1968.

## Trimotion

Priority claimed under Sec. 44(d) on Swedish application filed May 15, 1968; Reg. No. 126,599, dated Mar. 7, 1969.  
For Sewing Machines and Parts Thereof (Int. Cl. 7).



For Exothermic and Insulating Hot Top Casings and Sideboards for Foundry Use (Int. Cl. 17).  
First use May 17, 1966.

SN 317,268. Barreiros Diesel, S.A., Madrid, Spain. Filed June 19, 1968.

## BARREIROS

Owner of Spanish Reg. No. 467,391, dated July 2, 1965.  
For Farm Tractors (Int. Cl. 12).  
First use about 1950; in commerce about 1950.

SN 325,271. Cutting Edges Pty. Ltd., Botany, New South Wales, Australia. Filed Dec. 27, 1968.



No claim is made to the outline map of Australia apart from the mark as shown.

For Blades for Bulldozers, Scrapers, Loaders, Backhoes, Shovels, Draglines and Graders; Adaptors, Shanks and Teeth for Rippers, Scarifiers, Trenchers, Dredgers and for Earth Moving Blades of all Descriptions (Int. Cl. 7).  
First use April 1968; in commerce July 10, 1968.

SN 331,298. Abildgaard Laboratories, Inc., d.b.a. Bindex Company, Mountain View, Calif. Filed June 30, 1969.

## BINDEX

For Machine for Binding Books (Int. Cl. 7).  
First use June 26, 1969.

SN 335,837. American Olean Tile Company, Inc., Lansdale, Pa. Filed Aug. 21, 1969.

## GROUTMASTER

For Trowels for Applying Grout Between Ceramic Tiles (Int. Cl. 8).  
First use June 30, 1969.

SN 351,892. Spotnalls, Inc., Rolling Meadows, Ill. Filed Feb. 16, 1970.

## MULTI-TAK

For Staplers (Int. Cl. 7).  
First use on or about Jan. 19, 1970.

## Class 24—Laundry Appliances and Machines

SN 322,203. Velmex, Inc., Holcomb, N.Y. Filed Mar. 19, 1969.

SN 348,441. Charles E. McCutcheon, Jr., d.b.a. Miraclean Co., Fayette, Mo. Filed Jan. 13, 1970.

## MIR-A-CLE-NER

Owner of Reg. No. 816,293.  
For Washing Machines and Dry Cleaning Machines (Int. Cl. 7).  
First use Dec. 15, 1964.

## Class 26—Measuring and Scientific Appliances

SN 306,875. The Bendix Corporation, Detroit, Mich. Filed Sept. 9, 1968.



Owner of Reg. Nos. 662,208 and 702,898.  
For Electrical Systems Analyzers; Ignition Systems Analyzers; Engine Analyzers; Chromatographs; Polarimeters; Spectrometers; Viscosimeters; Dissolved Oxygen and Thermal Conductivity Measuring Devices; Vacuum Gages; Total Hydrocarbon and Total Halogen Analyzers; RF Wattmeters; Fiber Optics; Telemetry Apparatus; Meteorological Instruments—Namely, Radiosondes, Rain Gages, Microbarographs, Thermometers, Psychrometers, Temperature and Humidity Indicators and Recorders; Air Velocity and Direction Meters; Dosimeters; Nuclear Radiation Detectors; Electrostatic Air Sampling Devices; High Vacuum Pumps, Chambers, and Furnaces and Parts and Accessories Therefor; Barometers; Nuclear Density Gages; Molecular Distillation Equipment; Electronic Counters; Air Speed and Mach Number Indicators; Automatic Flight Systems; Airplane and Engine Instruments for Indicating Temperature, Pressure, Control Position, and Other Operating Conditions; Flight and Navigation Instruments; Gyroscopic Apparatus; Precision Components for Servo Mechanisms and Computing Equipment; Electronic Computers; Fluid Content Gages; Fluid Flowmeters; Barometric Altimeters; Tachometers; Accelerometers; Proximity Fuses; Pneumatic, Electric, Electromechanical, X-ray, Optical, Microwave Gages; Automatic Position Readout Devices; Automatic Gaging and Sorting Equipment; Photogrammetric Devices; Infrared Scanning and Recording Devices; Bearing Quality Testers; Comparator Gages; Material Testing Equipment—Namely, Compression, Crimping, Curing, Elastometer Aging, Elongation, Fatigue, and Flexing Testers; Film Thickness Gages; Interferometers; Microscopes; Porosity Measuring Devices; Profile Roughness and Roundness Gages; Strain, Surface Testers; Tear, Tensile, Torsion, Twist Visco-Elasticity and Slide Fastener Testers; Oceanographic Instruments—Namely, Wave Gages and Recorders; Depth Gages and Recorders; Water Current Speed and Direction Meters and Recorders; Water Temperature Sensors and Recorders; Fuel Quality Monitoring Devices; Filter Condition Indicating Devices (Int. Cl. 9).  
First use May 5, 1967 on gas chromatographs; Jan. 1, 1936, in a different form.

SN 321,785. Edo Western Corporation, Salt Lake City, Utah. Filed Mar. 14, 1969.

## WAVETRAK

For Acoustic Wave Height Measurement Instrument Which Provides Sensing and Display or Recording of Ocean Waves (Int. Cl. 9).  
First use on or about Mar. 15, 1968.

## UNI-BLITZ

For Electromagnetically Actuated Photographic Shutters and Control Equipment Therefor (Int. Cl. 9).  
First use Dec. 12, 1968.

SN 323,375. Sherwood Medical Industries Inc., Chicago, Ill. Filed Apr. 1, 1969.

## LANCER

For Medical and Scientific Laboratory Products—Namely, Graduated Analyzer Cups, Reaction Cups and Rotors for Use in Measuring Blood Clotting Times, Fleas, and Magnet for Mixing Blood in Capillary Tubes, Graduated Centrifuge Tubes, Micro-Centrifuge Tubes, Inoculating Loops, Funnel, Cuvettes, Microspace Cuvette Adapters, Laboratory Tubing, Tubing Connectors, Conway Micro-Diffusion Dishes, Precision Pipettes, and Precision Pipette Tips (Int. Cl. 9).  
First use Nov. 26, 1968.

SN 324,584. The Fibre-Metal Products Company, Chester, Pa. Filed Apr. 15, 1969.

## TIGERHOOD

For Welding Helmets, Welding Handshields and Safety Masks (Int. Cl. 9).  
First use Apr. 3, 1969.

SN 326,060. American Optical Corporation, Southbridge, Mass. Filed May 1, 1969.

## WELD-VIEW

For Welding Eye Protection Equipment—Namely, Welders' Goggles (Int. Cl. 9).  
First use September 1963.

SN 329,825. Bel-Art Products, Pequannock, N.J. Filed June 12, 1969.

## VAKUWASH

For Funnel Shaped Bowl With a Platform and Disc Centrally Located Within the Bowl, Used in Laboratories To Wash and Dry Spectrophotometric Cells and Other Small Containers by the Application of Pressure to the Platform and Disc (Int. Cl. 9).  
First use May 1968.

SN 331,704. Charles Ajar, North Hollywood, Calif. Filed July 3, 1969.

## PT-35

For 35mm Motion Picture Film Projectors (Int. Cl. 9).  
First use May 27, 1969.



SN 332,756. Trylon Incorporated, Elverson, Pa. Filed July 16, 1969.



For Dynamometers (Int. Cl. 9).  
First use Mar. 26, 1969.

SN 333,251. Donart Electronics, Inc., McDonald, Pa. Filed July 23, 1969.



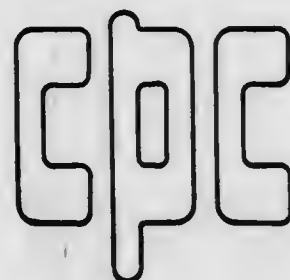
For Electronic Equipment—Namely, Digitizers, Totalizers, Counters, Digital Clocks, and Magnetic Test Consoles, Namely, Electronic Wattmeters for Power Measurements, Core Loss Testing and SCR Measurement (Int. Cl. 9).  
First use Mar. 19, 1969.

SN 333,524. Boller Protective Devices, Inc., Newark, N.J. Filed July 25, 1969.



No claim is made to the representation of the machinery apart from the mark as shown.  
For Thermostatic Control Valve To Cut Off Fuel Supply to Water Boiler When Exhaust Stack Temperature Exceeds Safe Limit (Int. Cl. 9).  
First use Mar. 1, 1969.

SN 333,535. Computer Peripherals Corporation, San Diego, Calif. Filed July 25, 1969.



For Rapid Access Magnetic Memory Apparatus (Int. Cl. 9).  
First use May 8, 1969.

## Class 27—Horological Instruments

SN 345,943. Hamilton Watch Company, Lancaster, Pa. Filed Dec. 11, 1969.

## PHINNEY-WALKER

For Clocks (Int. Cl. 14).  
First use 1910.

## Class 28—Jewelry and Precious-Metal Ware

SN 324,080. Doris Moore of California, Inc., Long Beach, Calif. Filed Apr. 9, 1969.



Owner of Reg. Nos. 763,573, 294,298, and others.  
For Jewelry (Int. Cl. 14).  
First use Dec. 18, 1968.

SN 325,906. Tortolani-Crislu, Los Angeles, Calif. Filed Apr. 29, 1969.

## OBLIQUE

For Earrings (Int. Cl. 14).  
First use Jan. 30, 1969.

SN 333,660. W. Bell & Co., Inc., Washington, D.C. Filed July 28, 1969.

## RICHELLE

For Diamond Rings (Int. Cl. 14).  
First use July 1, 1969.

SN 340,590. Onelda Ltd., Onelda, N.Y. Filed Oct. 13, 1969.

## SCANDINAVIA

For Flatware Made of Precious Metal (Int. Cl. 8).  
First use Oct. 3, 1969.

SN 341,429. Paul L. Sudlow, d.b.a. Sudlow Photographs, Danville, Ill. Filed Oct. 22, 1969.

## Fond - Photo

For Jewelry—Namely, Cuff Links (Int. Cl. 14).  
First use on or about Aug. 25, 1969.

SN 341,858. The Spencer Co., Inc., Cranston, R.I. Filed Oct. 27, 1969.

## SPENCER

Owner of Reg. No. 777,586.  
For Jewelry—Namely, Rings, Charms, Pins, Earrings, and Pendants (Int. Cl. 14).  
First use on or about May 16, 1962.

SN 344,129. Onelda Ltd., Onelda, N.Y. Filed Nov. 20, 1969.

## MATINEE

For Flatware Made of, or Coated With, Precious Metal (Int. Cl. 8).  
First use Nov. 7, 1969.

SN 345,945. Amtel Arts Inc., Providence, R.I., assignee of Walter E. Hayward Co., Inc., Attleboro, Mass. Filed Dec. 11, 1969.

## LOGO-Link

For Bracelet (Int. Cl. 14).  
First use Nov. 24, 1969.

SN 345,994. Textron Inc., Providence, R.I. Filed Dec. 11, 1969.

## MIDNIGHT MAGIC

For Bracelets, Including Watch Bracelets (Int. Cl. 14).  
First use Nov. 26, 1969.

SN 345,995. Textron Inc., Providence, R.I. Filed Dec. 11, 1969.

## POTPOURRI

For Bracelets, Including Watch Bracelets (Int. Cl. 14).  
First use Nov. 26, 1969.

SN 346,114. Rhapsody, Inc., Philadelphia, Pa. Filed Dec. 12, 1969.

## RHAPSODY

For Finger Rings Made of Precious Metals Set With Precious and/or Semi-Precious Stones (Int. Cl. 14).  
First use June 1947.

SN 357,273. The Danish Silversmith Incorporated, Providence, R.I. Filed Apr. 20, 1970.



For Jewelry for Personal Wear and Adornment (Int. Cl. 14).  
First use Aug. 9, 1969.

## Class 29—Brooms, Brushes, and Dusters

SN 313,333. R. O. Kent Corp., New York, N.Y. Filed Nov. 29, 1968.

## CURVEDGE

For Wool Polishers for Use in Buffing and Polishing Automobiles and the Like (Int. Cl. 7).  
First use on or about Aug. 15, 1963.

## Class 30—Crockery, Earthenware, and Porcelain

SN 322,444. Interpace Corporation, d.b.a. Shenango China, Newcastle, Pa. Filed Mar. 21, 1969.

## SIGNA

For China Dinnerware (Int. Cl. 21).  
First use Nov. 11, 1968.

SN 357,130. Societe des Verreries Industrielles, Levallois Perret, France. Filed Apr. 16, 1970.

## TAMARA

Priority claimed under Sec. 44(d) on French Reg. No. 776,560, dated Oct. 24, 1969.  
For Table Ware and Cook Ware of Ceramic Material (Int. Cl. 21).

## Class 32—Furniture and Upholstery

SN 309,475. Restonic Corporation, Chicago, Ill. Filed Oct. 11, 1968.

## DREAM BEAMS

For Mattresses and Boxsprings (Int. Cl. 20).  
First use May 30, 1968.

SN 309,477. Restronic Corporation, Chicago, Ill. Filed Oct. 11, 1968.

## MARVELOUS MIDDLE

For Mattress and Boxsprings (Int. Cl. 20).  
First use February 1966.

SN 324,427. Dexlon Inc., Woodside, N.Y. Filed Apr. 14, 1969.

## 'LIVE AISLE'

For Storage Racks With Bases Which Are Movable on Tracks (Int. Cl. 20).  
First use April 1968.

SN 327,585. Bowl & Board, Inc., New York, N.Y. Filed May 19, 1969.

## BOWL & BOARD

For Household Accessory Articles Made in Whole or in Part from Wood—Namely, Spice Racks and Tables Used as Furniture (Int. Cl. 20).  
First use Mar. 3, 1964.



SN 329,145. Whiting Manufacturing Company, Inc., Cincinnati, Ohio. Filed June 4, 1969.

## MAGIC CORE

Applicant disclaims the word "Core" apart from the mark as a whole.  
For Bed Pillows (Int. Cl. 20).  
First use June 26, 1968.

SN 336,176. Herbert Ritts, Inc., Los Angeles, Calif. Filed Aug. 25, 1969.

## ASTROLITE

For Furniture—Namely, Tables, Chairs, and Sofas (Int. Cl. 20).  
First use June 2, 1969.

SN 337,435. The Covey Company, Fort Smith, Ark. Filed Sept. 9, 1969.



For Upholstered Furniture for the Home—Namely, Chairs, Love Seats, Sofas, and Sleeper-Sofas (Int. Cl. 20).  
First use in or about May 1968.

SN 339,344. The Moore Company, Charleston, W. Va. Filed Sept. 30, 1969.

## MOORFRAME

For Overhead Frames, and Components Therefor, Which Support and Lock Storage Baskets That Are Suspended From the Overhead Frames and Which Are Raised and Lowered Relative to the Overhead Frames (Int. Cl. 20).  
First use Aug. 1, 1969.

SN 344,445. Sleepmaster Products Company, Inc., Newark, N.J. Filed Nov. 24, 1969.

## GARDMASTER

Owner of Reg. Nos. 843,705 and 880,464.  
For Mattresses, Bed Springs, Box Springs, Box Spring Assemblies, Furniture Springs, Pillows, Pads, Studio Couches, Beds, Sofas, Cushions, Folding Cots, Gliders, Headboards for Beds, Chairs, Tables, and Pre-Cut Foam Rubber and Synthetic Foam Rubber (Int. Cl. 20).  
First use June 7, 1969.

## Class 33—Glassware

SN 328,478. Waterford Glass Limited, Johnstown, Waterford, Ireland. Filed May 27, 1969.

## HIBERNIA

"Hibernia" is a Latin word meaning "Ireland."  
For Glassware—Namely, Tableware, Vases, Pitchers, Tumblers, Goblets, Bowls, Wine Glasses, and Liqueur Glasses (Int. Cl. 21).  
First use June 1953; in commerce June 1953.

SN 344,663. Anchor Hocking Corporation, Lancaster, Ohio. Filed Nov. 26, 1969.

## THE ENGINEERED GLASS

Applicant disclaims the words "The" and "Glass" apart from the mark as shown.  
For Glass Tableware (Int. Cl. 21).  
First use on or about June 20, 1969.

## Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 296,757. Standard Oil Company, Flemington, N.J. Filed Apr. 29, 1968.

## EXXON

For Rubber Tires and Tubes (Int. Cl. 12).  
First use Nov. 15, 1967.

## Class 37—Paper and Stationery

SN 293,088. The Joseph Dixon Crucible Company, Jersey City, N.J. Filed Mar. 13, 1968.

## "VISIPOINT"

For Ball Pens (Int. Cl. 16).  
First use September 1962.

SN 311,284. Michigan Carton Co., Battle Creek, Mich. Filed Nov. 4, 1968.



For Paperboard (Int. Cl. 16).  
First use Mar. 26, 1968.

SN 319,042. Fort Howard Paper Company, Greenbay, Wis. Filed Feb. 13, 1969.

## BETSY ROSS

Betsy Ross is the name of an historical character, now deceased.  
For Disposable Paper Products—Namely, Towels, Napkins, Toilet Paper, Facial Tissue, Wipers, Tablecovers, and Tray Covers (Int. Cl. 16).  
First use Dec. 6, 1968.

SN 324,035. Adrianus Antonius Johannes Brouwers, d.b.a. Selectacard, Walnut Creek, Calif. Filed April 9, 1969.

## SELECTACARD

For Card Index System Built Up of Notched Cards, Plastic Cardhangers, Plastic Perforated Tabs, Selection Needle, Selection Frame and Steel File Cases and Drawers for Filing of the Cards (Int. Cl. 16).  
First use Oct. 30, 1968.

SN 324,096. Randomatic Data Systems, Inc., Trenton, N.J. Filed Apr. 9, 1969.

## DURAFIRM

For Cards for Use in Information Retrieval Apparatus of the Random Access Filing Type (Int. Cl. 16).  
First use Mar. 10, 1969.

SN 333,362. The Bates Manufacturing Company, Orange, N.J. Filed July 24, 1969.

## SECRETARY

For List Finders, Comprising Casings Having Stacks of Selectively Separable Index Cards Hingedly Mounted Therein (Int. Cl. 16).  
First use October 1958.

SN 334,237. W. S. Kirkpatrick & Co., Inc., Upper Montclair, N.J. Filed Aug. 1, 1969.

## SAUNETTE

For Sealed Package Containing a Disposable Folded Moist Towel Comprising a Non-Woven, Synthetic Resinous Fabric Impregnated With a Scenting Liquid (Int. Cl. 16).  
First use Feb. 15, 1969.

SN 334,467. Eberhard Faber Inc., Wilkes-Barre, Pa. Filed Aug. 5, 1969.



Owner of Reg. No. 833,354.  
For Water Based Fine Line Marking Pen (Int. Cl. 16).  
First use Jan. 6, 1969.

SN 334,499. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Aug. 5, 1969.

## WISE TIES

The word "Ties" is disclaimed apart from the mark as shown.  
For Novelty Paper or Cardboard Poster To Be Worn About the Neck (Int. Cl. 16).  
First use Sept. 4, 1968.

SN 336,106. Ethyl Corporation, Richmond, Va. Filed Aug. 25, 1969.

## ROTOPRIDE

For Coated Letterpress Cover Papers and Coated Rotogravure Cover Papers (Int. Cl. 16).  
First use Oct. 31, 1968.

SN 341,161. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 20, 1969.



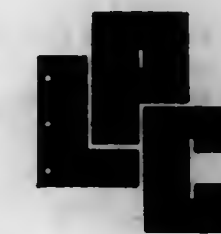
For Printing and Writing Papers (Int. Cl. 16).  
First use July 14, 1969.

SN 342,145. Creations West Incorporated, Los Angeles, Calif. Filed Oct. 30, 1969.

## LONG LETTERS

For Letterheads and Envelopes (Int. Cl. 16).  
First use June 17, 1969.

SN 342,171. The Lynn Pacific Corporation, Union City, Calif. Filed Oct. 30, 1969.



For Poly-Wrapped Fillers, Theme Books, Notebooks, Steno Books, Writing Tablets, Pencil Tablets, Airmail Tablets, Linen Tablets, Letter-Legal Tablets, Pads, Art Tablets, Construction Paper and Typing Tablets (Int. Cl. 16).  
First use Sept. 28, 1969.

SN 342,240. The Dow Chemical Company, Midland, Mich. Filed Oct. 31, 1969.

## CONTOUR

For Plastic Film for Use in Wrapping and Packaging (Int. Cl. 16).  
First use Aug. 14, 1969.

SN 344,781. Fedtro, Inc., Rockville Centre, N.Y. Filed Nov. 28, 1969.

## INSTAMATIC

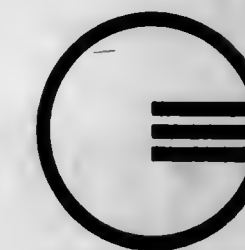
For Marking Pens (Int. Cl. 16).  
First use June 2, 1969.

SN 350,787. Ultra-Violet Products, Inc., San Gabriel, Calif. Filed Feb. 6, 1970.

## LIGHT WRYTE

For Fluorescent Transfer Paper for Use in Invisible Ultra-Violet Signature and Marking Verification Systems (Int. Cl. 16).  
First use at least as early as January 1961.

SN 355,967. The Gillette Company, Boston, Mass. Filed Apr. 6, 1970.



For Pens (Int. Cl. 16).  
First use Feb. 4, 1970.



SN 356,344. Saxon Industries, Inc., New York, N.Y. Filed Apr. 9, 1970.



Owner of Reg. Nos. 780,344 and 780,345.  
For Business Paper and Stationery—Namely, Bond Paper, Onion Skin Paper, Duplicator Paper, Mimeograph Paper, Manifold Paper, Pads, Envelopes, Art Paper, Construction Paper, Bristol Board, Offset Paper, Cards, File Cards, Folders, Manuscript Covers and Report Covers (Int. Cl. 16).  
First use on or about Mar. 1, 1966.

### Class 38—Prints and Publications

SN 327,041. National Periodical Publications, Inc., New York, N.Y. Filed May 12, 1969.



For Comic Magazines (Int. Cl. 16).  
First use Jan. 3, 1957.

SN 327,479. Fabri-Tek Incorporated, Minneapolis, Minn. Filed May 16, 1969.

### TEACHWARE

For Instructional Materials—Namely, Reference Manuals, Work Books, Course Outlines, Lesson Plans, Visual Aids, Reference Texts, and Collections of Problems and Solutions to Same (Int. Cl. 16).  
First use on or about Feb. 14, 1968.

SN 329,185. Index Publishing Corp., Chicago, Ill. Filed Aug. 4, 1969.



No claim is made either to the term "Building Contractors" or the term "Register" apart from the use thereof as in the composite mark shown.

For Reference Book Published From Time to Time for the Construction Industry and Containing a Classified List of Contractors, Material and Equipment Distributors and Dealers and Manufacturers (Int. Cl. 16).  
First use Mar. 30, 1954.

SN 329,187. Index Publishing Corp., Chicago, Ill. Filed Aug. 4, 1969.



No claim is made either to the term "Buyers" or the term "Guide" apart from the use thereof as in the composite mark shown.

For Reference Book Published From Time to Time for the Construction Industry and Containing a Classified List of Contractors, Architects, Structural Engineers, and Material and Equipment Manufacturers and Suppliers (Int. Cl. 16).  
First use Jan. 3, 1963.

SN 331,077. Society of Photographic Scientists and Engineers, Washington, D.C. Filed June 26, 1969.

### PHOTOGRAPHIC SCIENCE AND ENGINEERING

For Periodic Publication—Namely, a Magazine (Int. Cl. 16).  
First use June 1958.

SN 333,259. Executive Systems Corporation, Washington, D.C. Filed July 23, 1969.



For Books, Directories; Pamphlets and Monographs of General Nature; Technical Bulletins and Reports; and Newsletters (Int. Cl. 16).  
First use July 19, 1968.

SN 334,127. Steel Tank Institute, Chicago, Ill. Filed July 31, 1969.



For Trade Association Publications—Namely, Technical Bulletins, and Manuals; Association Reports; Newsletters; and Membership Directories (Int. Cl. 16).  
First use Aug. 28, 1962.

SN 334,764. Chicago American Publishing Company, Chicago, Ill. Filed Aug. 8, 1969.



Owner of Reg. Nos. 716,498 and 762,778.  
For Newspaper (Int. Cl. 16).  
First use Apr. 28, 1969.

SN 336,973. CNA Investor Services, Inc., Chicago, Ill. Filed Sept. 4, 1969. SN 341,536. Mind, Inc., Stamford, Conn. Filed Oct. 23, 1969.

### REP TO REP

For Periodical Brochure (Int. Cl. 16).  
First use Mar. 26, 1969.

SN 339,005. Financialite Corp., Earlton, N.Y. Filed Sept. 26, 1969.

### STAR STATS

For Newspaper Column (Int. Cl. 16).  
First use May 29, 1969.

SN 339,423. The Eagle Library Inc., Brooklyn, N.Y. Filed Oct. 1, 1969.



For Books (Int. Cl. 16).  
First use Oct. 15, 1945.

SN 339,864. The Reuben H. Donnelly Corporation, New York, N.Y. Filed Oct. 6, 1969.



Owner of Reg. No. 606,429.  
For Professional Magazine Pertaining to the Field of Control and Information Systems (Int. Cl. 16).  
First use on or before Sept. 29, 1969.

SN 340,860. Western Publishing Company, Inc., Racine, Wis. Filed Oct. 15, 1969.

### A LITTLE GOLDEN BOOK

Applicant disclaims the terminology "Book" apart from the mark as shown. Owner of Reg. No. 625,412.  
For Books—Namely, a Continuing Series of Illustrated Books for Children (Int. Cl. 16).  
First use Oct. 1, 1942.

SN 340,891. Midland Trading Company, Skokie, Ill. Filed Oct. 16, 1969.



For Travel Record-Keeping Books Containing Removable Sheets of Maps and Printed Plastic Map Overlay Sheets (Int. Cl. 16).  
First use Aug. 8, 1969.



For Instructional Books and Pamphlets (Int. Cl. 16).  
First use May 5, 1967.

SN 342,975. The Instructo Corporation, Paoli, Pa. Filed Nov. 7, 1969.

### ALPHABET EXPRESS

For Wall Charts for Educational Purposes (Int. Cl. 16).  
First use December 1962.

SN 343,393. The Dow Chemical Company, Midland, Mich. Filed Nov. 13, 1969.

### FOAM FACTS

For Trade Bulletin (Int. Cl. 16).  
First use at least as early as May 1968.

SN 343,763. Sittin' Pretty, Inc., Milwaukee, Wis. Filed Nov. 17, 1969.

### BABY MINDER

For Placard Containing Instructional Information for a Baby Sitter (Int. Cl. 16).  
First use Oct. 22, 1969.

SN 345,772. Spec Tech Publications, Inc., Malibu, Calif. Filed Dec. 10, 1969.

### FINISHING HIGHLIGHTS

For Industrial Trade Tabloid for the Metal Finishing Industry (Int. Cl. 16).  
First use July 8, 1968.

SN 347,402. Galtech, Inc., Fort Myers, Fla. Filed Dec. 30, 1969.

### GALTECH SYSTEM

The word "System" is disclaimed apart from the mark as shown, without prejudice to applicant's common law rights.  
For Nautical Charts Reproduced on Photo-Transparencies (Int. Cl. 16).  
First use Aug. 4, 1969.

SN 347,562. Tested Recipe Publishers, Inc., Chicago, Ill. Filed Jan. 2, 1970.



For Recipe and Cook Books (Int. Cl. 16).  
First use June 1968.



SN 348,284. Gridweek, Inc., New Orleans, La. Filed Jan. 12, 1970.

## LOUISIANA GRIDWEEK

Applicant disclaims "Louisiana" apart from the mark as shown.

For Weekly Newspaper (Int. Cl. 16).  
First Use Aug. 26, 1969.

SN 351,489. Joseph Luchs, Philadelphia, Pa. Filed Feb. 16, 1970.

## "Selling Tools"

Owner of Reg. No. 557,378.  
For Sales Promotion Literature in the Form of Printed Sheets, Cards, Posters and Pamphlets Sold as Such (Int. Cl. 16).  
First use October 1930.

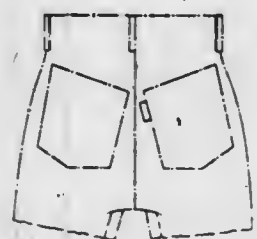
SN 357,787. Micro-Publishing Systems Inc., Stamford, Conn. Filed Apr. 24, 1970.

## MCS MICRO-CATALOG FILE

The words "Micro-Catalog File" are disclaimed apart from their use in connection with the mark as shown.  
For Microfiche (Int. Cl. 16).  
First use January 1970.

## Class 39 - Clothing

SN 263,725. Levi Strauss & Co., San Francisco, Calif. Filed Feb. 1, 1967.



Applicant disclaims the representation of the goods apart from the mark as shown. The mark consists of a small marker or tab affixed to the exterior of the garment at the hip pocket.  
Owner of Reg. Nos. 356,701, 775,412, and others.  
For Trousers (Int. Cl. 25).  
First use Sept. 1, 1936.

SN 273,498. H & H Plastics Mfg. Co., Grand Rapids, Mich. Filed June 9, 1967.

## H&H

For Aprons, Bibs, and Gloves (Int. Cl. 25).  
First use in or before September 1962.

SN 298,947. M & B Headwear Company, Inc., Richmond, Va. Filed May 23, 1968.



For Men's and Women's Clothing—Namely, Hats, Raincoats, and Jackets (Int. Cl. 25).  
First use on or about Dec. 16, 1967.

SN 307,217. Modern Shoe Company, St. Louis, Mo. Filed Sept. 12, 1968.



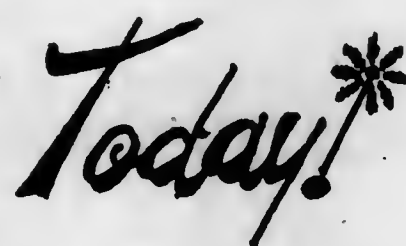
For Men's Shoes (Int. Cl. 25).  
First use May 15, 1968.

SN 314,666. Palmroth Shoemakers, Tampere, Finland. Filed Oct. 28, 1968.

## PALMROTH

For Footwear (Int. Cl. 25).  
First use 1963; in commerce 1963.

SN 324,390. Apollo Knitting Mills, Cleveland, Ohio. Filed Apr. 14, 1969.



The drawing of the flower design is lined to indicate the color red and which forms a part of the mark.  
For Women's Dresses and Suits Manufactured From Knitted Fabrics (Int. Cl. 25).  
First use Apr. 3, 1969.

SN 329,429. Bas y Cuguero, S.A., Barcelona, Spain. Filed June 9, 1969.

## SAMPOL

Owner of Spanish Reg. No. 353,583, dated May 5, 1960.  
For Raincoats; Overcoats; Suits; Mackintoshes; Jackets; Shirts; Pajamas; Smoking Jackets; Drawers; Knitted Underwear for Men, Ladies and Children; Knitted Suits, Dresses, Coats, Trousers and Overcoats for Men, Ladies and Children; Corsets; Hats; Caps; and Bonnets (Int. Cl. 25).

SN 329,841. Court N' Sport Ltd., New York, N.Y. Filed June 12, 1969.

## AMERICAN LAWN TENNIS

The expression "Lawn Tennis" is disclaimed, separate and apart from the mark as shown. Owner of Reg. No. 865,026.  
For Men's Clothing—Namely, Sport Shirts, Tennis Shirts, Tennis Shorts, Caps, Sweaters, and Pants; and Women's Clothing—Namely, Socks, Slacks, Dresses, Skirts, Shorts, Hats, and Sweaters (Int. Cl. 25).  
First use on or about Feb. 9, 1969.

SN 329,895. Sphairistike, Ltd., New York, N.Y. Filed June 12, 1969.



The portrait of the individual shown in the mark is fanciful. With respect to the expression "First Name In Tennis" shown on the mark, the same is disclaimed when used separate from the mark as shown.

For Men's Clothing—Namely, Sports Shirts, Tennis Shirts, Shorts, Caps, Sweaters, Sweat Shirts, Slacks and Pants (Int. Cl. 25).  
First use on or about June 10, 1966.

SN 330,025. V.F. Corporation, Reading, Pa. Filed June 13, 1969.

## BODY SCULPTURE

For Foundation Garments—Namely, a One-Piece Briefer (Body Shaper) With Built-In Brassiere, Brassieres and Girdles (Int. Cl. 25).  
First use Apr. 21, 1969.

SN 332,260. Shirt Centre Inc., New York, N.Y. Filed July 10, 1969.



The mark is fictitious.  
For Men's Shirts (Int. Cl. 25).  
First use Sept. 8, 1968.

SN 333,315. V.F. Corporation, Reading, Pa. Filed July 23, 1969.

## LACY SMOOTHLINGS

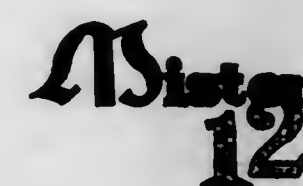
Applicant disclaims the term "Lacy" apart from the mark as shown.  
For Foundation Garments—Namely, Brassieres and Girdles (Int. Cl. 25).  
First use June 25, 1969.

SN 333,961. Worley Sewell Company, Bremen, Ga. Filed July 30, 1969.



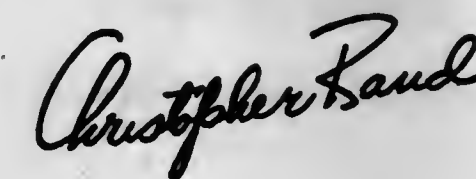
The drawing is lined for the color gold.  
For Ladies' and Girls' Coats (Int. Cl. 25).  
First use Jan. 20, 1969.

SN 333,962. Worley Sewell Company, Bremen, Ga. Filed July 30, 1969.



The drawing is lined for the color gold.  
For Men's and Boys' Jackets and Coats (Int. Cl. 25).  
First use Jan. 20, 1969.

SN 335,524. Aimcee Wholesale Corporation, New York, N.Y. Filed Aug. 18, 1969.



"Christopher Rand" is a fanciful name and is not the name of any known individual.  
For Men's Clothing—Namely, Suits, Coats, Trousers, and Sport-Coats (Int. Cl. 25).  
First use June 2, 1969.

SN 336,326. Flexnit Company, Inc., New York, N.Y. Filed Aug. 26, 1969.

## ROLL-NO-MORE

For Girdles (Int. Cl. 25).  
First use Aug. 1, 1969.

SN 336,937. Interco Incorporated, St. Louis, Mo. Filed Sept. 3, 1969.



No claim is made to the words "Anchor Flange" and "Safety Shoes," apart from the mark shown, but not otherwise. Owner of Reg. Nos. 523,497, 800,405, and 804,719.  
For Shoes (Int. Cl. 25).  
First use March 1962; Aug. 29, 1962, as to "Hy-Test," and September 1963 as to "Anchor Flange."



SN 337,726. Texcraft Corporation, Chicago, Ill. Filed Sept. 11, 1969.

## TEXLINE

For Bathrobes (Int. Cl. 25).  
First use Aug. 27, 1969.

SN 338,457. Zale Corporation, Dallas, Tex. Filed Sept. 19, 1969.



The mark is displayed in the color red and applicant makes a claim to said color.  
For Boys' Sportshirts (Int. Cl. 25).  
First use Mar. 15, 1968.

SN 338,458. Zale Corporation, Dallas, Tex. Filed Sept. 19, 1969.



The mark is displayed in the color gold and applicant makes a claim to said color.  
For Boys' Sportshirts (Int. Cl. 25).  
First use Mar. 15, 1968.

SN 339,663. The Dorsey Company, d.b.a. The Angel Baby Co., New York, N.Y. Filed Oct. 3, 1969.

## ANGEL BABY

For Baby Pants (Int. Cl. 25).  
First use on or about June 30, 1969.

SN 340,104. Zayre Corp., Natick, Mass. Filed Oct. 8, 1969.



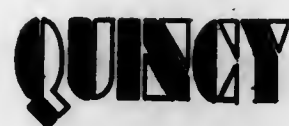
"Matt Andrews" is a fanciful name. Owner of Reg. Nos. 709,903 and 765,544.  
For Men's, Boys', and Youths' Shoes (Int. Cl. 25).  
First use July 15, 1969.

SN 340,181. Orazi Manufacturing, Inc., Elizabeth, N.J. Filed Oct. 8, 1969.

## SUSAN LAD

"Susan Lad" is a fictitious name.  
For Ready-To-Wear Girls' Dresses (Int. Cl. 25).  
First use Apr. 1, 1969.

SN 341,109. Gay Gibson, Inc., Kansas City, Mo. Filed Oct. 20, 1969.



For Women's Dresses and Sportswear (Int. Cl. 25).  
First use Sept. 15, 1969.

SN 341,246. International Playtex Corporation, Dover, Del. Filed Oct. 21, 1969.

## FREE SPIRIT

For Feminine Undergarments (Int. Cl. 25).  
First use Sept. 30, 1969.

SN 341,974. Consolidated Foods Corporation, Chicago, Ill. Filed Oct. 29, 1969.

## HAND POWER SPORTS GLOVE

The words "Sports Glove" are disclaimed apart from its use in the mark.  
For Stretch Fabric Gloves (Int. Cl. 25).  
First use July 19, 1969.

SN 343,359. Consolidated Foods Corporation, Chicago, Ill. Filed Nov. 13, 1969.

## HANDOMETRICS

For Stretch Fabric Gloves (Int. Cl. 25).  
First use Aug. 17, 1969.

SN 344,451. Spartans Industries, Inc., New York, N.Y. Filed Nov. 24, 1969.



For Men's and Boys' Shirts (Int. Cl. 25).  
First use January 1965.

SN 344,508. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

## BARELY ME

For Foundation Garments, Lingerie, Sleepwear and Lounge-wear (Int. Cl. 25).  
First use Aug. 28, 1969.

SN 345,896. International Playtex Corporation, New York, N.Y. Filed Dec. 11, 1969.

## FASHION MAGIC

Owner of Reg. No. 671,880.  
For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Nov. 18, 1969.

SN 347,665. Welco Enterprises, Inc., Waynesville, N.C. Filed Jan. 2, 1970.

## GLO GALS

For Footwear—Namely, Shoes, Boots, Slippers, and Sandals (Int. Cl. 25).  
First use Dec. 1, 1969.

SN 347,667. Welco Enterprises, Inc., Waynesville, N.C. Filed Jan. 2, 1970.

## GLO PALS

For Footwear—Namely, Shoes, Boots, Slippers, and Sandals (Int. Cl. 25).  
First use Dec. 1, 1969.

SN 347,670. Welco Enterprises, Inc., Waynesville, N.C. Filed Jan. 2, 1970.

## MOON GLO

For Footwear—Namely, Shoes, Boots, Slippers, and Sandals (Int. Cl. 25).  
First use Dec. 1, 1969.

SN 352,917. Union Carbide Corporation, New York, N.Y. Filed Mar. 3, 1970.

## DRI MAGIC

For Disposable Baby Diapers (Int. Cl. 25).  
First use on or about Feb. 9, 1970.

SN 352,918. Union Carbide Corporation, New York, N.Y. Filed Mar. 3, 1970.

## DRYDEES

For Disposable Baby Diapers (Int. Cl. 25).  
First use on or about Feb. 9, 1970.

SN 354,262. Madame Daunou, Inc., New York, N.Y. Filed Mar. 17, 1970.

## DANIELA BY DAUNOU

For Shoes (Int. Cl. 25).  
First use 1960.

SN 354,394. Jean Bousquet, Paris, France. Filed Mar. 18, 1970.

## JEAN CACHAREL

"Jean Cacharel" is a fictitious name. Owner of French Reg. No. 706,813, dated Mar. 24, 1966.  
For Women's Jumpers, Polo Jumpers, Women's Skirts, Women's Trousers, Women's Suits, Dresses, Pullovers, Sports Jumpers, Socks, Ties, Scarves, Bermuda Shorts, Caps and Hats (Int. Cl. 25).  
First use at least as early as Apr. 17, 1958; in commerce at least as early as Sept. 1, 1965.

SN 355,722. Pendleton Woolen Mills, Portland, Oreg. Filed Apr. 2, 1970.

## COUNTRY SOPHISTICATES

Owner of Reg. No. 862,008.  
For Women's Sportswear—Namely, Coats, Suits, Blouses, Jackets, Skirts, Pants, Sweaters, and Dresses (Int. Cl. 25).  
First use at least as early as Nov. 13, 1967, on coats and suits.

SN 355,843. Originala Incorporated, New York, N.Y. Filed Apr. 3, 1970.

## GINESSA

For Ladies' Coats, Suits, Dresses, Suit Ensembles, Coat Ensembles, Pants, Suits and Jump Suits (Int. Cl. 25).  
First use on or about Mar. 23, 1970.

SN 355,953. The Ball Company, Inc., New York, N.Y. Filed Apr. 6, 1970.

## VERT-A-GRIP

For Girdles (Int. Cl. 25).  
First use Mar. 12, 1970.

## Class 40—Fancy Goods, Furnishings, and Notions

SN 320,342. Roland W. Frieder, Chicago, Ill. Filed Feb. 28, 1969.

## EYE MAGNET

Applicant disclaims use of the word "Eye" apart from the mark as shown.  
For False Eyelash Applicator (Int. Cl. 8).  
First use Dec. 4, 1968.

SN 321,559. Vulcanized Rubber & Plastics Company, Morrisville, Pa. Filed Mar. 12, 1969.

## LOVE COMB

Applicant disclaims the word "Comb" apart from the mark.  
For Hair Combs (Int. Cl. 21).  
First use on or about Dec. 17, 1968.

SN 331,913. Alfred Klugmann, Inc., New York, N.Y. Filed July 7, 1969.

## BIKINI WIG

The Term "Wig" is disclaimed apart from the mark as shown.  
For Wigs (Int. Cl. 26).  
First use May 16, 1969.



SN 337,760. Wig Masters Import Company, Ltd., d.b.a. Mode de Paris, Atlanta, Ga. Filed Sept. 12, 1969.

## SHELLY FALL

Without waiving any of its common law rights therein, applicant disclaims the word "Fall" apart from the mark as shown.

For Hair Pieces—Namely, Natural and Synthetic Falls (Int. Cl. 26).  
First use Jan. 31, 1967.

SN 337,764. Wig Masters Import Company, Ltd., d.b.a. Mode de Paris, Atlanta, Ga. Filed Sept. 12, 1969.

## KARAN FALL

Without waiving any of its common law rights, applicant disclaims the word "Fall" apart from the mark as shown.

For Hair Pieces—Namely, Natural and Synthetic Falls (Int. Cl. 26).  
First use Jan. 31, 1967.

## Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 320,713. Frottlweberel Vossen G.m.b.H., Geutersloh, Germany. Filed Mar. 4, 1969.



For Woven and Knitted Fabrics of Cotton, Synthetic Fibers and Mixtures of Cotton and Fibers (Int. Cl. 24).  
First use Dec. 31, 1950; in commerce Dec. 31, 1960.

SN 330,171. Mohasco Industries, Inc., Amsterdam, N.Y. Filed June 16, 1969.

FROM THE  
LOOMS OF  
**Mohawk**

Without waiving any common law rights, applicant disclaims any exclusive right in the words "From the Looms of" apart from the mark as shown. Owner of Reg. No. 522,227.

For Carpets (Int. Cl. 27).  
First use at least as early as Jan. 1, 1946.

SN 331,816. Cone Mills Corporation, Greensboro, N.C. Filed July 7, 1969.

## FLAIRISSIMO

For Cotton Piece Goods (Int. Cl. 24).  
First use Feb. 28, 1969.

SN 331,878. Dominion Textile Company Limited, Montreal, Quebec, Canada. Filed July 7, 1969.

**TEX**  **MADE**

Applicant disclaims the right to the exclusive use of the word "Made" apart from the mark. Owner of Canadian Reg. No. 155,775, dated Mar. 1, 1968.

For Textile Fabrics, Bed Sheets, Pillow Cases, and Blankets (Int. Cl. 24).

SN 332,271. Waumbec Mills, Incorporated, New York, N.Y. Filed July 10, 1969.

## RESOURCEFUL RESOURCE

For Textile Fabrics—Namely, Knitted Textile Fabrics Comprised of Synthetic and/or Natural Fibers and/or Blends Thereof (Int. Cl. 24).  
First use June 11, 1969.

SN 332,478. Glen Raven Mills, Inc., Glen Raven, N.C. Filed July 14, 1969.

## HUG-FREE

For Fabrics of Natural and Synthetic Fibers and Combinations Thereof Used in Making Up Into Women's Undergarments (Int. Cl. 24).  
First use June 9, 1969.

SN 334,702. Federated Department Stores, Inc., Columbus, Ohio. Filed Aug. 7, 1969.

## GOLD GC CIRCLE

For Carpets and Rugs of All Materials, Both Natural and Synthetic (Int. Cl. 27).  
First use Apr. 28, 1968.

SN 334,833. Fieldcrest Mills, Inc., Eden, N.C. Filed Aug. 8, 1969.

## SOFT LIFE

For Textile Rugs and Carpeting (Int. Cl. 27).  
First use July 24, 1969.

SN 335,038. Jorge's Carpet Mills, Inc., Rossville, Ga. Filed Aug. 11, 1969.

## PRINTUFT

For Tufted Carpeting (Int. Cl. 27).  
First use July 18, 1969.

SN 336,279. Cavalier Bag Company, Inc., Lumberton, N.C. Filed Aug. 12, 1969.

## POLY PUNCH

For Polypropylene Backing for Rugs and Carpets (Int. Cl. 27).  
First use Apr. 19, 1967.

SN 336,586. Monsanto Company, St. Louis, Mo. Filed Aug. 28, 1969.

## DURETTE

For Flameproof Fabric (Int. Cl. 24).  
First use Aug. 20, 1969.

SN 337,725. Texcraft Corporation, Chicago, Ill. Filed Sept. 11, 1969.

## TEXLINE

For Towels, Washcloths, and Bath Mats (Int. Cl. 25).  
First use May 25, 1969.

SN 338,173. Owens-Corning Fiberglas Corporation, Toledo, Ohio. Filed Sept. 17, 1969.

## S

For Glass Fabrics (Int. Cl. 24).  
First use Nov. 19, 1964.

SN 341,288. Sponge-Carpet, Inc., Morris, Ill. Filed Oct. 21, 1969.

## SCI

For Carpets (Int. Cl. 27).  
First use Aug. 27, 1969.

SN 341,757. Nitto Boseki Co., Ltd., Gonome, Fukushima, Japan. Filed Oct. 27, 1969.

*Renard*

Owner of Japanese Reg. No. 692,223, dated Dec. 10, 1965.  
For Corduroy, Woolens, Rayon, Acetate, Cotton, Linen in the Piece; Bed Sheets, Blankets, Comforters, Pillowcases; Shrink-Treated Fabrics, Towels; Rugs and Carpets; Upholstery Fabrics, Draperies, Slip Covers; Curtains; Felts, Matted and Pressure Formed Treated Fabrics; Suitings; Burlap (Int. Cl. 24).

SN 341,759. Textiles Inc., Fall River, Mass. Filed Oct. 27, 1969.

## VELVA PLUSH

For Corduroy Piece Goods (Int. Cl. 24).  
First use at least as early as June 20, 1968.

SN 341,760. Textiles Inc., Fall River, Mass. Filed Oct. 27, 1969.

## VELVATEX

For Corduroy Piece Goods (Int. Cl. 24).  
First use at least as early as June 15, 1967.

SN 355,504. Topco Associates, Inc., Skokie, Ill. Filed Mar. 31, 1970.

## SPRINGCREST

For Crib Sheets (Int. Cl. 24).  
First use Jan. 26, 1970.

TM 876 O.G.—4

## Class 43—Thread and Yarn

SN 329,385. Rockford Manufacturing Company, Rockford, Tenn. Filed June 6, 1969.

## ROCCO

For Yarns (Int. Cl. 23).  
First use 1913.

SN 332,246. Madison Throwing Company, Inc., Madison, N.C. Filed July 10, 1969.

**M**

For Textile Yarns, Including Synthetic Textile Yarns and/or Blends Thereof Processed and Sold for Use in the Manufacture of Textile Fabrics (Int. Cl. 23).  
First use May 14, 1969.

SN 356,543. Emile Bernat & Sons Co., Uxbridge, Mass. Filed Apr. 13, 1970.



Owner of Reg. No. 727,550.  
For Yarns and Kits Containing Yarn and Instructions for Knitting and Crocheting Articles Made of Yarn (Int. Cl. 23).  
First use at least as early as 1966.

SN 357,403. National Spinning Co., Inc., New York, N.Y. Filed Apr. 20, 1970.

## MARTESSA

For Single and Piled Yarns (Int. Cl. 23).  
First use on or about Apr. 1, 1969.

## Class 44—Dental, Medical, and Surgical Appliances

SN 338,056. Shirley B. Langham, Dallas, Tex. Filed Sept. 16, 1969.

## BEAUTELATER

For Paddle for Patting the Skin To Stimulate Circulation (Int. Cl. 8).  
First use Oct. 15, 1960.

SN 339,121. Beltone Electronics Corporation, Chicago, Ill. Filed Sept. 29, 1969.

## GRANDE

For Electronic Hearing Aids (Int. Cl. 10).  
First use June 7, 1969.



SN 340,211. The Woltra Company, Inc., New York, N.Y. Filed Oct. 8, 1969.

**MI TOT**

For Baby Teething Appliances and Baby Pacifiers (Int. Cl. 10).  
First use 1936.

SN 341,392. J. F. Jelenko & Co., Inc., New Rochelle, N.Y. Filed Oct. 22, 1969.

**FORTICAST**

For Dental Alloy (Int. Cl. 5).  
First use Aug. 8, 1969.

**Class 45—Soft Drinks and Carbonated Waters**

SN 284,080. Daily Juice Products, Inc., Oakmont, Pa. Filed Nov. 3, 1967.

**Daily's**

For Non-Carbonated Fruit Juice Drinks Containing Water and Concentrates Thereof, and Non-Alcoholic Cocktail Mixes (Int. Cl. 32).  
First use June 1, 1967; Oct. 17, 1960, in a different form.

SN 307,135. George Rogers, d.b.a. George Rogers & Co., and Astro! Products Co., Garland, Tex. Filed Sept. 11, 1968.

**ASTRO!**

For Soft Drink Concentrate Sold in Bulk to Bottling Companies (Int. Cl. 32).  
First use at least as early as about Mar. 8, 1961.

SN 326,356. Virginia Dare Extract Co., Inc., Brooklyn, N.Y. Filed May 5, 1969.

**VIRGINIA DARE**

The mark consists of the name of the historical figure reported to be the first child born in America of English parents. Owner of Reg. Nos. 88,670, 545,813, and others.

For Syrups, Concentrates and Emulsions for the Preparation of Soft Drinks (Int. Cl. 32).  
First use Oct. 24, 1922.

SN 341,119. Stokely-Van Camp, Inc., Indianapolis, Ind. Filed

SN 329,494. Latino Products Incorporated, Farmingdale, N.Y. Filed June 9, 1969.

**SHING-A-LING**

For Powdered Mixes for Making Fruit-Flavored Soft Drinks (Int. Cl. 32).  
First use Apr. 7, 1969.

SN 341,119. Stokely-Van Camp, Inc., Indianapolis, Ind. filed Oct. 20, 1969.

**GATOR**

Owner of Reg. No. 848,245.  
For Still and Carbonated Soft Drinks (Int. Cl. 32).  
First use Sept. 25, 1969.

**Class 46—Foods and Ingredients of Foods**

SN 300,102. Oates Bros. Fruit & Produce Co., St. Louis, Mo. Filed June 10, 1968.

**Mary Anne**

Owner of Reg. No. 776,726.  
For Mixed Fresh Vegetable Salads (Int. Cl. 29).  
First use December 1967.

SN 303,795. Hamtown Foods Co. Inc., Detroit, Mich. Filed July 29, 1968.

**HAMTOWN'S**

For Soups, Vegetable Salads, Pickles, Horseradish, Relish, Peppers, Sour Kraut and Vegetable Dinners, All in Jars; and Refrigerated and Frozen Pizza Pie, Dumplings, Stuffed Cabbage, Cheese, Gelatin Salads, Potatoe Salad, Macaroni Salad, and Cole Slaw (Int. Cls. 29, 30, and 31).  
First use Aug. 1, 1950.

SN 303,905. Fromageries Henri Hutin S.A., Saint-Mihel (Meuse), France. Filed July 30, 1968.

**BUCHE LORRAINE**

"Buche" is a French word meaning "log" or "clump of wood." The word "Buche" is also a German word meaning "beech" or "beech tree." The name "Lorraine" is disclaimed apart from the mark as shown.  
For Cheese (Int. Cl. 29).  
First use Oct. 17, 1967; in commerce Oct. 17, 1967.

SN 303,938. Benjamin Twiggs, Inc., Traverse City, Mich. Filed July 30, 1968.

**Benjamin Twiggs**

"Benjamin Twiggs" does not represent a living person. The drawing is lined for the color red, but no claim is made to the color so named.

For Food Products Made From Cherries or Containing Cherries—Namely, Cherry Jelly, Preserves, Cherry Butter, Cherry Conserve, Cherry Sauce, Pickled Cherries, Pie Filling, Cheese, and Candy (Int. Cls. 29 and 30).  
First use Oct. 15, 1966.

SN 306,089. Burger King Corporation, Miami, Fla. Filed Sept. 9, 1968.

**WHOPPER**

Owner of Reg. No. 782,990.  
For Hot Sandwiches (Int. Cl. 29).  
First use Dec. 4, 1957.

SN 308,447. Aktieselskabet Grindstedvaerket, Grindsted, Denmark. Filed Sept. 30, 1968.

**DISMO**

Priority claimed under Sec. 44(d) on Danish application, filed Aug. 12, 1968; Reg. No. 288, dated Jan. 24, 1969.  
For Distilled Monoglycerides Used in the Manufacture of Foodstuffs (Int. Cl. 1).

SN 311,040. Edith B. Kaderli, Old Greenwich, Conn. Filed Oct. 31, 1968.



Applicant disclaims the word "Special" apart from the mark as shown.

For Food Preparations—Namely, Cheese Spreads, Cheese Logs, Cakes, and Meat Cocktail Salads (Int. Cls. 29 and 30).  
First use November 1967.

SN 312,413. Aktieselskabet Grindstedvaerket, Grindsted, Denmark. Filed Nov. 18, 1968.

**DIMODAN**

Owner of Danish Reg. No. 2,110, dated Feb. 27, 1965.  
For Distilled Monoglycerides Used in the Manufacture of Foodstuffs (Int. Cl. 1).

SN 315,910. Hiland Potato Chip Co. of Des Moines, d.b.a. Hiland Potato Chip Co., Des Moines, Iowa. Filed Jan. 6, 1969.

**Hiland**

For Potato Chips, Pretzels, Popcorn, and Corn Derived Ready-To-Eat Snacks (Int. Cls. 29 and 30).  
First use Jan. 1, 1929.

SN 315,914. Hiland Potato Chip Co. of Des Moines, d.b.a. Hiland Potato Chip Co., Des Moines, Iowa. Filed Jan. 6, 1969.

**THE CHIPPIEST CHIPS AROUND!**

Applicant disclaims the word "Chips" apart from the mark as shown without disclaiming its common law rights.  
For Potato Chips (Int. Cl. 29).  
First use Dec. 26, 1963.

SN 321,759. Bazar, Inc., Portland, Oreg. Filed Mar. 14, 1969.

**BAZAR**

For Ice Cream (Int. Cl. 30).  
First use April 1962.

SN 321,760. Bazar, Inc., Portland, Oreg. Filed Mar. 14, 1969.



For Ice Cream (Int. Cl. 30).  
First use April 1962.

SN 322,468. Przedsiębiorstwo Handlu Zagranicznego "Agros," Warsaw, Poland. Filed Mar. 21, 1969.

**WAWEL**

Owner of Polish Reg. No. 47,367, dated June 19, 1968; and U.S. Reg. No. 844,245.  
For Fruit Preserves and Preserved Vegetables; Canned, Frozen and Dried Forest Fruits (Int. Cl. 29).  
First use Jan. 1, 1960; in commerce Dec. 15, 1960.

SN 323,459. Libby, McNeill & Libby, Chicago, Ill. Filed Apr. 2, 1969.



No claim is made to the words "Food Service Division" apart from the mark as shown, but applicant does not waive any existing rights or rights which may arise hereafter in the words "Food Service Division." The drawing is lined for the colors red and blue, but no claim is made to color. Owner of Reg. Nos. 112,291, 708,172, and others.

For Canned and Frozen Fruits and Vegetables, Canned Meats, Canned Pork and Beans, Potato Salad, Fruit and Vegetable Juices (Int. Cls. 29 and 32).  
First use Oct. 15, 1967.

SN 323,510. Granny Goose Foods, Inc., Oakland, Calif. Filed Apr. 3, 1969.

**Granny Goose**

Owner of Reg. Nos. 433,728 and 434,237.  
For Potato and Corn Chips, Caramel Corn, Raw Potatoes, Partially Water or Steam Blanched Potatoes and Partially Fried Potatoes, Popped Popcorn, Salted Nuts, Pretzels, Sunflower Seeds, Fried Pork Rinds, Onion Rings, Dairy Based Chip Dips, Tortilla Chips, and Cheese Flavored Corn Puffs (Int. Cls. 29 and 30).  
First use at least as early as June 3, 1958.



SN 323,511. Granny Goose Foods, Inc., Oakland, Calif. Filed Apr. 3, 1969.



Owner of Reg. Nos. 433,728 and 434,237.  
For Potato and Corn Chips, Caramel Corn, Raw Potatoes, Partially Water or Steam Blanched Potatoes and Partially Fried Potatoes, Popped Popcorn, Salted Nuts, Pretzels, Sunflower Seeds, Fried Pork Rinds, Onion Rings, Dairy Based Chip Dips, Tortilla Chips, and Cheese Flavored Corn Puffs (Int. Cls. 29 and 30).  
First use at least as early as May 28, 1946.

SN 323,512. Granny Goose Foods, Inc., Oakland, Calif. Filed Apr. 3, 1969.

## GRANNY GOOSE

Owner of Reg. Nos. 433,728 and 434,237.  
For Potato and Corn Chips, Caramel Corn, Raw Potatoes, Partially Water or Steam Blanched Potatoes and Partially Fried Potatoes, Popped Popcorn, Salted Nuts, Pretzels, Sunflower Seeds, Fried Pork Rinds, Onion Rings, Dairy Based Chip Dips, Tortilla Chips, and Cheese Flavored Corn Puffs (Int. Cls. 29 and 30).  
First use at least as early as May 28, 1946.

SN 324,241. James C. Sharrow, d.b.a. Huck Finn Donuts, Chicago, Ill. Filed Apr. 10, 1969.



The drawing is lined to indicate the color green, but no claim is made as to the color so named. No claim of exclusive right is made to the word "Donuts" and its pictorial representation. Owner of Reg. No. 765,602.  
For Doughnuts (Int. Cl. 30).  
First use Jan. 25, 1966.

SN 325,065. Napoleon Pre-Cooked Food Products, Inc., Detroit, Mich. Filed Apr. 21, 1969.



No claim is made to the words "Pre-Cooked Foods" apart from the mark.  
For Pre-Cooked Meats (Int. Cl. 29).  
First use on or about Aug. 8, 1968.

SN 328,149. American Potato Company, San Francisco, Calif. Filed May 23, 1969.

## FRISCO FRIES

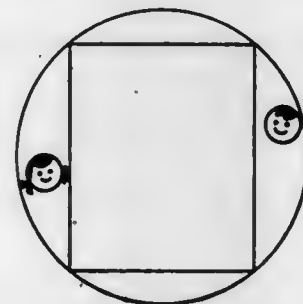
Applicant disclaims the word "Fries" except as used in combination with "Frisco."  
For Cooked Dried Potato Forming Mixtures (Int. Cl. 29).  
First use May 12, 1969.

SN 330,168. Miracle Pet Products, Inc., Jersey City, N.J. Filed June 16, 1969.

## TABBIES

For Food for Fish (Int. Cl. 31).  
First use on or about Apr. 15, 1969.

SN 330,438. Vienna Sausage Manufacturing Company, Chicago, Ill. Filed June 18, 1969.



Owner of Reg. No. 766,835.  
For Sausage Products (Int. Cl. 29).  
First use Nov. 29, 1967.

SN 331,000. Roland Vleeswarenfabriek, Vermeulen & Dahl, P.V.B.A., Beerzel/Antwerpen, Belgium. Filed June 26, 1969.



Owner of Belgian Reg. No. 2,000, dated Jan. 6, 1969.  
For Canned Meat—Namely, Cooked Ham, Sausage, Liver, and Paté (Int. Cl. 29).

SN 332,476. G. & K., Inc., Cobb, Ga. Filed July 14, 1969.

## DIXIE LIX

For Liquid Supplements Primarily of a Food Nature for Ruminants (Cattle, Sheep) (Int. Cl. 5).  
First use Nov. 12, 1966.

SN 334,233. Hunt-Wesson Foods, Inc., Fullerton, Calif. Filed Aug. 1, 1969.

## POUR-A-PICKLE

For Table Sauce (Int. Cl. 30).  
First use July 11, 1969.

SN 334,905. Aunt Nellie's Foods, Inc., Clyman, Wis. Filed Aug. 8, 1969.

## ANTOINE'S

For Canned Vegetables and Separately Packaged Sauces (Int. Cl. 29).  
First use Dec. 20, 1967.

SN 335,058. Pronto Pacific, Inc., Moses Lake, Wash. Filed Aug. 11, 1969.



For Frozen Potatoes (Int. Cl. 29).  
First use May 31, 1968.

SN 335,063. San Giorgio Macaroni, Inc., Lebanon, Pa. Filed Aug. 11, 1969.

## PEOPLE SHOULD STICK TOGETHER NOT SPAGHETTI

No claim of exclusive right to the word "Spaghetti" is made apart from the mark as shown.  
For Allimentary Pastes (Int. Cl. 30).  
First use before December 1968.

SN 335,414. Shenandoah Valley Produce Co., Inc., New York, N.Y. Filed Aug. 15, 1969.



No exclusive right is claimed for the phrase "Poultry Products." Owner of Reg. Nos. 814,629 and 831,172.  
For Frozen and Refrigerated Poultry (Int. Cl. 29).  
First use Apr. 18, 1969; 1941 as to "Shenandoah."

SN 336,014. Rachen-gold-Werk Adolf Speck, d.b.a. Rachen-gold-Werk, Karlsruhe/Baden, Germany. Filed Aug. 22, 1969.



Owner of Reg. No. 871,630.  
For Non-Medicinal Candy Tablets (Int. Cl. 30).  
First use July 19, 1965; in commerce July 19, 1965.

SN 336,942. McCormick & Company, Cockeysville, Md. Filed Sept. 3, 1969.

## FLAV-OLEUM

Owner of Reg. No. 768,876.  
For Concentrated Flavoring Oils, Natural and/or Synthetic, Diluted With Fixed Oils, Alcohol, Propylene Glycol, and Other Wetting Agents and Emulsifiers To Give Them Alcohol, Water or Oil Solubility, Designed for Use as Ingredients in Food Products (Int. Cl. 30).  
First use Aug. 1, 1965.

SN 337,632. Alexander Cairns & Sons, Ltd., Baltimore, Md. Filed Sept. 11, 1969.

## COFFEE WORLD

Without prejudice to applicant's common law rights, the word "Coffee" is disclaimed other than its use in the mark as shown.  
For Freeze-Dried Coffee (Int. Cl. 30).  
First use Aug. 11, 1969.

SN 337,883. Blue Bird Food Products Co., Inc., Philadelphia, Pa. Filed Sept. 15, 1969.



For Smoked Hams (Int. Cl. 29).  
First use Aug. 4, 1969.

SN 337,884. Blue Bird Food Products Co., Inc., Philadelphia, Pa. Filed Sept. 15, 1969.



For Smoked Hams (Int. Cl. 29).  
First use Aug. 4, 1969.

SN 339,406. Uncle Ben's, Inc., Houston, Tex. Filed Oct. 1, 1969.



For purposes of registration only, the applicant disclaims the exclusive right to the words "Measure of Quality" apart from the mark as used. Owner of Reg. Nos. 740,123 and 974,378.  
For Rice, Dehydrated Vegetables, Dehydrated Meat, Dehydrated Seafood, Poultry Dressing Mix, Dehydrated Chicken, and Peanut-Pretzel Snack (Int. Cls. 29 and 30).  
First use Aug. 21, 1969.



SN 340,303. Berndts Bageri Aktiebolag, Karlshamn, Sweden. Filed Aug. 28, 1969.

## BERNDTS TICKIS

Owner of Swedish Reg. No. 120,353, dated July 7, 1967. For Bakery Products—Namely, Rusks (Int. Cl. 30).

SN 343,476. G. L. Webster Company, Inc., Cheriton, Va. Filed Nov. 14, 1969.

## PARK HALL

For Canned Sweet Potatoes (Golden Yams), Canned Tomato Juice, and Bottled Catsup (Int. Cls. 29, 30, and 32). First use Aug. 1, 1950.

SN 344,739. Swift & Company, Chicago, Ill. Filed Nov. 26, 1969.



For Butter (Int. Cl. 29). First use on or about June 18, 1937.

SN 344,753. Vip Foods, Inc., Seattle, Wash. Filed Nov. 26, 1969.



For Ready To Serve Non-Dairy Whipped Topping (Int. Cl. 29). First use Oct. 1, 1969.

SN 344,849. General Mills, Inc., Minneapolis, Minn. Filed Nov. 28, 1969.

## DOGGIE BAG

For Pet Food for Dogs and Cats (Int. Cl. 31). First use on or about Oct. 7, 1969.

SN 344,850. General Mills, Inc., Minneapolis, Minn. Filed Nov. 28, 1969.

## KITTY BAG

For Pet Food for Dogs and Cats (Int. Cl. 31). First use on or about Oct. 7, 1969.

SN 345,130. Wm. Bolthouse Farms, Inc., Grant, Mich. Filed Dec. 3, 1969.



Owner of Reg. No. 718,620. For Fresh Vegetables, Including Carrots, Onions, Radishes, and Celery (Int. Cl. 31). First use July 20, 1968, on carrots.

SN 346,185. Ore-Ida Foods, Inc., Boise, Idaho. Filed Dec. 15, 1969.

## NATURAL-FRIES

Owner of Reg. Nos. 625,582 and 744,937. For Potato Products (Int. Cl. 29). First use Oct. 13, 1969.

SN 348,635. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 15, 1970.

## KITNIC

For Canned Dog Food (Int. Cl. 31). First use on or prior to Dec. 11, 1969.

SN 348,638. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 15, 1970.

## BILL OF FARE

For Canned Dog Food (Int. Cl. 31). First use on or prior to Dec. 11, 1969.

SN 348,640. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 15, 1970.

## LILIPUP

For Canned Dog Food (Int. Cl. 31). First use on or prior to Dec. 11, 1969.

SN 350,447. Anthony-Thomas Candy Company, Columbus, Ohio. Filed Feb. 4, 1970.



For Pure Milk Chocolate Candy, Peanut Clusters, Peppermint Patties, Peanut Bark, and Chocolatey-Crunchy (Int. Cl. 30). First use Jan. 3, 1964.

SN 356,339. Ida Mae Salads, Inc., d.b.a. Amora Foods, Brentwood, Md. Filed Apr. 9, 1970.

## AMORA

Owner of Reg. No. 780,450. For Packaged Frozen and Refrigerated Foods—Namely, Pizza Pie and Pie Crust, Salads (Potato, Cole Slaw, Macaroni, Fruit and Vegetable), Whipped Toppings and Desserts (Gelatin and Puddings) (Int. Cls. 29 and 30). First use at least as early as April 1959.

SN 356,587. Schell Ranch and Packing Co., Indio, Calif. Filed Apr. 13, 1970.



Owner of Reg. Nos. 624,147 and 748,861. For Fresh Citrus Fruits (Int. Cl. 31). First use Mar. 26, 1970.

SN 356,913. General Mills, Inc., Minneapolis, Minn. Filed Apr. 15, 1970.

## DIET-CARE

For Soup, Canned Peas and Asparagus, Canned Peaches and Fruit Cocktail, Canned Puddings, Frozen Fish Entrees and Frozen Vegetable Entrees (Int. Cls. 29 and 30). First use on or about Mar. 18, 1970.

SN 357,272. DCA Food Industries, Inc., New York, N.Y. Filed Apr. 20, 1970.

## LUNEN

For Batter Mix (Int. Cl. 30). First use Jan. 1, 1951.

SN 357,509. Frostie Enterprises, d.b.a. S. Twitchell Company, Camden, N.J. Filed Apr. 21, 1970.



Applicant disclaims the term "Flavor" separate and apart from the mark as shown. For Food Flavor Concentrates (Int. Cl. 30). First use at least as early as July 1969.

SN 357,792. The Quaker Oats Company, Chicago, Ill. Filed Apr. 24, 1970.

## VANILLY CRUNCH

For Ready-To-Eat Cereal (Int. Cl. 30). First use Mar. 24, 1970.

SN 357,793. The Quaker Oats Company, Chicago, Ill. Filed Apr. 24, 1970.

## VANILLY MOONS

For Ready-To-Eat Cereal (Int. Cl. 30). First use Mar. 24, 1970.

## Class 48—Malt Beverages and Liquors

SN 302,937. John I. Haas, Inc., Washington, D.C. Filed July 17, 1968.

## HAAS

For Hop Extract for Brewing Purposes (Int. Cl. 32). First use on or before June 15, 1968.

SN 321,038. Carlsberg Bryggerierne, Copenhagen, Denmark. Filed Mar. 7, 1969.



The drawing is lined for green and gold. Owner of Reg. No. 731,985. For Beer (Int. Cl. 32). First use Mar. 1, 1963; in commerce Mar. 1, 1963.

SN 353,154. Archipelago Brewery Company (1941) Limited, Singapore. Filed Mar. 5, 1970.



Owner of Singaporean Reg. No. 4,648, dated Jan. 2, 1940. For Stout (Int. Cl. 32).

SN 353,203. Malayan Breweries (Singapore) Limited, Singapore. Filed Mar. 5, 1970.



Owner of Singaporean Reg. No. 38,561, dated Feb. 8, 1966. For Stout (Int. Cl. 32).



**Class 49—Distilled Alcoholic Liquors**

SN 330,725. Destileria Huasteca, S.A., Mexico City, Mexico.  
Filed June 23, 1969.



Owner of Mexican Reg. No. 135,646, dated Feb. 18, 1967.  
For Distilled Alcoholic Beverages—Namely, Rum (Int. Cl. 33).

SN 331,401. Glenmore Distilleries Company, Louisville, Ky.,  
by merger from Mr. Boston Distiller Inc., Boston, Mass.  
Filed June 30, 1969.

**OLD MR. B.**

The portrait shown on the drawing is fanciful and does not refer to or indicate any particular individual. The lining shown on the drawing does not represent color. Owner of Reg. Nos. 325,711, 770,018, and others.  
For Vodka (Int. Cl. 33).  
First use May 1969.

SN 331,402. Glenmore Distilleries Company, Louisville, Ky.,  
by merger from Mr. Boston Distiller Inc., Boston, Mass.  
Filed June 30, 1969.

**OLD MR. B.**

Owner of Reg. Nos. 351,462, 770,018, and others.  
For Vodka (Int. Cl. 33).  
First use May 1969.

SN 331,403. Glenmore Distilleries Company, Louisville, Ky.,  
by merger from Mr. Boston Distiller Inc., Boston, Mass.  
Filed June 30, 1969.

**OLD MISTER B.**

Owner of Reg. Nos. 351,462, 770,018, and others.  
For Vodka (Int. Cl. 33).  
First use May 1969.

SN 331,404. Glenmore Distilleries Company, Louisville, Ky.,  
by merger from Mr. Boston Distiller Inc., Boston, Mass.  
Filed June 30, 1969.

**JEAN LYON**

"Jean Lyon" is not the name of a particular individual.  
For Alcoholic Cordial (Int. Cl. 33).  
First use May 1969.

SN 331,405. Glenmore Distilleries Company, Louisville, Ky.,  
by merger from Mr. Boston Distiller Inc., Boston, Mass.  
Filed June 30, 1969.

**OLD MISTER B.**

The portrait shown on the drawing is fanciful and does not refer to or indicate any particular individual. The lining shown on the drawing does not represent color. Owner of Reg. Nos. 325,711, 770,018, and others.  
For Vodka (Int. Cl. 33).  
First use May 1969.

SN 338,932. Schenley Distillers, Inc., d.b.a. The Dant Distillery Company, New York, N.Y. Filed Sept. 25, 1969.

**THE PRESIDENTIAL GAVEL**

For Bourbon Whiskey (Int. Cl. 33).  
First use Mar. 26, 1969.

SN 349,924. E. Martinoni Co., d.b.a. The Richards Company, South San Francisco, Calif. Filed Jan. 29, 1970.

**VECCHA**

For Vodka (Int. Cl. 33).  
First use June 1953.

SN 357,788. National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co., New York, N.Y. Filed Apr. 24, 1970.

**SUMMER**

For Whiskey (Int. Cl. 33).  
First use Feb. 10, 1970.

**Class 50—Merchandise Not Otherwise Classified**

SN 323,360. Plymouth Rubber Company, Inc., Canton, Mass. Filed Apr. 1, 1969.

**PLY-STRIP**

For Stripping of Elastic for Use as an Edge Binding Material (Int. Cl. 17).  
First use Feb. 4, 1969.

SN 329,792. Eugene W. Knuth, Land O'Lake, Wis. Filed June 12, 1969.

**PAKHORS**

For Saw Horse (Int. Cl. 20).  
First use Nov. 10, 1968.

**Class 51—Cosmetics and Toilet Preparations**

SN 342,901. A. H. Robins Company, Incorporated, Richmond, Va. Filed Nov. 6, 1969.

**ANVIL**

For Cosmetics for Men—Namely, Cologne and After Shave Lotion (Int. Cl. 3).  
First use Oct. 14, 1969.

SN 343,443. Ultrasciences, Inc., Philadelphia, Pa. Filed Nov. 13, 1969.



For Hair Coloring Preparations (Int. Cl. 3).  
First use Sept. 26, 1969.

SN 343,519. Chesebrough-Pond's Inc., New York, N.Y. Filed Nov. 14, 1969.

**GREEK ISLE**

For After-Shave Lotion (Int. Cl. 3).  
First use Oct. 29, 1969.

SN 343,571. The Mennen Company, Morristown, N.J. Filed Nov. 14, 1969.

**VICTORY STIX**

For Aerosol After Shave Lotion (Int. Cl. 3).  
First use Oct. 23, 1969.

SN 344,786. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 28, 1969.

**GREAT HANDS**

Applicant disclaims the word "Hands" apart from the mark as shown.  
For Hand Lotion (Int. Cl. 3).  
First use Oct. 16, 1969.

SN 344,864. Johnson Products Co., Inc., Chicago, Ill. Filed Nov. 28, 1969.

**AFRO-BOLD**

For Hair Spray, Face Powder, Liquid Make Up, Lipstick, Body Lotion, Conditioner and Hair Dress and Sun Tan Oil (Int. Cl. 3).  
First use on or about Oct. 31, 1969.

SN 344,866. Johnson Products Co., Inc., Chicago, Ill. Filed Nov. 28, 1969.

**AFRO-TEEN**

For Hair Spray, Face Powder, Liquid Make Up, Lipstick, Body Lotion, Conditioner and Hair Dress and Sun Tan Oil (Int. Cl. 3).  
First use on or about Oct. 31, 1969.

SN 307,542. Amale, Incorporated, Dayton, Ohio. Filed Sept. 17, 1968.

**LEMON TREE**

Without waiving any of its common law rights, applicant hereby disclaims the term "Lemon" apart from the mark as shown.

For Foam Bath (Int. Cl. 3).  
First use at least as early as Aug. 8, 1968.

SN 308,197. Faberge, Incorporated, New York, N.Y., assignee of Faberge, Inc., New York, N.Y. Filed Sept. 25, 1968.

**COLOGNE X PRESSO**

Applicant makes no claim of exclusive right to the use of the word "Cologne" apart from the mark as shown.  
For Cologne (Int. Cl. 3).  
First use July 23, 1968.

SN 321,193. Clairol Incorporated, New York, N.Y. Filed Mar. 10, 1969.

**THE UNSNARLER**

For Hair Conditioning Rinse (Int. Cl. 3).  
First use Nov. 12, 1968.

SN 330,331. Chas. Pfizer & Co., Inc., New York, N.Y. Filed June 18, 1969.

**SHADES OF THE SUN**

The word "Shades" is disclaimed apart from the mark as shown.  
For Body Make-Up (Int. Cl. 3).  
First use May 2, 1968.

SN 336,908. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. Filed Sept. 3, 1969.

**FASHION MAN**

For After Shave Lotion (Int. Cl. 3).  
First use Aug. 21, 1969.

SN 339,252. Union Carbide Corporation, New York, N.Y. Filed Sept. 29, 1969.

**LARIGMA**

For Personal Deodorant (Int. Cl. 5).  
First use on or about Sept. 10, 1969.

SN 339,549. Broemmel Pharmaceuticals, San Francisco, Calif. Filed Oct. 2, 1969.

**SURF-SKIN**

For Skin Lotion (Int. Cl. 3).  
First use Sept. 17, 1969.

SN 340,999. VB Creations, Inc., New York, N.Y. Filed Oct. 17, 1969.

**VALENTINO**

For Perfume (Int. Cl. 3).  
First use Oct. 10, 1969.



SN 344,867. Johnson Products Co., Inc., Chicago, Ill. Filed Nov. 28, 1969.

## AFRO-TIQUE

For Hair Spray, Face Powder, Liquid Make Up, Lipstick, Body Lotion, Conditioner and Hair Dress, and Sun Tan Oil (Int. Cl. 3).

First use on or about Oct. 31, 1969.

SN 345,576. Union Carbide Corporation, New York, N.Y. Filed Dec. 8, 1969.

## SEA GULL

For Personal Deodorant (Int. Cl. 3).  
First use on or about Nov. 24, 1969.

SN 350,356. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 3, 1970.

## BRISK

Owner of Reg. Nos. 354,839, 867,821, and others.  
For Dentifrice (Int. Cl. 3).  
First use Sept. 10, 1969.

SN 352,852. Nexell Corporation, Baltimore, Md. Filed Mar. 2, 1970.

## GOURMET

For Hand Lotion (Int. Cl. 3).  
First use Jan. 14, 1970.

SN 355,077. Carter-Wallace, Inc., New York, N.Y. Filed Mar. 26, 1970.

## BRUSH UP

For Denture Adhesives and Denture Cleansers (Int. Cls. 3 and 5).  
First use Feb. 3, 1970.

SN 357,266. Aramis, Inc., New York, N.Y. Filed Apr. 20, 1970.

## 900

For After Shave Lotion (Int. Cl. 3).  
First use Jan. 23, 1970.

SN 357,270. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 20, 1970.

## HELLO SUNSHINE

Owner of Reg. No. 288,486.  
For Cosmetic Cleansing Lotion (Int. Cl. 3).  
First use Mar. 9, 1970.

SN 357,517. Sterling Drug Inc., New York, N.Y. Filed Apr. 21, 1970.

## ALL OUT

For Personal Deodorant and Anti-Perspirant (Int. Cl. 5).  
First use Mar. 25, 1970.

SN 357,518. Sterling Drug Inc., New York, N.Y. Filed Apr. 21, 1970.

## C.A.P.

For Personal Deodorant and Anti-Perspirant (Int. Cl. 5).  
First use Mar. 25, 1970.

SN 357,519. Sterling Drug Inc., New York, N.Y. Filed Apr. 21, 1970.

## RESPECT

For Personal Deodorant and Anti-Perspirant (Int. Cl. 5).  
First use Mar. 25, 1970.

## Class 52 — Detergents and Soaps

SN 318,628. Burford Auto Finishes, d.b.a. Solar Chemical Company Division, Santa Ana, Calif. Filed Feb. 7, 1969.

## ULTRA-E

For General Household Cleaner in Liquid Form for Spray Application (Int. Cl. 3).  
First use Sept. 1, 1968.

SN 321,197. Cococare Products, Inc., Fort Lee, N.J., assignee of Gerald J. Dubin, Fort Lee, N.J. Filed Mar. 10, 1969.



For Cocoa Butter Soap (Int. Cl. 3).  
First use July 26, 1968.

SN 321,846. Vapon, Inc., West Caldwell, N.Y. Filed Mar. 14, 1969.

## TOPSOL

For Dry Cleaning Solvent for Removing Adhesive and Other Soil From Men's Hair Pieces and Hair Goods—Namely, Mustaches and Toupees (Int. Cl. 3).  
First use on or about May 26, 1968.

SN 323,876. Economics Laboratory, Inc., St. Paul, Minn. Filed Apr. 4, 1969.

## KLEER-SHEEN

For General Cleaner for the Dairy and Food Processing Industries (Int. Cl. 3).  
First use May 1941.

SN 328,795. Allentown Scientific Associates, Inc., Allentown, Pa. Filed June 2, 1969.



## GUARDIAN

For Wig Cleaning Preparations (Int. Cl. 3).  
First use Oct. 15, 1968.

SN 331,681. John M. Leslie, d.b.a. Proven Products, Peabody, Mass. Filed July 3, 1969.

## WATER WORKER

For All-Purpose Cleaner-Detergent for Floors, Walls, Clothes, Automobiles and the Like; and Powdered Hand Soap (Int. Cl. 3).  
First use Mar. 5, 1948.

SN 334,045. Chemiro A.G., St. Gallen, Switzerland. Filed July 31, 1969.



The drawing is lined for the color blue. Owner of U.S. Reg. No. 735,047.

For Preparation for Removing Spots From Clothing, Upholstery, Carpets and Wall Paper (Int. Cl. 3).  
First use August 1959; in commerce September 1959.

SN 334,238. Lan-O-Sheen Inc., d.b.a. Lan-O-Sheen, St. Paul, Minn. Filed Aug. 1, 1969.

## Mr. Mears

Owner of Reg. No. 760,474.  
For Comb and Brush Cleaner; Special Use Cleaner for Use in Cleaning Coffee Makers and Cups, and Coffee and Tea Stains, Milk Bath Soap, Complexion Soap and Rinse (Int. Cl. 3).  
First use Jan. 29, 1960.

SN 339,385. Gabel's Cosmetics, Inc., Los Angeles, Calif. Filed Oct. 1, 1969.

## SWITCHCRAFT

For Wig Shampoo (Int. Cl. 3).  
First use Aug. 28, 1969.

SN 339,915. Modern Chemicals Corporation, Vista, Calif. Filed Oct. 6, 1969.

## TIMEX

For Spray Cleaner, Carpet and Upholstery Shampoo and Windshield Cleanser (Int. Cl. 3).  
First use Aug. 12, 1965.

SN 340,856. The Diversey Corporation, Chicago, Ill. Filed Oct. 14, 1969.

## DUMORE

Owner of Reg. No. 516,351.  
For Alkaline Felt Cleaner (Int. Cl. 3).  
First use June 1, 1967.

SN 341,655. H & D Industries, Inc., Cascade, Md. Filed Oct. 24, 1969.

## SF-400

For Chemical Solvents for Use as Industrial Label Removers, Paint Removers, Oven Cleaners and Paint Brush Cleaners (Int. Cl. 3).  
First use at least as early as July 1, 1969.

SN 342,409. Caswell-Massey Co., Ltd., New York, N.Y. Filed Nov. 3, 1969.

## VEGESPERM

For Organic Equivalent of Sperm Whale Oil Extract Incorporated as an Ingredient in Bath Soaps and Other Toilettries (Int. Cl. 3).  
First use Oct. 17, 1969.

SN 344,775. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 28, 1969.

## SOAK 'N RINSE

For Dishwashing Detergent (Int. Cl. 3).  
First use Nov. 6, 1969.

SN 346,387. The Mennen Company, Morristown, N.J. Filed Dec. 16, 1969.

## PROTEIN-8

Owner of Reg. Nos. 814,679, 843,829, and others.  
For Hair Shampoo (Int. Cl. 3).  
First use on or about Mar. 15, 1965.

SN 347,760. Lien Chemical Company, Franklin Park, Ill. Filed Jan. 5, 1970.

## ROYALIEN

Owner of Reg. Nos. 585,575, 615,466, and others.  
For Combined Antiseptic, Deodorant and Detergent Preparation of Use on Hard Surfaces (Int. Cl. 3).  
First use Apr. 11, 1953.

SN 349,543. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 26, 1970.

## FLOOR 'N MORE

Applicant disclaims the word "Floor" apart from the mark as shown.  
For All Purpose Cleaner (Int. Cl. 3).  
First use Dec. 9, 1969.

SN 352,561. Economics Laboratory, Inc., St. Paul, Minn. Filed Feb. 27, 1970.

## DRIAC

For Acid Cleaner in Powder Form for Cleaning Paper-Mill Felts, Cylinder Molds, Processing Equipment, Piping, and the Like (Int. Cl. 3).  
First use Dec. 3, 1952.

SN 357,271. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 20, 1970.

## SWERL

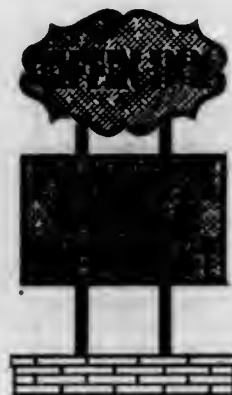
Owner of Reg. Nos. 384,697 and 793,075.  
For Detergent With Fabric Softener (Int. Cl. 3).  
First use Sept. 4, 1969.



## SERVICE MARKS

### Class 100—Miscellaneous

SN 277,576. Tiffin Inn Pancake House, Inc., Baton Rouge, La. Filed Aug. 4, 1967.



The drawing is lined for the color orange. The terms "Inn" and "Pancake House Restaurant" are disclaimed apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).  
First use June 30, 1965.

SN 303,852. Burgerland Home of the Bellybuster, Lincoln Park, Mich. Filed July 29, 1968.

### BURGERLAND

For Carry-Out Restaurant Services (Int. Cl. 42).  
First use June 18, 1968.

SN 303,853. Burgerland Home of the Bellybuster, Lincoln Park, Mich. Filed July 29, 1968.

### BELLYBUSTER

For Making Sandwiches to Order as Part of a Carry-Out Restaurant Service (Int. Cl. 42).  
First use June 18, 1968.

SN 304,203. Biospherics Incorporated, Washington, D.C., by change of name from Biospherics Research, Incorporated, Washington, D.C. Filed Aug. 2, 1968.



For Consulting, Research and Equipment Development Services Relative to Microbiology, Biochemistry, Organic Chemistry, Water and Waste Water Treatment, Air Pollution, and Bio-Engineering (Int. Cl. 42).  
First use March 1967.

SN 316,629. Dayco Corporation, Dayton, Ohio. Filed Jan. 15, 1969.

### THE CADCO CORPS

Owner of Reg. Nos. 590,219, 801,606, and others.  
For Advice and Consultation With Regard to the Uses of Plastics (Int. Cl. 42).  
First use on or about July 1967.

TM 100

SN 321,768. Center for Political Research, Washington, D.C. Filed Mar. 14, 1969.

### CPR

For Political Research Services (Int. Cl. 42).  
First use Feb. 24, 1969.

SN 324,893. Anthony D'Alto, New Haven, Conn. Filed Apr. 18, 1969.

### EXPRESSO INTERNATIONAL

For Preparing, Serving and Dispensing Food, Beverages and Drinks in Restaurants (Int. Cl. 42).  
First use Mar. 31, 1969.

SN 326,874. The Gorton Corporation, d.b.a. Gorton's of Gloucester, Gloucester, Mass. Filed May 9, 1969.



For Restaurant Services (Int. Cl. 42).  
First use Jan. 1, 1969.

SN 328,570. Multi-Amp Corporation, Cranford, N.J. Filed May 28, 1969.

### MULTI-AMP

Owner of Reg. No. 593,624.  
For Electrical Engineering Services (Int. Cl. 42).  
First use on or about Apr. 16, 1963.

SN 330,388. Inventa, A.G. für Forschung und Patentverwertung, Zurich, Switzerland. Filed June 18, 1969.



Owner of Reg. No. 860,305.  
For Research, Planning and Design Services Rendered With Respect to the Construction of Chemical Plants for High-Pressure Synthesis, Organic Intermediates, Fertilizers, Raw Materials for Plastics and Textiles and Synthetic Fibres, and for the Production and Processing of Plastics and Textiles and Synthetic Fibres (Int. Cl. 42).  
First use Nov. 1, 1968; Apr. 17, 1946, as to "Inventa."

JULY 14, 1970

U. S. PATENT OFFICE

TM 101

SN 330,393. Laugh-In Restaurant Corporation, Miami, Fla. Filed June 18, 1969.



For Restaurant Services (Int. Cl. 42).  
First use Apr. 17, 1969.

SN 331,081. Virginia Federation of Garden Clubs, Inc., Richmond, Va. Filed June 26, 1969.



For Association Services—Namely, Promoting Cooperation With Private, State and Federal Beautification Programs, Disseminating Anti-Litter Publicity Through Posters, Radio, Television, and Other Means (Int. Cl. 42).  
First use April 1968.

SN 331,934. Olam Mills Incorporated of Tennessee, Chattanooga, Tenn. Filed July 7, 1969.

### PORTRA-COTE

For Portrait Photographic Services Rendered to Schools, Colleges and Other Institutions (Int. Cl. 42).  
First use Jan. 18, 1969.

SN 332,520. Personalized Family Budgets, Inc., Denver, Colo. Filed July 14, 1969.



For Budget Planning Services—Namely, Consultation, Advice, Planning and Preparation of Family Budgets (Int. Cl. 42).  
First use June 15, 1969.

SN 333,185. Rusty's Country Fried Chicken, Inc., Kankakee, Ill. Filed July 22, 1969.



For Restaurant Services (Int. Cl. 42).  
First use Oct. 1, 1968.



For Restaurant Services (Int. Cl. 42).  
First use Apr. 1, 1958.

SN 338,293. Association for Children With Learning Disabilities, Inc., Pittsburgh, Pa. Filed Sept. 19, 1969.



For Association Services—Namely, Promotion of Education and Training of Children With Learning Disabilities (Int. Cl. 42).  
First use in or before March 1966.

SN 342,372. Mom 'n' Pop's Ham House, Morgantown, N.C. Filed Nov. 3, 1969.



The drawing is lined for the colors red and blue. The characters represented in the mark are fictitious.  
For Restaurant Services (Int. Cl. 42).  
First use on or about June 15, 1967.

SN 343,475. Universal Oil Products Company, d.b.a. UOP Fabsteel Division, Des Plaines, Ill. Filed Nov. 13, 1969.

### ENED

For Rendering of Engineering Services for Others, Particularly Computerized Drawings, Drafting, Designing, Consulting, Program Scheduling and Construction Coordination in the Fabrication and Supplying of Structural Steel (Int. Cl. 42).  
First use on or prior to Nov. 15, 1967.

SN 344,500. Armand's, Inc., Washington, D.C. Filed Nov. 25, 1969.

### ARMAND'S SUBWAY

For Restaurant Services (Int. Cl. 42).  
First use Apr. 8, 1969.



SN 356,247. Hotel Corporation of America, Boston, Mass.  
Filed Apr. 8, 1970.



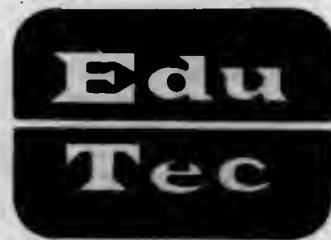
For Restaurant and Bar Services (Int. Cl. 42).  
First use at least prior to August 1953.

SN 356,343. Red Carpet Inns, Inc., Daytona Beach, Fla.  
Filed Apr. 9, 1970.



Without waiver of any of its common law rights, applicant disclaims exclusive right to use of the word "Inn" apart from the words "Red Carpet." Owner of Reg. No. 862,886.  
For Providing Lodging in Tourist Courts (Int. Cl. 42).  
First use Mar. 5, 1969; May 1, 1968, in a different form.

SN 357,164. Education Technology Inc., San Rafael, Calif.  
Filed Apr. 17, 1970.



For Design and Engineering of Electro Mechanical Training Systems and Mobile and Motorized Educational and Industrial Facilities (Int. Cl. 42).  
First use at least as early as Mar. 30, 1966.

SN 357,170. Marriott Corporation, Washington, D.C. Filed  
Apr. 17, 1970.

**MARRIOTT**

Owner of Reg. Nos. 815,612, 840,991, and others.  
For Hotel and Restaurant Services (Int. Cl. 42).  
First use at least as early as January 1957.

## Class 101—Advertising and Business

SN 286,126. Golden Key Inns of America, Inc., Yakima, Wash. Filed Dec. 4, 1967.



For Promoting the Sale of Services of Motels by Issuing Certificates to Customers of Applicant's Subscribers Which are Redeemable in Cash (Int. Cl. 35).  
First use Nov. 6, 1967.

SN 298,168. Brentano's Inc., New York, N.Y. Filed May 15, 1968.

## BOOKSELLERS TO THE WORLD

For Retail and Mail Order Book Store Services, Including the Sale of Records, Paintings, Prints, Wood Carvings, Handicrafts, Sculpture, Jewelry, Games, Puzzles, and the Like (Int. Cl. 35).  
First use Jan. 1, 1938.

SN 306,644. The Cobbs Company, Inc., Miami, Fla. Filed  
Sept. 5, 1968.



Owner of Reg. No. 740,713 and 834,145.  
For Retail Gift Store Services (Int. Cl. 35).  
First use June 15, 1958.

SN 308,191. Consolidated Lumber Company, Stillwater, Minn. Filed Sept. 25, 1968.



The drawing is lined for the colors blue and red but color is not an essential feature of the mark. Applicant hereby disclaims the words "Building Center" apart from the mark without disclaiming any common law rights applicant may have acquired in the words "Building Center."  
For Retail Building Materials Store Services (Int. Cl. 35).  
First use Aug. 1, 1968.

SN 308,713. Nationwide Income Tax Service Company, Detroit, Mich. Filed Oct. 2, 1968.

## NATIONWIDE

For Income Tax Return Preparation Services (Int. Cl. 35).  
First use Oct. 11, 1968.

SN 316,266. The Whitlock Corporation, New York, N.Y.  
Filed Jan. 9, 1969.



The word "Shops" is disclaimed apart from the mark as shown. The drawing is lined for the color red.  
For Retail Automobile Accessory Store Services (Int. Cl. 35).  
First use on or about Sept. 21, 1968.

SN 317,375. Quinlan and Tyson, Inc., Evanston, Ill. Filed  
Jan. 23, 1969.



For Real Estate Brokerage Services (Int. Cl. 35).  
First use June 1945.

SN 317,377. Quinlan and Tyson, Inc., Evanston, Ill. Filed  
Jan. 23, 1969.



For Real Estate Brokerage Services (Int. Cl. 35).  
First use June 1945.

SN 318,250. Trans Data, Inc., Redding, Calif. Filed Feb. 3, 1969.



For Computer Programming Services (Int. Cl. 35).  
First use on or about Sept. 20, 1968.

SN 330,356. Coach Agency, Inc., Syosset, N.Y. Filed June 18, 1969.



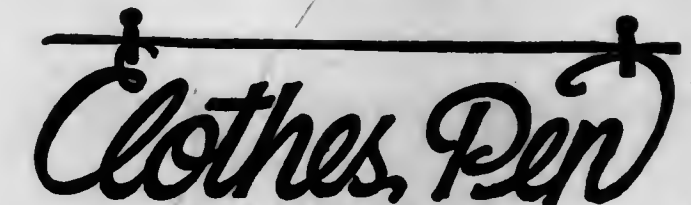
For Providing Real Estate Brokerage and Management Services (Int. Cl. 35).  
First use November 1953.

SN 333,300. Salesmen Unlimited Agency Corp., New York, N.Y. Filed July 23, 1969.



For Employment Agency Services (Int. Cl. 35).  
First use Mar. 1, 1963.

SN 334,372. Reid Brothers, Corinth, Miss. Filed Aug. 4, 1969.



Applicant disclaims any right to the word "Clothes" apart from the mark as shown.  
For Retail Store Services Specializing in Women's Apparel (Int. Cl. 35).  
First use Feb. 19, 1962.

SN 339,074. Farm Journal, Inc., Philadelphia, Pa. Filed  
Sept. 29, 1969.

## FARM JOURNAL RESEARCH SERVICE

Applicant disclaims the words "Research Service" separate and apart from the mark as shown. Owner of Reg. Nos. 738,420 and 513,620.  
For Agricultural Market Research and Planning Services (Int. Cl. 35).  
First use Mar. 18, 1968.

SN 339,435. Howroyd-Wright Employment Agency, Inc., Los Angeles, Calif. Filed Oct. 1, 1969.

## APPLE/ONE

For Employment Agency Services and Temporary Employment Agency Services (Int. Cl. 35).  
First use Aug. 21, 1969.



SN 355,714. Commed, Inc., Rockville, Md. Filed Apr. 2, 1970. SN 325,008. Commercial Credit Corporation, Baltimore, Md. Filed Apr. 21, 1969.

**COMMED**

For Computer Programming Services (Int. Cl. 35).  
First use July 22, 1969.

SN 356,580. Ralston Purina Company, St. Louis, Mo. Filed Apr. 13, 1970.

**PET VILLAGE**

Without waiver of its common law rights thereto, applicant makes no claim to the word "Pet" apart from the mark as shown.

For Pet Store Services (Int. Cl. 35).  
First use Dec. 1, 1969.

SN 356,839. The United States Shoe Corporation, Cincinnati, Ohio. Filed Apr. 14, 1970.

**J. RIGGINGS**

"J. Riggings" is fanciful and does not identify any known individual.

For Retail Clothing Stores Services (Int. Cl. 35).  
First use at least as early as June 4, 1969.

SN 357,280. IBA, Inc., Cincinnati, Ohio. Filed Apr. 20, 1970.

**IBA**

For Employment Agency Services (Int. Cl. 35).  
First use in or about June 1966.

SN 357,283. National Sharedata Corporation, Houston, Tex. Filed Apr. 20, 1970.

**SHAREDATA**

For Data Processing Services (Int. Cl. 35).  
First use at least as early as Sept. 18, 1969.

**Class 102—Insurance and Financial**

SN 298,756. People's Bank of Kansas City, Kansas City, Mo. Filed May 21, 1968.

**YOUNG KANSAS CITIANS CLUB**

For Banking Services (Int. Cl. 36).  
First use Apr. 24, 1968.

SN 309,444. The Elmhurst National Bank, Elmhurst, Ill. Filed Oct. 11, 1968.

**the "One For The Money"**

For Complete Banking and Trust Services (Int. Cl. 36).  
First use June 29, 1967.

**Wheel-Escape financing**

Applicant disclaims the term "Financing." Owner of Reg. No. 863,284.

For Furnishing Credit Services—Namely, Providing Retail Financing and Wholesale Financing of Mobile Homes and Travel Trailers (Int. Cl. 36).  
First use Apr. 1, 1968.

SN 331,866. COAP Systems Inc., Greenvale, N.Y. Filed July 7, 1969.

**COAP**

Owner of Reg. No. 796,551.  
For Computer-Oriented Financial Analysis and Planning for Individuals and Businesses (Int. Cl. 36).  
First use June 1, 1962.

SN 331,879. The Dreyfus Leverage Fund, Inc., New York, N.Y. Filed July 7, 1969.



Owner of Reg. Nos. 676,125, 676,126, and others.  
For Financial Services—Namely, Investing the Funds of Others (Int. Cl. 36).  
First use on or about June 1, 1969.

SN 333,320. Zenith Life Insurance Company, Chicago, Ill. Filed July 23, 1969.



For Underwriting of Life, Accident and Health Insurance (Int. Cl. 36).  
First use July 1, 1962.

SN 342,426. Eastern Life Insurance Company of New York, New York, N.Y. Filed Nov. 3, 1969.



For Underwriting Insurance Service (Int. Cl. 16).  
First use Feb. 1, 1965.

SN 357,505. Continental Assurance Company, Chicago, Ill. Filed Apr. 21, 1970.

**TARGET**

For Underwriting Life Insurance (Int. Cl. 36).  
First use at least as early as Jan. 19, 1968.

**Class 103—Construction and Repair**

SN 332,452. Cook's Pest Control, Inc., Decatur, Ala. Filed July 14, 1969.

**COOKIE THE COP**

Owner of Reg. No. 838,083.  
For Termite, Insect and Pest Exterminating and Control Services (Int. Cl. 37).  
First use Nov. 30, 1965.

SN 334,165. A-T-O Inc., Cleveland, Ohio, by change of name from Automatic Sprinkler Corporation of America, Cleveland, Ohio. Filed Aug. 1, 1969.

**"AUTOMATIC"**

Owner of Reg. Nos. 554,191, 804,520, and others.  
For Inspection of Sprinkler Systems of Others (Int. Cl. 37).  
First use at least as early as 1910.

**Class 106—Material Treatment**

SN 317,522. Lee J. Anthony, d.b.a. Griffin Furs, Boston, Mass. Filed Jan. 27, 1969.

**PERMO SIL**

For Fur Dyeing Services (Int. Cl. 40).  
First use Nov. 22, 1968.

**Class 107—Education and Entertainment**

SN 305,312. The Chicago International Film Festival, Inc., Chicago, Ill. Filed Aug. 16, 1968.



The black rectangular portion of the drawing represents background only and is not a part of the mark.  
For Promoting Motion Picture Films of Others by Means of Film Festivals and Awards (Int. Cl. 41).  
First use July 1, 1967.

SN 318,016. Richard M. Allen, Kenosha, Wis. Filed Jan. 31, 1969.

**YESTERDAYS CHILDREN**

For Entertainment Services Rendered by a Musical Organization and Particularly a Soul or Rhythm and Blues Band (Int. Cl. 41).  
First use about August 1968.

SN 325,192. Galmen Production Corporation, New York, N.Y. Filed Apr. 22, 1969.

**TRIO LOS TROPICANOS**

Applicant disclaims the word "Trio" apart from the mark as shown.  
For Vocal Group Providing Voice Entertainment and Instrumental Music (Int. Cl. 41).  
First use Jan. 10, 1968.

SN 329,823. Ampex Corporation, Redwood City, Calif. Filed June 12, 1969.



For Classroom and Correspondence Courses for Training Persons in the Operation, Service and Maintenance of Television Equipment (Int. Cl. 41).  
First use November 1968.

SN 333,573. International Enterprises, Inc., d.b.a. Camp Olympus, and The Olympic Club of America, Washington, D.C. Filed July 25, 1969.



For Conducting a Training Camp for the Instruction of Judo (Int. Cl. 41).  
First use Dec. 15, 1968.

SN 339,506. Mattel, Inc., Hawthorne, Calif. Filed Oct. 2, 1969.



Owner of Reg. No. 843,156.  
For Entertainment Services—Namely, a Series of Television Programs in the Form of Animated Cartoons Having a Theme Related to Young Automobile Enthusiasts and Hot Rods (Int. Cl. 41).  
First use Sept. 4, 1969.

SN 357,781. Columbia Pictures Industries, Inc., d.b.a. Screen Gems, New York, N.Y. Filed Apr. 24, 1970.

**FLINTSTONES**

Owner of Reg. No. 802,409.  
For Amusement Park Services (Int. Cl. 41).  
First use May 1966.



## CERTIFICATION MARKS

### Class A — Goods

SN 325,778. Power Tool Institute, Inc., Evanston, Ill. Filed Apr. 28, 1969.



The mark certifies that the goods have been inspected under power; that they have a grounding system or are double-insulated; that they are accompanied with instructions for operator safety, and that they are manufactured by members of applicant.

For Power Tools.  
First use Mar. 7, 1969.

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## TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

### Class 1 — Raw or Partly Prepared Materials Class 5 — Adhesives

- 894,364. ETHYL AND DESIGN. Ethyl Corporation. SN 280,306. Pub. 9-17-68. Filed 9-14-67.
- 894,365. KINOID. Philip G. Whitman, Inc. MULTIPLE CLASS (Classes 1, 37, and 42). SN 294,104. Pub. 4-28-70. Filed 3-25-68.
- 894,366. GO-HAWK BRAND AND DESIGN. Ratcliff Seed Co. SN 310,696. Pub. 4-28-70. Filed 10-28-68.
- 894,367. BLACK KOW. Black Gold Compost Company. MULTIPLE CLASS (Classes 1 and 10). SN 326,337. Pub. 4-28-70. Filed 5-5-69.
- 894,368. BLACK VELVET. Black Gold Compost Company. MULTIPLE CLASS (Classes 1 and 10). SN 326,338. Pub. 4-28-70. Filed 5-5-69.
- 894,369. BLACK SHEEP. Black Gold Compost Company. MULTIPLE CLASS (Classes 1 and 10). SN 326,339. Pub. 4-28-70. Filed 5-5-69.
- 894,370. LIV-LITE. Tombigbee Lightweight Aggregate Corporation. SN 330,217. Pub. 4-28-70. Filed 6-16-69.
- 894,371. ANILWAX. Armour and Company. SN 330,689. Pub. 4-28-70. Filed 6-23-69.
- 894,372. PROPYLSAR. Dart Industries Inc., d.b.a. Fiberfil. SN 331,167. Pub. 4-28-70. Filed 6-27-69.
- 894,373. PLIOTUE. The Goodyear Tire & Rubber Company. SN 331,191. Pub. 4-28-70. Filed 6-27-69.
- 894,374. LIVING GIFTS, John's, Inc. SN 331,208. Pub. 4-28-70. Filed 6-27-69.
- 894,375. UNIFOAM AND DESIGN. Wm. T. Burnett & Co., Incorporated. SN 331,491. Pub. 4-28-70. Filed 7-1-69.
- 894,383. ETHYL AND DESIGN. Ethyl Corporation. SN 280,310. Pub. 9-17-68. Filed 9-14-67.
- 894,384. TK TOP KNOTCH. Treb-Kirby Company. SN 290,777. Pub. 5-13-69. Filed 2-9-68.
- 894,385. LOCK BOND AND DESIGN. Industrial Rubber Cement Co. SN 318,960. Pub. 4-28-70. Filed 2-12-69.
- 894,386. INMONT. Inmont Corporation. SN 327,548. Pub. 4-28-70. Filed 5-19-69.
- 894,387. PACK KING AND CROWN AND SHIELD DESIGN. Packing Materials Corporation. MULTIPLE CLASS (Classes 5 and 37). SN 342,347. Pub. 4-28-70. Filed 11-3-69.

### Class 6 — Chemicals and Chemical Compositions

### Class 2 — Receptades

- 894,388. TOMAC. American Hospital Supply Corporation. MULTIPLE CLASS (Classes 6, 40, and 50). SN 260,395. Pub. 4-28-70. Filed 12-9-66.
- 894,389. ETHYL AND DESIGN. Ethyl Corporation. SN 280,309. Pub. 9-10-68. Filed 9-14-67.
- 894,390. VERILITH. Eastman Kodak Company. MULTIPLE CLASS (Classes 6 and 26). SN 300,390. Pub. 4-28-70. Filed 6-14-68.
- 894,391. TANABE. Tanabe Selyaku Co., Ltd. MULTIPLE CLASS (Classes 6, 18, and 46). SN 302,662. Pub. 4-28-70. Filed 7-15-68.
- 894,392. SML-Z-GUD. Service Industries. S; 307,049. Pub. 4-28-70. Filed 9-10-68.
- 894,393. GIVAUDAN. Givaudan Corporation. SN 311,481. Pub. 4-28-70. Filed 11-6-68.
- 894,394. P-12. Gidley Laboratories, Inc. SN 315,406. Pub. 4-28-70. Filed 12-30-68.
- 894,395. TETRATOPE. E. R. Squibb & Sons, Inc. SN 316,144. Pub. 4-28-70. Filed 1-8-69.
- 894,396. RED SEAL. Pennwalt Corporation, by change of name from Pennsalt Chemicals Corporation. SN 316,906. Pub. 4-28-70. Filed 1-17-69.
- 894,397. ACCUSPHERE. Organon Inc. SN 320,402. Pub. 4-28-70. Filed 3-3-69.
- 894,398. AI AND DESIGN. Aptar Industries, Inc. SN 323,048. Pub. 4-28-70. Filed 3-28-69.
- 894,399. EXTRAXOL. Northern Petrochemical Company. SN 323,119. Pub. 4-28-70. Filed 3-28-69.
- 894,400. GRAND CANYON. The Flintkote Company. SN 321,208. Pub. 5-12-70. Filed 3-10-69.
- 894,401. MASTIMIN. The Diversey Corporation. SN 323,435. Pub. 4-28-70. Filed 4-2-69.
- 894,402. REG 13. Anderson Chemical Company. SN 324,389. Pub. 4-28-70. Filed 4-14-69.
- 894,403. COLLIER AND DESIGN. Collier Carbon and Chemical Corporation. SN 324,411. Pub. 4-28-70. Filed 4-14-69.
- 894,404. TRILEX. Dril de Mexico, S.A. SN 326,570. Pub. 4-28-70. Filed 2-20-69.
- 894,405. TRIL-OX. Dril de Mexico, S.A. SN 326,571. Pub. 4-28-70. Filed 2-20-69.
- 894,406. ACCURE C. Allied Chemical Corporation. SN 329,675. Pub. 4-28-70. Filed 6-11-69.
- 894,407. ALKAPEN. GAF Corporation. SN 329,709. Pub. 4-28-70. Filed 6-11-69.
- 894,408. RAMPART. Hercules Incorporated. SN 329,859. Pub. 4-28-70. Filed 6-12-69.

### Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 894,381. CORDE-BEAD. Lumur-1 Plastics Corp. SN 322,881. Pub. 4-28-70. Filed 3-26-69.

### Class 4 — Abrasives and Polishing Materials

- 894,382. NON-SCUFF. Texize Chemicals, Inc., assignee of Simoniz Company. SN 265,009. Pub. 5-2-67. Filed 2-20-67.

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- 894,409. PLASTISCAT. Thiokol Chemical Corporation. SN 329,900. Pub. 4-28-70. Filed 6-12-69.  
 894,410. MAIN. Abbott Laboratories. SN 330,078. Pub. 4-28-70. Filed 6-16-69.  
 894,411. TAVRON. The Dow Chemical Company. SN 335,643. Pub. 4-28-70. Filed 8-19-69.

### Class 8—Smokers' Articles, Not Including Tobacco Products

- 894,412. PETER KENT. Jack R. Kirk, d.b.a. Smoker's World. SN 330,982. Pub. 4-28-70. Filed 6-25-69.

### Class 10—Fertilizers

- 894,367. (See Class 1 for this trademark.)  
 894,368. (See Class 1 for this trademark.)  
 894,369. (See Class 1 for this trademark.)

### Class 11—Inks and Inking Materials

- 894,413. EXALIN. Gotham Ink & Color Co., Inc. SN 332,229. Pub. 4-28-70. Filed 7-10-69.  
 894,414. DMS AND DESIGN. American Cyanamid Company. SN 345,780. Pub. 4-28-70. Filed 12-10-69.

### Class 12—Construction Materials

- 894,415. EPOXIT. Palmer Products Incorporated. SN 265,325. Pub. 4-28-70. Filed 2-23-67.  
 894,416. ETHYL AND DESIGN. Ethyl Corporation. SN 280,308. Pub. 9-24-68. Filed 9-14-67.  
 894,417. MISCELLANEOUS DESIGN. Comfort Glass Corporation. SN 308,095. Pub. 4-28-70. Filed 9-24-68.  
 894,418. NO-CALK. Oatey Co. SN 308,914. Pub. 4-28-70. Filed 10-4-68.  
 894,419. SYNROX S AND DESIGN. Synrox, Inc. SN 313,035. Pub. 4-28-70. Filed 11-25-68.  
 894,420. VENESTA V AND DESIGN. Venesta Limited. SN 320,298. Pub. 4-28-70. Filed 2-27-69.  
 894,421. INSERTNAIL. William A. Walters, d.b.a. A. & W. Fastener Industries. SN 320,884. Pub. 4-28-70. Filed 3-5-69.  
 894,422. THERMA TRU AND DESIGN. Lake Shore Industries, Inc. SN 324,922. Pub. 4-28-70. Filed 4-18-69.  
 894,423. AIR BEAM HUT. Air-Tech. Industries, Inc. SN 325,446. Pub. 4-28-70. Filed 4-24-69.  
 894,424. THERMIUM AND DESIGN. Thermium, Inc. SN 327,425. Pub. 4-28-70. Filed 5-15-69.  
 894,425. WOYNFOLD. American Accordion-Fold Doors, Inc. SN 327,465. Pub. 4-28-70. Filed S.R. 5-16-69; Am. P.R. 1-21-70.  
 894,426. KING SAXON. Masco-Eagle Corporation. SN 330,672. Pub. 4-28-70. Filed 6-23-69.  
 894,427. TUFBESTOS. Nicolet Industries, Inc. SN 330,763. Pub. 4-28-70. Filed 6-23-69.

### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 894,428. WOERNER OL-SCHMIERUNG. Firma Woerner Oeler- und Fetterfabrik Eugen Woerner. MULTIPLE CLASS (Classes 13 and 23). SN 309,674. Pub. 4-28-70. Filed 10-15-68.

- 894,429. AVI AND DESIGN. Auto-Valve, Inc. SN 316,403. Pub. 4-28-70. Filed 1-13-69.  
 894,430. RAIN-AWAY. James C. Roberts, d.b.a. Roberts Irrigation Company. SN 316,470. Pub. 4-28-70. Filed 1-13-69.  
 894,431. CALOR. Vita Craft Corporation. SN 316,701. Pub. 4-28-70. Filed 1-15-69.  
 894,432. STA-BAND. Hawkins-Hawkins Co., Inc. SN 335,016. Pub. 4-28-70. Filed 8-11-69.  
 894,433. TRIPLE CHECK. G. C. Murphy Company. SN 337,949. Pub. 4-28-70. Filed 9-15-69.

- 894,434. WEST BEND AND DESIGN. Dart Industries Inc., d.b.a. The West Bend Company. MULTIPLE CLASS (Classes 13, 21, and 34). SN 339,269. Pub. 4-28-70. Filed 9-30-69.

### Class 14—Metals and Metal Castings and Forgings

- 894,435. METALLIC JEWELS. Meadowbrook Inventions, Inc. SN 316,222. Pub. 4-28-70. Filed 1-9-69.

### Class 15—Oils and Greases

- 894,436. 1+1. Texize Chemicals, Inc., assignee of Simoniz Company. SN 307,534. Pub. 5-13-70. Filed 9-17-68.  
 894,437. TORQ-GARD. Deere & Company. SN 324,895. Pub. 4-28-70. Filed 4-18-69.  
 894,438. SAV O MATIC. Timex Oil Co. SN 332,057. Pub. 4-28-70. Filed 7-8-69.  
 894,439. A LIQUID CUTTING TOOL AND GEAR DESIGN. Jasper Pizzitola, d.b.a. The Orbit Chemical Research & Developing Company. SN 335,607. Pub. 4-28-70. Filed 8-18-69.  
 894,440. IGLOO. Phillips Petroleum Company. SN 345,976. Pub. 4-28-70. Filed 12-11-69.  
 894,441. F-310. Standard Oil Company of California. SN 346,780. Pub. 4-28-70. Filed 12-19-69.

### Class 16—Protective and Decorative Coatings

- 894,442. SUPER SHIELD. Big Bear, Inc. SN 224,155. Pub. 1-24-67. Filed 7-26-65.  
 894,443. SUPER SHIELD. Big Bear, Inc., assignee of E. I. du Pont de Nemours and Company. SN 238,505. Pub. 1-24-67. Filed 2-10-66.  
 894,444. MAGNUS. Economics Laboratory, Inc. SN 324,900. Pub. 4-28-70. Filed 4-18-69.  
 894,445. SUN-BAR. Kurpees Paint Co. SN 325,978. Pub. 4-28-70. Filed 4-30-69.  
 894,446. PLEXI-PAVE. California Products Corporation. SN 333,810. Pub. 4-28-70. Filed 7-29-69.  
 894,447. RUST-PLEX. California Products Corporation. SN 333,811. Pub. 4-28-70. Filed 7-29-69.  
 894,448. ALLFLOR. California Products Corporation. SN 333,813. Pub. 4-28-70. Filed 7-29-69.  
 894,449. PACKARD. The Dampney Company. SN 345,749. Pub. 4-28-70. Filed 12-10-69.

### Class 17—Tobacco Products

- 894,450. VIRGINIA SLIMS. Philip Morris Incorporated. SN 304,382. Pub. 4-28-70. Filed 8-5-68.  
 894,451. CIGILL. J. P. Schmidt Jun. A/S. SN 318,585. Pub. 4-28-70. Filed 2-6-69.

- 894,452. MANNE. J. P. Schmidt Jun. A/S. SN 318,586. Pub. 4-28-70. Filed 2-6-69.  
 894,453. EVERY DAY CHEW. Liggett & Meyers Incorporated. SN 324,597. Pub. 4-28-70. Filed 4-15-69.

### Class 18—Medicines and Pharmaceutical Preparations

- 894,391. (See Class 6 for this trademark.)  
 894,454. PANCLAR. Societe Francaise de Recherches Biochimiques. SN 315,794. Pub. 4-28-70. Filed 1-3-69.  
 894,455. HISTOSOL. Norden Laboratories, Inc. SN 316,542. Pub. 10-28-69. Filed 1-14-69.  
 894,456. ENOS. Beecham Inc. SN 319,262. Pub. 4-28-70. Filed 2-17-69.  
 894,457. TRUCE. Johnson & Johnson. SN 319,316. Pub. 4-28-70. Filed 2-17-68.  
 894,458. ELECTROFERM. Richardson-Merrell Inc. SN 322,481. Pub. 4-28-70. Filed 3-21-69.  
 894,459. CEOLAT. Kali-Chemie Aktiengesellschaft. SN 328,861. Pub. 4-28-70. Filed 6-2-69.  
 894,460. CAMECON. Bristol-Myers Company. SN 330,250. Pub. 4-28-70. Filed 6-17-69.  
 894,461. KOLEREST. Bristol-Myers Company. SN 330,252. Pub. 4-28-70. Filed 6-17-69.  
 894,462. PHYSEQUEN. Bristol-Myers Company. SN 330,253. Pub. 4-28-70. Filed 6-17-69.  
 894,463. MARCAINE. Sterling Drug Inc. SN 330,306. Pub. 4-28-70. Filed 6-17-69.  
 894,464. RESBOVAC. Norden Laboratories, Inc. SN 330,617. Pub. 4-28-70. Filed 6-20-69.  
 894,465. SYNTACLO. Smith, Miller & Patch, Inc. (New Jersey corporation), assignee of Smith, Miller & Patch, Inc. (New York corporation). SN 330,855. Pub. 4-28-70. Filed 6-24-69.  
 894,466. SENOGUAR. The Purdue Frederick Company. SN 331,068. Pub. 4-28-70. Filed 6-26-69.  
 894,467. MILESTROL. Smith, Miller & Patch, Inc. (New Jersey corporation) assignee of Smith, Miller & Patch, Inc. (New York corporation). SN 331,076. Pub. 4-28-70. Filed 6-26-69.  
 894,468. FORMULA B. The Herman Nagel Co. SN 331,118. Pub. 4-28-70. Filed 6-27-69.  
 894,469. FABROL. Geigy Chemical Corporation. SN 331,364. Pub. 4-28-70. Filed 6-30-69.  
 894,470. ENFITEN. Geigy Chemical Corporation. SN 331,365. Pub. 4-28-70. Filed 6-30-69.  
 894,471. NUTRI-CYCLE. The Good Life. SN 346,172. Pub. 4-28-70. Filed 12-15-69.  
 894,472. INTRIBEC. Parke, Davis & Company. SN 346,577. Pub. 4-28-70. Filed 12-18-69.

### Class 19—Vehicles

- 894,473. DIESEL KIKI AND DESIGN. Diesel Kiki Kabushiki Kaisha. MULTIPLE CLASS (Classes 19 and 23). SN 294,430. Pub. 4-28-70. Filed 3-29-68.  
 894,474. AMIGO. Amlgo Sales, Inc. SN 321,619. Pub. 4-28-70. Filed 3-13-69.  
 894,475. CUSHIONFLIGHT. Cushionflight Corporation. SN 322,272. Pub. 4-28-70. Filed 3-20-69.  
 894,476. PEGASUS. Rebikoff Underwater Products, Inc. SN 329,888. Pub. 4-28-70. Filed 6-12-69.  
 894,477. CURB JUMPER. Custer E. Capadalis. SN 332,801. Pub. 4-28-70. Filed 7-17-69.  
 894,478. ROAMIN' CHARIOT AND DESIGN. Jimmy Neal Christian, d.b.a. Christian Trailer Finishing. SN 333,374. Pub. 4-28-70. Filed 7-24-69.

- 894,479. MISCELLANEOUS DESIGN. Henslee Mobile Homes, Inc. SN 335,981. Pub. 4-28-70. Filed 8-22-69.  
 894,480. SILVERLINE AND DESIGN. Silverline, Inc. SN 338,495. Pub. 4-28-70. Filed 9-22-69.

### Class 20—Linoleum and Oiled Cloth

- 894,481. STONEHENGE. L. E. Carpenter & Company. SN 329,961. Pub. 4-28-70. Filed 6-13-69.

### Class 21—Electrical Apparatus, Machines, and Supplies

- 894,434. (See Class 13 for this trademark.)  
 894,482. MAGNESTAT. Conduction Corporation, MRC Division. SN 271,447. Pub. 9-24-68. Filed 5-15-67.  
 894,483. COLONIAL PREMIER ETC. AND DESIGN. The Scott & Fetzer Company. SN 292,711. Pub. 4-28-70. Filed 3-7-68.  
 894,484. WINKER LITES. Amar Industries, Inc. SN 295,293. Pub. 4-28-70. Filed 4-10-68.  
 894,485. CIRCUIT GUARD. Harvey Hubbell, Incorporated. SN 295,336. Pub. 1-27-70. Filed 4-10-68.  
 894,486. PERMA-CELL. General Electric Company. SN 300,441. Pub. 11-4-69. Filed 6-14-68.  
 894,487. COLORAMIC. FPC Electronics Corporation. SN 306,554. Pub. 4-28-70. Filed 9-4-68.  
 894,488. MEDICAIR. Fedders Corporation. SN 311,247. Pub. 4-28-70. Filed 11-4-68.  
 894,489. PAN-AIRE. Trans-Aire Electronics, Inc. SN 316,482. Pub. 4-28-70. Filed 1-13-69.  
 894,490. EVER-FLASH. Stewart-Warner Corporation. SN 317,988. Pub. 4-28-70. Filed 1-31-69.  
 894,491. SPACELITER. The Pyle-National Company, d.b.a. Steber Manufacturing Company. SN 318,577. Pub. 4-28-70. Filed 2-6-69.  
 894,492. MAGACYCLER. Pioneer Magnetics Incorporated. MULTIPLE CLASS (Classes 21 and 26). SN 322,617. Pub. 4-28-70. Filed 3-24-69.  
 894,493. ZAP AND DESIGN. Gardner Manufacturing Company. SN 330,732. Pub. 4-28-70. Filed 6-23-69.  
 894,494. FORTEX. Lorival Limited. SN 336,840. Pub. 4-28-70. Filed 8-26-69.  
 894,495. RACO. Roland L. Buchanan, d.b.a. Raco Manufacturing Company. SN 287,140. Pub. 6-17-69. Filed 12-18-67.  
 894,496. MOOD MASTER. Thyrocon Controls Corporation. SN 340,205. Pub. 4-28-70. Filed 10-8-69.  
 894,497. HYBRIDISC. Bestran Corporation. SN 340,235. Pub. 4-28-70. Filed 10-9-69.  
 894,498. FANWELD. Fansteel Inc. SN 340,884. Pub. 4-28-70. Filed 10-10-69.  
 894,499. STANDARD AND DESIGN. American Gage & Machine Company. SN 342,810. Pub. 4-28-70. Filed 11-6-69.  
 894,500. GARDCO. Gardco Manufacturing Inc. SN 343,540. Pub. 4-28-70. Filed 11-14-69.  
 894,501. TYNA MITE. Baudinet International Corporation of America. SN 346,691. Pub. 4-28-70. Filed 12-19-69.

### Class 22—Games, Toys, and Sporting Goods

- 894,502. TARG-DOT AND DESIGN. Eugene G. Peterson, d.b.a. Peterson's Labels. SN 296,573. Pub. 4-28-70. Filed 4-25-68.  
 894,503. LEGEROO AND DESIGN. Newman-Dell Company. SN 307,499. Pub. 4-28-70. Filed 9-16-68.



- 894,504. BANDAI. Bandai Co., Ltd. SN 309,540. Pub. 4-28-70. Filed 10-14-68.
- 894,505. GM AND DESIGN OF A BASEBALL. Glenn Mickens, d.b.a. Scott & Co. SN 309,600. Pub. 4-28-70. Filed 10-14-68.
- 894,506. HOLDSTER. "Automatic" Sprinkler Corporation of America, assignee of Rawlings Sporting Goods Company. SN 310,497. Pub. 4-28-70. Filed 10-24-68.
- 894,507. BEAT THE MARKET. Jonathan C. Stimson, d.b.a. Clever Games Company. SN 311,947. Pub. 4-28-70. Filed 11-12-68.
- 894,508. THE WORKING BALL. Brunswick Corporation. SN 313,896. Pub. 4-28-70. Filed 12-9-68.
- 894,509. NORDIC. Bombardier Limited. SN 314,521. Pub. 4-28-70. Filed 12-16-68.
- 894,510. BEMA. Bernhard Markwitz. SN 317,077. Pub. 4-28-70. Filed 1-21-69.
- 894,511. HOPPY LUCKY. Stig Ravn A/S. SN 318,240. Pub. 4-28-70. Filed 2-3-69.
- 894,512. COUNT OFF. Louis Levy. SN 319,325. Pub. 4-28-70. Filed 2-17-68.
- 894,513. SPACE EXPLORERS. The Franklin Mint, Inc. SN 320,505. Pub. 4-28-70. Filed 3-3-69.
- 894,514. ARMOR-FLEX. "Automatic" Sprinkler Corporation of America. SN 321,031. Pub. 4-28-70. Filed 3-7-69.
- 894,515. MOON-PROBE. Skor-Mor Corporation. SN 321,085. Pub. 4-28-70. Filed 3-7-69.
- 894,516. MOTHER'S HELPER. Milton Bradley Company. SN 322,261. Pub. 4-28-70. Filed 3-20-69.
- 894,517. THE MADNESS MACHINE. Miner Industries, Inc. SN 322,316. Pub. 4-28-70. Filed 3-20-69.
- 894,518. GLOW SHOW. Miner Industries, Inc. SN 322,321. Pub. 4-28-70. Filed 3-20-69.
- 894,519. CROSS UP POKER. Milton Bradley Company. SN 323,232. Pub. 4-28-70. Filed 4-1-69.
- 894,520. POWER-SUB. Kenner Products Company. SN 323,309. Pub. 4-28-70. Filed 4-1-69.
- 894,521. BOY AND FISH DESIGN. M. Edward Pope, d.b.a. Eddie Pope & Company. SN 323,728. Pub. 4-28-70. Filed 4-4-69.
- 894,522. JET SET. Shakespeare Company. SN 333,306. Pub. 4-28-70. Filed 7-23-69.
- 894,523. TORSION TRACK. K-2 Ski Company. SN 333,578. Pub. 4-28-70. Filed 7-25-69.
- 894,524. PLINKY PLUNKER. Mattel, Inc. SN 334,524. Pub. 4-28-70. Filed 8-6-69.
- 894,525. HAPPIDICULOUS. Mattel, Inc. SN 339,093. Pub. 4-28-70. Filed 9-29-69.
- 894,526. DYNO-METER. Mattel, Inc. SN 345,248. Pub. 4-28-70. Filed 12-4-69.
- 894,527. SPELLFINDER'S SECRETS. Mattel, Inc. SN 345,250. Pub. 4-28-70. Filed 12-4-69.
- 894,533. VIBRA-SPRING. Barber-Greene Company. SN 301,692. Pub. 4-28-70. Filed 7-1-68.
- 894,534. LIFTON. The Colson Corporation. SN 318,899. Pub. 4-28-70. Filed 2-5-69.
- 894,535. SPLAT-R-KOTE. Ransburg Electro-Coating Corp. SN 320,377. Pub. 4-28-70. Filed 2-28-69.
- 894,536. DM. Dri Mark Products, Inc. SN 320,803. Pub. 4-28-70. Filed 3-5-69.
- 894,537. MARKS. Marks Specialties, Inc. MULTIPLE CLASS (Classes 23 and 44). SN 324,076. Pub. 4-28-70. Filed 4-9-69.
- 894,538. PEMAR. Pemar Engineering, Inc. SN 324,091. Pub. 4-28-70. Filed 4-9-69.
- 894,539. AIR VAC. Thomas Equipment Limited. SN 325,237. Pub. 4-28-70. Filed 4-22-69.
- 894,540. FLEX-WING. FMC Corporation. SN 325,592. Pub. 4-28-70. Filed 4-25-69.
- 894,541. HYDROTAND. Bell Aerospace Corporation. SN 325,706. Pub. 4-28-70. Filed 4-28-69.
- 894,542. GLAS-MATE. Ransburg Electro-Coating Corp. SN 325,995. Pub. 4-28-70. Filed 4-30-69.
- 894,543. OUR OWN SUPER MO. Our Own Hardware Company. SN 327,665. Pub. 4-28-70. Filed 5-19-69.
- 894,544. ASTRALLOY. Vulcan Steel Corporation. SN 329,019. Pub. 4-28-70. Filed 6-3-69.
- 894,545. SPLIT-LOCK. Nicholson File Company. SN 329,377. Pub. 4-28-70. Filed 6-6-69.
- 894,546. R. Rockland, Inc. SN 329,890. Pub. 4-28-70. Filed 6-12-69.
- 894,547. CONVOCAN. Phillips Petroleum Company. SN 330,623. Pub. 4-28-70. Filed 6-20-69.
- 894,548. GOLF-AID. The W. E. Bassett Company, assignee of Reed Tool-Die & Manufacturing Corporation. SN 330,776. Pub. 4-28-70. Filed 6-23-69.
- 894,549. GOLFAIDE AND FLAG DESIGN. The W. E. Bassett Company. SN 333,244. Pub. 4-28-70. Filed 7-23-69.
- 894,550. WOODFROST. Oneida Ltd. SN 339,036. Pub. 4-28-70. Filed 9-26-69.
- 894,551. SAWZALL. Milwaukee Electric Tool Corporation. SN 339,584. Pub. 4-28-70. Filed 10-2-69.
- 894,552. HI-CLEAR. International Harvester Company. SN 340,022. Pub. 4-28-70. Filed 10-7-69.
- 894,553. RAMPARTS. Turner Machine Co., Inc. SN 340,053. Pub. 4-28-70. Filed 10-7-69.
- 894,554. DIA-SET. Norton Company, assignee of Chipper Manufacturing Company, Inc. SN 340,653. Pub. 4-28-70. Filed 10-14-69.
- 894,555. VILLAGE BLACKSMITH. McGraw-Edison Company. SN 341,183. Pub. 4-28-70. Filed 10-20-69.
- 894,556. FINESA. Tos Kurim, Narodny Podnik. SN 341,293. Pub. 4-28-70. Filed 10-21-69.
- 894,557. MILLSTAR. Tos Kurim, Narodny Podnik. SN 341,294. Pub. 4-28-70. Filed 10-21-69.
- 894,558. MARWA. Precision Industries, Inc. SN 346,700. Pub. 4-28-70. Filed 12-19-69.

### Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 894,428. (See Class 13 for this trademark.)
- 894,473. (See Class 19 for this trademark.)
- 894,528. CENTRI-SEAL AND DESIGN. Pennwalt Corporation, by change of name from Pennsalt Chemicals Corporation. SN 249,872. Pub. 2-27-68. Filed 7-8-66.
- 894,529. CENTRISEAL. The Allen Pump Co., d.b.a. The Allen-Sherman-Hoff Pump Company. SN 273,839. Pub. 2-27-68. Filed 6-14-67.
- 894,530. AUTO-FILL. Parker-Hannifin Corporation. SN 287,828. Pub. 4-8-69. Filed 12-29-67.
- 894,531. HAIR-WIZ. The Grant Company, SN 291,884. Pub. 4-28-70. Filed 2-19-68.
- 894,532. NUCON/77. Jarvis Corporation, SN 800,452. Pub. 4-28-70. Filed 6-14-68.

### Class 25 — Locks and Safes

- 894,559. AGE AND DESIGN. Sherman Selecra Corporation. SN 340,832. Pub. 4-28-70. Filed 10-15-69.
- 894,560. 3M. Minnesota Mining and Manufacturing Company. SN 345,257. Pub. 4-28-70. Filed 12-4-69.

### Class 26 — Measuring and Scientific Appliances

- 894,390. (See Class 6 for this trademark.)
- 894,492. (See Class 21 for this trademark.)

- 894,561. TE AND DESIGN. Thermo Electric Co., Inc. SN 271,737. Pub. 6-18-68. Filed 5-17-67.
- 894,562. PETAL DESIGN. Schawk Graphics, Inc. SN 313,730. Pub. 3-17-70. Filed 12-5-68.
- 894,563. SCINTREX. Scintrex Limited. SN 317,388. Pub. 4-28-70. Filed 1-23-69.
- 894,564. QUINDALARM. Quindar Electronics, Inc. SN 318,099. Pub. 4-28-70. Filed 1-31-69.
- 894,565. HEX ADDER AND DESIGN. Hexco, Inc. SN 318,307. Pub. 4-28-70. Filed 2-4-69.
- 894,566. VIDEOTRONIC SUPER 8. MPO Sales and Training Programs, Inc. SN 320,358. Pub. 4-28-70. Filed 2-28-69.
- 894,567. TRIANGLE DESIGN. Deffance-Axon Corporation. SN 320,452. Pub. 4-28-70. Filed 3-3-69.
- 894,568. CRYODE. Dynatech Corporation. SN 320,462. Pub. 4-28-70. Filed 3-3-69.
- 894,569. REPRONAR. Honeywell Inc. SN 320,954. Pub. 4-28-70. Filed 3-6-69.
- 894,570. WACHO. Hilton J. Wachholz, d.b.a. Wacho Products Co. SN 323,894. Pub. 4-28-70. Filed 4-1-69.
- 894,571. UNION CARBIDE AND DESIGN. Union Carbide Corporation. SN 324,548. Pub. 4-28-70. Filed 4-14-69.
- 894,572. UNIWHEEL. KMS Industries, Inc. SN 329,862. Pub. 4-28-70. Filed 6-6-69.
- 894,573. LASER TROL. OPTOMECHANISMS, Inc. SN 330,766. Pub. 4-28-70. Filed 6-23-69.
- 894,574. DIPLIN. Kratos. SN 337,328. Pub. 4-28-70. Filed 9-8-69.
- 894,575. DIGI-TRAVEL. Linear Motion Technology, Inc. SN 337,335. Pub. 4-28-70. Filed 9-8-69.
- 894,576. ALEMITE AND A DESIGN. Stewart-Warner Corporation. SN 337,367. Pub. 4-28-70. Filed 9-8-69.
- 894,577. CESCOWELD. Cesco Safety Products, Inc. SN 337,778. Pub. 4-28-70. Filed 9-12-69.
- 894,578. ZONAR. Vexilar Engineering Incorporated. SN 338,630. Pub. 4-28-70. Filed 9-22-69.
- 894,579. YANKEE. Yankee Photo Products, Inc. SN 338,635. Pub. 4-28-70. Filed 9-22-69.
- 894,580. LMT AND DESIGN. Linear Motion Technology, Inc. SN 338,916. Pub. 4-28-70. Filed 9-25-69.
- 894,581. SUPERNOVA. Data General Corporation. SN 339,861. Pub. 4-28-70. Filed 10-6-69.
- 894,582. GALVO/CORDA. Tensitron, Inc. SN 340,204. Pub. 4-28-70. Filed 10-8-69.
- 894,583. GLENWELD. Glendale Optical Co., Inc. SN 340,891. Pub. 4-28-70. Filed 10-10-69.
- 894,584. SATURN. Burke & James, Inc. SN 341,140. Pub. 4-28-70. Filed 10-20-69.
- 894,585. JAYDEE. Jaydee Camera Exchange Inc. SN 343,718. Pub. 4-28-70. Filed 11-17-69.

### Class 27 — Horological Instruments

- 894,586. RONALD ORIGINALS. Ronald Jewelers of Minneapolis, Inc. MULTIPLE CLASS (Classes 27 and 28). SN 322,484. Pub. 4-28-70. Filed 3-21-69.

### Class 28 — Jewelry and Precious-Metal Ware

- 894,586. (See Class 27 for this trademark.)
- 894,587. OROPLAY AND DESIGN. Laboratorio Orofa Nicolls Cola. SN 315,821. Pub. 4-28-70. Filed 12-30-68.
- 894,588. ASTRO-GEMS. Trifari, Krussman & Fishel, Inc. SN 329,142. Pub. 4-28-70. Filed 6-4-69.

### Class 30 — Crockery, Earthenware, and Porcelain

- 894,589. ROYAL CHINA. Royal China, Inc. SN 315,338. Pub. 4-28-70. Filed 12-27-68.

### Class 31 — Filters and Refrigerators

- 894,590. T AND DESIGN. Torite Enterprises, Inc., d.b.a. Torite Filter Company. SN 309,119. Pub. 4-28-70. Filed 10-7-68.
- 894,591. BRUNSPORE. Brunswick Corporation. SN 318,395. Pub. 4-28-70. Filed 2-5-69.
- 894,592. NEW-CLEAIRE. Buell Engineering Company, Inc. SN 325,456. Pub. 4-28-70. Filed 4-24-69.

### Class 32 — Furniture and Upholstery

- 894,593. YOUTH-CRIB. Baby Products Corporation. SN 268,690. Pub. 4-28-70. Filed 4-10-67.
- 894,594. M 125 AND DESIGN. Wilhelm Bofinger. SN 318,843. Pub. 4-28-70. Filed 2-10-69.
- 894,595. CART-O-SEL. Cart-O-Sel Corporation. SN 321,381. Pub. 4-28-70. Filed 3-11-69.
- 894,596. TILT-A-BED. The Tilt-A-Bed Corporation. SN 344,589. Pub. 4-28-70. Filed 11-25-69.
- 894,597. MANY MOODS. Sears, Roebuck and Co. SN 345,383. Pub. 4-28-70. Filed 12-4-69.
- 894,598. DINEAWAY. Select Dineaway, Inc. SN 345,681. Pub. 4-28-70. Filed 12-8-69.
- 894,599. ART CREST AND DESIGN. Intercraft Industries Corporation. SN 346,623. Pub. 4-28-70. Filed 12-18-69.
- 894,600. ART CREST. Intercraft Industries Corporation. SN 346,624. Pub. 4-28-70. Filed 12-18-69.
- 894,601. GLAMA AND DESIGN. Henry Ashenfarb. SN 347,994. Pub. 4-28-70. Filed 1-8-70.

### Class 33 — Glassware

- 894,602. MISCELLANEOUS DESIGN. Pell & Putzler Glashtenwerke G.m.b.H. SN 322,083. Pub. 4-28-70. Filed 3-18-69.

### Class 34 — Heating, Lighting, and Ventilating Apparatus

- 894,434. (See Class 13 for this trademark.)
- 894,603. TRI GARD. Gardiner Solder Company. SN 803,789. Pub. 4-28-70. Filed 7-29-68.
- 894,604. SUPER-AIRCOMASTER. Air Reduction Company, Incorporated. SN 316,579. Pub. 4-28-70. Filed 1-15-69.
- 894,605. FLOORLEVEL. Continental Manufacturing Company. SN 320,798. Pub. 4-28-70. Filed 3-5-69.
- 894,606. LITTLE RED HEN. Little Red Hen Country Chicken, Inc., assignee, by mesne assignment, of Little Red Hen Country Chicken, Inc. MULTIPLE CLASS (Classes 34, 46, 100, and 101). SN 321,856. Pub. 4-28-70. Filed 3-17-69.



**Class 36 — Musical Instruments and Supplies**

- 894,607. SCHIMMEL AND DESIGN. Wilhelm Schimmel, Pianofortefabrik, G.m.b.H. SN 308,166. Pub. 4-28-70. Filed 9-24-68.
- 894,608. TRAVELTALES. Transittales, Inc. SN 323,484. Pub. 4-28-70. Filed 4-2-69.
- 894,609. CHISA. Chisa Records, Inc. SN 347,215. Pub. 4-28-70. Filed 12-29-69.
- 894,610. STRINGMASTER. Columbia Broadcasting System, Inc. SN 347,228. Pub. 4-28-70. Filed 12-29-69.
- 894,611. SPEEDBAR. Walter E. Smith. SN 347,335. Pub. 4-28-70. Filed 12-29-69.

**Class 37 — Paper and Stationery**

- 894,365. (See Class 1 for this trademark.)
- 894,387. (See Class 5 for this trademark.)
- 894,612. CZ. Crown Zellerbach Corporation. SN 190,896. Pub. 11-24-64. Filed 4-13-64.
- 894,613. FINE WEAVE. Nekoosa-Edwards Paper Company. SN 262,277. Pub. 8-20-68. Filed 1-10-67.
- 894,614. EXECUTIP. Chemolene Industries, Inc. SN 305,531. Pub. 4-28-70. Filed 8-20-68.
- 894,615. PLASTISCRIM. Adams Industries, Inc. SN 306,997. Pub. 4-28-70. Filed 9-10-68.
- 894,616. THE COMMUNICATOR. Dri Mark Products, Inc. SN 328,541. Pub. 4-28-70. Filed 5-28-69.
- 894,617. COLORCOUNTING. Colorcounting Systems, d.b.a. Colorcounting. SN 328,822. Pub. 4-28-70. Filed 6-2-69.
- 894,618. DIRECTOR. The Bates Manufacturing Company. SN 333,360. Pub. 4-28-70. Filed 7-24-69.
- 894,619. DECORPRINTS. Erving Paper Mills. SN 334,215. Pub. 4-28-70. Filed 8-1-69.
- 894,620. I AND DESIGN. Everite Pen Corporation. SN 334,314. Pub. 4-28-70. Filed 8-4-69.
- 894,621. DUETTE. L. & C. Hardtmuth, Inc. SN 336,440. Pub. 4-28-70. Filed 8-27-69.

**Class 38 — Prints and Publications**

- 894,622. FANTAS-STICKS. Marvel Products, Incorporated. SN 299,244. Pub. 3-11-69. Filed 5-28-68.
- 894,623. IVT INVESTMENT VALUES FOR TODAY. Francis I. du Pont & Co. SN 305,418. Pub. 4-28-70. Filed 8-19-68.
- 894,624. FEELINGS AND THEIR MEDICAL SIGNIFICANCE. Abbott Laboratories, d.b.a. Ross Laboratories. SN 311,804. Pub. 4-28-70. Filed 11-12-68.
- 894,625. RDTRAN. United States Atomic Energy Commission, assignee of James H. Griffin. SN 313,817. Pub. 12-9-69. Filed 12-6-68.
- 894,626. POWER PACK. Software Sciences Corporation. SN 315,632. Pub. 4-28-70. Filed 12-27-68.
- 894,627. ROTAFORM INDEX. Institute for Scientific Information, Inc. SN 316,206. Pub. 4-28-70. Filed 1-9-69.
- 894,628. DAILY DIORAMA. DCA Educational Products, Inc. SN 320,442. Pub. 4-28-70. Filed 3-3-69.
- 894,629. MAGICOLOR. Basic Education Computers, Inc. SN 327,220. Pub. 4-28-70. Filed 5-14-69.
- 894,630. SOCIAL POLICY. Frank Riessman. SN 329,130. Pub. 4-28-70. Filed 6-4-69.
- 894,631. ALPHANUMERIC. Alphanumeric, Incorporated. SN 332,487. Pub. 4-28-70. Filed 7-1-69.
- 894,632. ELECTRONICS MANAGEMENT ADVISORY SERVICE. McGraw-Hill, Inc. SN 332,506. Pub. 4-28-70. Filed 7-14-69.

- 894,633. THE FRANKLIN MINT ALMANAC. The Franklin Mint, Inc. SN 333,118. Pub. 4-28-70. Filed 7-22-69.
- 894,634. ASTRO-SLIDE. Astro-Occult Press, Inc. SN 335,495. Pub. 4-28-70. Filed 8-18-69.
- 894,635. MEDICAL LABORATORY OBSERVER. Medical Economics, Inc. SN 336,135. Pub. 4-28-70. Filed 8-25-69.
- 894,636. MISCELLANEOUS DESIGN. Carpenter Technology Corporation. SN 336,413. Pub. 4-28-70. Filed 8-27-69.
- 894,637. VIVE. The Sociables, Inc., assignee of Samuel J. Temperato, d.b.a. The Sociables. SN 338,333. Pub. 4-28-70. Filed 9-19-69.
- 894,638. DIXIE PURCHASOR AND DESIGN. P. Buford Harris. SN 338,908. Pub. 4-28-70. Filed 9-25-69.
- 894,639. PRINT. RC Publications, Inc. SN 341,599. Pub. 4-28-70. Filed 10-24-69.
- 894,640. WEBSTER'S NEW IDEAL. G. & C. Merriam Company. SN 345,725. Pub. 4-28-70. Filed 12-9-69.
- 894,641. HOLIDAY FLAIR AND DESIGN. Hallmark Cards, Incorporated. SN 345,819. Pub. 4-28-70. Filed 12-10-69.
- 894,642. YOUTHMARK. National Student Marketing Corporation. SN 347,414. Pub. 4-28-70. Filed 12-30-69.
- 894,643. MICRO-VUES. Alpha Research & Development, Inc. SN 347,574. Pub. 4-28-70. Filed 1-2-70.
- 894,644. BUTTER & BOOP. Black Light, Inc. SN 351,585. Pub. 4-28-70. Filed 8-25-69.

**Class 39 — Clothing**

- 894,645. CHIC'S 'N TEENS. Stanley Gropper. SN 251,424. Pub. 5-9-67. Filed 8-1-66.
- 894,646. ROYAL CROWN SABLE. Carillon Furs, Inc. SN 307,165. Pub. 1-14-69. Filed 9-12-68.
- 894,647. BART. Cluett Peabody & Co., Inc. SN 308,878. Pub. 4-28-70. Filed 10-4-68.
- 894,648. JAY-ETTES. Jayson Shoe Manufacturing Co., Inc. SN 317,958. Pub. 4-28-70. Filed 1-30-69.
- 894,649. OXFORD IND., INC. AND DESIGN. Oxford Industries, Inc. SN 320,171. Pub. 4-28-70. Filed 2-26-69.
- 894,650. TALL SIZE SHOES AND DESIGN. L. E. Massey Shoes, Incorporated. SN 328,065. Pub. 4-28-70. Filed 5-22-69.
- 894,651. "THE PADRE" "OLD SOFTY" AND PADRE DESIGN. L. E. Massey Shoes, Incorporated. SN 328,873. Pub. 4-28-70. Filed 6-2-69.
- 894,652. FASHIONVILLE DESIGNED BY MARI. Herbert Jay Shure, d.b.a. H and M Distributing. SN 329,765. Pub. 4-28-70. Filed 6-11-69.
- 894,653. UNI-TACH. M. H. Pierce & Co., Inc. SN 331,419. Pub. 4-28-70. Filed 6-30-69.
- 894,654. JANET FRIMIER. Sally Gee, Inc. SN 331,438. Pub. 4-28-70. Filed 6-30-69.
- 894,655. HOLDING HANDS. Pantasote Company. SN 331,525. Pub. 4-28-70. Filed 7-1-69.
- 894,656. OLOFDAUGHTERS. Olofdaughters of Sweden, Inc. SN 331,698. Pub. 4-28-70. Filed 7-3-69.
- 894,657. QUI-VIVE. Qui-Vive N.V. SN 332,073. Pub. 4-28-70. Filed 7-9-69.
- 894,658. JILLY GILLY. Miss Dorissa, Inc. SN 332,558. Pub. 4-28-70. Filed 6-20-69.
- 894,659. UMBERTO. Russ Togs, Inc. SN 332,854. Pub. 4-28-70. Filed 7-17-69.
- 894,660. BUSY BEA. Knoxville Glove Company. SN 334,593. Pub. 4-28-70. Filed 8-6-69.
- 894,661. LILLA MEJ. Dayton-Hudson Corporation. SN 334,995. Pub. 4-28-70. Filed 8-11-69.
- 894,662. MALCOLM CHARLES. Malcolm Starr, Inc. SN 335,823. Pub. 4-28-70. Filed 8-21-69.
- 894,663. THE GEAR BOX AND DESIGN. The Richman Brothers Co. SN 337,690. Pub. 4-28-70. Filed 9-11-69.

**Class 45 — Soft Drinks and Carbonated Waters**

- 894,685. THIS. Edward J. Rovsek and Avery D. Duff. SN 293,584. Pub. 4-28-70. Filed 3-18-68.

**Class 46 — Foods and Ingredients of Foods**

- 894,391. (See Class 6 for this trademark.)
- 894,606. (See Class 34 for this trademark.)
- 894,686. HO-MADE. Hawthorn-Melody Farms Dairy of Wisconsin, Inc. SN 267,425. Pub. 4-28-70. Filed 3-23-67.
- 894,687. BOSTON. Vernors Inc. SN 280,656. Pub. 4-28-70. Filed 9-18-67.
- 894,688. SAFCOL. South Australian Fishermen's Co-Operative Limited. SN 295,259. Pub. 8-5-69. Filed 4-9-68.
- 894,689. TALA AND DESIGN. Animex Centrala Importowo-Eksportowa Artykulow I Przetworow Pochodzenia Zwierzeczego, d.b.a. Centrala Importowo-Eksportowa Artykulow I Przetworow Pochodzenia Zwierzeczego "Animex," and Animex. SN 295,713. Pub. 4-28-70. Filed 4-16-68.
- 894,690. DELMARK. The Dietene Company. SN 297,046. Pub. 4-28-70. Filed 5-1-68.
- 894,691. CRESCENT DESIGN. Crescent Manufacturing Company. SN 297,657. Pub. 4-28-70. Filed 5-8-68.
- 894,692. CRESCENT. Crescent Manufacturing Company. SN 297,658. Pub. 4-28-70. Filed 5-8-68.
- 894,693. KO-KENA. Layne Calcium Corp. SN 300,860. Pub. 4-28-70. Filed 6-13-68.
- 894,694. MAINE SPECIAL. Taterstate Frozen Foods. SN 300,987. Pub. 4-28-70. Filed 6-20-68.
- 894,695. DISCOVERY DINNERS. Carnation Company. SN 312,430. Pub. 4-28-70. Filed 11-18-68.
- 894,696. CHEF'S HAT AND SPOON DESIGN. General Spice, Inc. SN 314,064. Pub. 4-28-70. Filed 12-10-68.
- 894,697. IMPRUV-ALL AND DESIGN. National Feed Improvement Association, Inc. SN 315,647. Pub. 4-28-70. Filed 12-23-68.
- 894,698. ODD BALLS. Sunshine Biscuits, Inc. SN 318,467. Pub. 4-28-70. Filed 2-5-69.
- 894,699. POCKET COFFEE. P. Ferrero & C. S.p.A. SN 318,958. Pub. 4-28-70. Filed 2-12-69.
- 894,700. PORKY BITS AND PIG DESIGN. Taylor Food Products, Inc. SN 319,394. Pub. 4-28-70. Filed 2-17-69.
- 894,701. CHEF PLATE. American Home Products Corporation. SN 320,105. Pub. 4-28-70. Filed 2-26-69.
- 894,702. DESSERTS IN THE ROUND AND DESIGN. Just Desserts Inc. SN 321,806. Pub. 4-28-70. Filed 3-14-69.
- 894,703. CHEESECAKE IN THE ROUND AND DESIGN. Just Desserts Inc. SN 321,807. Pub. 4-28-70. Filed 3-14-69.
- 894,704. CALICO COTTAGE CANDIES AND DESIGN. Calico Cottage Candies, Inc. SN 322,269. Pub. 4-28-70. Filed 3-20-69.
- 894,705. POCOS. Morton Foods, Inc., assignee of General Mills, Inc. SN 324,016. Pub. 4-28-70. Filed 4-9-69.
- 894,706. SANTEE COOPER BRAND ETC. AND DESIGN. W. R. Livingston, d.b.a. W. R. Livingston Fish Company. SN 325,207. Pub. 4-28-70. Filed 4-22-69.
- 894,707. ELMER'S OF NEW ORLEANS. Elmer Candy Corporation. SN 327,374. Pub. 4-28-70. Filed 5-15-69.
- 894,708. BLANCOR. Chocoladefabriken Lindt & Sprungli Aktiengesellschaft. SN 327,719. Pub. 4-28-70. Filed 3-13-69.
- 894,709. TOOTS SHOR. Carter-Wallace, Inc. SN 330,048. Pub. 4-28-70. Filed 6-16-69.
- 894,710. STEERO. American Kitchen Products Company. SN 331,710. Pub. 4-28-70. Filed 7-3-69.
- 894,711. ROCKY HILL. Earlibest Orange Assn., Inc. SN 333,543. Pub. 4-28-70. Filed 7-25-69.

**Class 40 — Fancy Goods, Furnishings, and Notions**

- 894,388. (See Class 6 for this trademark.)

**Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor**

- 894,365. (See Class 1 for this trademark.)
- 894,671. ETHYL AND DESIGN. Ethyl Corporation. SN 280,307. Pub. 9-24-68. Filed 9-14-67.
- 894,672. HUETEX. Nujute Incorporated. SN 307,390. Pub. 5-27-69. Filed 9-16-68.
- 894,673. MEDLINE. Medline Industries, Inc. SN 318,078. Pub. 4-28-70. Filed 1-31-69.
- 894,674. BRICK. Quaker Fabric Corporation. SN 333,749. Pub. 4-28-70. Filed 7-28-69.
- 894,675. ABOUT FACE. Hayden Textiles, Inc. SN 333,828. Pub. 4-28-70. Filed 7-29-69.
- 894,676. BALINEAU. Fieldcrest Mills, Inc. SN 334,221. Pub. 4-28-70. Filed 8-1-69.
- 894,677. CHABLEAU. Fieldcrest Mills, Inc. SN 334,222. Pub. 4-28-70. Filed 8-1-69.
- 894,678. RYEAU. Fieldcrest Mills, Inc. SN 334,223. Pub. 4-28-70. Filed 8-1-69.
- 894,679. TEMPLEAU. Fieldcrest Mills, Inc. SN 334,224. Pub. 4-28-70. Filed 8-1-69.
- 894,680. PETITE ALLURE. West Point-Pepperell, Inc. SN 334,406. Pub. 4-28-70. Filed 8-4-69.
- 894,681. PETITE ANNETTE. West Point-Pepperell, Inc. SN 334,407. Pub. 4-28-70. Filed 8-4-69.
- 894,682. AMIR. Almcee Wholesale Corporation. SN 344,611. Pub. 4-28-70. Filed 11-26-69.

**Class 43 — Thread and Yarn**

- 894,683. DULSIAN. Les Fils de Louis Mulliez. SN 333,149. Pub. 4-28-70. Filed 7-22-69.

**Class 44 — Dental, Medical, and Surgical Appliances**

- 894,537. (See Class 23 for this trademark.)
- 894,684. MEDLINE. Medline Industries, Inc. SN 318,079. Pub. 4-28-70. Filed 1-31-69.



- 894,712. PROTATO. Ralston Purina Company. SN 335,178. Pub. 4-28-70. Filed 8-13-69.
- 894,713. OWENSBURGER AND DESIGN. Owens Country Sausage, Inc. SN 335,303. Pub. 4-28-70. Filed 8-14-69.
- 894,714. SEAS-OLEUM. McCormick & Company, Incorporated. SN 335,461. Pub. 4-28-70. Filed 8-15-69.
- 894,715. ZAP. General Foods Corporation. SN 335,565. Pub. 4-28-70. Filed 8-18-69.
- 894,716. BAKON BITS. R. J. Reynolds Foods, Inc. SN 335,926. Pub. 4-28-70. Filed 8-22-69.
- 894,717. BRIOSS. P. Ferrero & C. S.p.A. SN 336,057. Pub. 4-28-70. Filed 8-25-69.
- 894,718. DEALER'S CHOICE. National Biscuit Company. SN 337,081. Pub. 4-28-70. Filed 9-4-69.
- 894,719. NEO-T PORK PRE-MIX. Cargill, Incorporated. SN 337,400. Pub. 4-28-70. Filed 9-9-69.
- 894,720. KASAMS. General Mills, Inc. SN 337,852. Pub. 4-28-70. Filed 9-15-69.
- 894,721. CHAMPION OF FITNESS. General Mills, Inc. SN 337,924. Pub. 4-28-70. Filed 9-15-69.
- 894,722. CHAMPION OF BREAKFASTS. General Mills, Inc. SN 337,925. Pub. 4-28-70. Filed 9-15-69.
- 894,723. HONEYDOOS. General Mills, Inc. SN 337,926. Pub. 4-28-70. Filed 9-15-69.
- 894,724. MISCELLANEOUS DESIGN. National Federation of Coffee Growers of Colombia. SN 338,257. Pub. 4-28-70. Filed 9-18-69.
- 894,725. ALOOF. General Mills, Inc. SN 339,075. Pub. 4-28-70. Filed 9-29-69.
- 894,726. ESTER-GUARD. Castle & Cooke, Inc., d.b.a. Dole Company. SN 338,470. Pub. 5-5-70. Filed 9-22-69.
- 894,727. CARESS. General Mills, Inc. SN 339,078. Pub. 4-28-70. Filed 9-29-69.
- 894,728. CHARGE. General Mills, Inc. SN 339,079. Pub. 4-28-70. Filed 9-29-69.
- 894,729. CHERISH. General Mills, Inc. SN 339,080. Pub. 4-28-70. Filed 9-29-69.
- 894,730. CHOCO-CLACKERS. General Mills, Inc. SN 339,091. Pub. 4-28-70. Filed 9-29-69.
- 894,731. PRECIOUS. General Mills, Inc. SN 339,083. Pub. 4-28-70. Filed 9-29-69.
- 894,732. STUFFIES. Automated Food Processes Corp. SN 339,834. Pub. 4-28-70. Filed 10-6-69.
- 894,733. VISTA DEL SOL. Marko Zaninovich, Inc., d.b.a. Vista Del Sol Vineyards. SN 343,922. Pub. 4-28-70. Filed 11-19-69.
- 894,734. TASTY-KLAIR. Tasty Baking Company. SN 344,083. Pub. 4-28-70. Filed 11-20-69.
- 894,735. TOAST MATES. Lever Brothers Company. SN 344,292. Pub. 4-28-70. Filed 11-24-69.
- 894,736. MIX-LASS. Ralston Purina Company. SN 346,186. Pub. 4-28-70. Filed 12-15-69.

### Class 47 — Wines

- 894,737. TINTA SERRA. E. & J. Gallo Winery, d.b.a. Gallo Vineyards. SN 307,887. Pub. 4-28-70. Filed 9-16-68.
- 894,738. CHATEAU-BON AND CASTLE DESIGN. Chateau-Gai Wines Limited. SN 315,055. Pub. 4-28-70. Filed 12-23-68.
- 894,739. A. ROSSIGNEUX & FILS. Maison Gelsweiler et Fils, Societe Anonyme. SN 331,407. Pub. 4-28-70. Filed 6-30-69.

### Class 48 — Malt Beverages and Liquors

- 894,740. TRIMALTA AND DESIGN. Cawy Bottling Co., Inc. SN 321,767. Pub. 4-28-70. Filed 8-14-69.
- 894,741. KEGLET. Sunshine Brewing Co., d.b.a. Bavarian Brewing Co. SN 331,547. Pub. 4-28-70. Filed 7-1-69.

### Class 49 — Distilled Alcoholic Liquors

- 894,742. "11TH FRAME." Brunswick Corporation. SN 297,029. Pub. 4-28-70. Filed 5-1-68.
- 894,743. VODKA OF THE GODS. Trader Joe, Inc. SN 310,718. Pub. 4-28-70. Filed 10-28-68.
- 894,744. POLMOS WINIAK LUKSUSOWY AND DESIGN. Przedsiębiorstwo Handlu Zagranicznego "Agros." SN 314,611. Pub. 4-28-70. Filed 12-16-68.
- 894,745. ACTINISE. Etablissement Actimonde. SN 323,545. Pub. 4-28-70. Filed 4-3-69.
- 894,746. OSTROVA. Heublein, Inc. SN 337,546. Pub. 4-28-70. Filed 9-10-69.

### Class 50 — Merchandise Not Otherwise Classified

- 894,388. (See Class 6 for this trademark.)
- 894,747. HEAD-TO-TOE PRODUCTS ETC. AND DESIGN. Head-To-Toe Products, assignee of David Jaffe, d.b.a. Head-To-Toe Products. SN 279,299. Pub. 3-18-69. Filed 8-29-67.
- 894,748. MOTORVATOR. The McMillan Company, Inc. SN 311,053. Pub. 4-28-70. Filed 10-31-68.
- 894,749. HISTORY IN ACTION. The Franklin Mint, Inc. SN 320,515. Pub. 4-28-70. Filed 3-3-69.
- 894,750. GREAT ADVENTURE. The Franklin Mint, Inc. SN 320,518. Pub. 4-28-70. Filed 3-3-69.
- 894,751. TOUR THROUGH HISTORY. The Franklin Mint, Inc. SN 320,521. Pub. 4-28-70. Filed 3-3-69.
- 894,752. GREAT EXPLORERS. The Franklin Mint, Inc. SN 320,524. Pub. 4-28-70. Filed 3-3-69.
- 894,753. GREAT EXPLORATIONS. The Franklin Mint, Inc. SN 320,527. Pub. 4-28-70. Filed 3-3-69.
- 894,754. GREAT DISCOVERIES. The Franklin Mint, Inc. SN 320,530. Pub. 4-28-70. Filed 3-3-69.
- 894,755. GREAT DISCOVERERS. The Franklin Mint, Inc. SN 320,533. Pub. 4-28-70. Filed 3-3-69.
- 894,756. HEROES OF THE AMERICAN FRONTIER. The Franklin Mint, Inc. SN 320,544. Pub. 4-28-70. Filed 3-3-69.
- 894,757. HEROES OF HISTORY. The Franklin Mint, Inc. SN 320,565. Pub. 4-28-70. Filed 3-3-69.
- 894,758. DECO NOB. Morris M. Rubin, d.b.a. M. Rubin & Co., Inc. SN 326,439. Pub. 4-28-70. Filed 5-5-69.
- 894,759. MEMORY BUBBLE AND DESIGN. Milton S. Adair, d.b.a. Adair Associates. SN 332,876. Pub. 4-28-70. Filed 7-16-69.
- 894,760. HAYMASTER. Simplex Industries, Inc. SN 337,588. Pub. 4-28-70. Filed 9-10-69.
- 894,761. PIEDART. Mary Manners. SN 342,990. Pub. 4-28-70. Filed 11-7-69.
- 894,762. WIND-MASTER AND DESIGN. Admiral Flag Poles, Incorporated. SN 345,541. Pub. 4-28-70. Filed 12-8-69.

### Class 51 — Cosmetics and Toilet Preparations

- 894,763. BELLE DE JOUR. Compagnie Francaise des Parfums d'Orsay, d.b.a. D'Orsay. SN 315,175. Pub. 4-28-70. Filed 12-26-68.
- 894,764. LADY LIGHTS. Clairol Incorporated. SN 315,998. Pub. 4-28-70. Filed 1-7-69.
- 894,765. PAB AND DESIGN. P.A.B. Produits et Appareils de Beauté. SN 316,236. Pub. 4-28-70. Filed 1-9-69.
- 894,766. MW. Maurer & Wirts K.G. SN 320,270. Pub. 4-28-70. Filed 2-27-69.

- 894,767. THE COMPLETE BLONDE. Clairol Incorporated. SN 320,322. Pub. 4-28-70. Filed 2-28-69.
- 894,768. HIGH SEAS. S. C. Johnson & Son, Inc. SN 322,597. Pub. 4-28-70. Filed 3-24-69.
- 894,769. SURE BODY. Chesebrough-Pond's Inc. SN 323,628. Pub. 4-28-70. Filed 4-4-69.
- 894,770. ANNE FRENCH. American Home Products Corporation. SN 326,740. Pub. 4-28-70. Filed 5-8-69.
- 894,771. IRMA SHORELL'S CONTOUR/35. Irma Shorell, Inc. SN 328,018. Pub. 4-28-70. Filed 5-22-69.
- 894,772. DISPOS-A-PAD. Leon Products, Inc. SN 331,828. Pub. 4-28-70. Filed 7-7-69.
- 894,773. PRETTY SET. Lamarick Beauty System, Inc. SN 334,099. Pub. 4-28-70. Filed 7-31-69.
- 894,774. SLICKER PLUS. Yardley of London, Inc. SN 334,153. Pub. 4-28-70. Filed 7-31-69.
- 894,775. SLICKER DOLLY LUV. Yardley of London, Inc. SN 334,156. Pub. 4-28-70. Filed 7-31-69.
- 894,776. NONHEX. Pettibone Laboratories, Inc. SN 342,795. Pub. 4-28-70. Filed 11-6-69.
- 894,777. TRANSDEWCENT. Du Barry, Inc. SN 344,283. Pub. 4-28-70. Filed 11-24-69.
- 894,778. ALWAYS BEAUTIFUL. Johnson & Johnson. SN 344,624. Pub. 4-28-70. Filed 11-26-69.
- 894,779. SIMPLY BEAUTIFUL. Johnson & Johnson. SN 344,625. Pub. 4-28-70. Filed 11-26-69.
- 894,780. CONQUISTADOR. Chas. Pfizer & Co., Inc. SN 345,567. Pub. 4-28-70. Filed 12-8-69.
- 894,781. SIMPLY GREAT. John H. Breck, Inc. SN 345,792. Pub. 4-28-70. Filed 12-10-69.

### Class 52 — Detergents and Soaps

- 894,782. FLYING CLIPPER. Tom Fields, Ltd. SN 310,944. Pub. 4-28-70. Filed 10-30-68.
- 894,783. LYM-A-GO-GO. Action Chemicals, Incorporated. SN 314,507. Pub. 4-28-70. Filed 12-16-68.
- 894,784. SOUL SUDS. Inner Cities Chemical Products, Inc. SN 317,688. Pub. 4-28-70. Filed 1-28-69.
- 894,785. K MART AND DESIGN. S. S. Kresge Company. SN 322,872. Pub. 4-28-70. Filed 3-26-69.
- 894,786. TRI-FOUNTAIN. Western Litho Plate & Supply Co., d.b.a. Western Litho Plate and Supply Company. SN 323,976. Pub. 4-28-70. Filed 4-8-69.
- 894,787. JET POWER. American Dream Soap Company. SN 324,385. Pub. 4-28-70. Filed 4-14-69.
- 894,788. MICRO-MAGIC. Lanewood Laboratories, Inc. SN 327,152. Pub. 4-28-70. Filed 5-13-69.
- 894,789. SIMPLY GREAT. John H. Breck, Inc. SN 338,367. Pub. 4-28-70. Filed 9-19-69.
- 894,790. RUST REMOVER JELEX. C. J. Webb, Inc. SN 341,071. Pub. 4-28-70. Filed 10-17-69.
- 894,791. RICH REWARD. Lever Brothers Company. SN 346,563. Pub. 4-28-70. Filed 12-18-69.

### Service Marks

### Class 100 — Miscellaneous

- 894,806. (See Class 34 for this trademark.)
- 894,792. HEAP BIG BEEF. Heap Big Beef, Inc. SN 292,375. Pub. 4-28-70. Filed 3-1-68.
- 894,793. HEAP BIG BEEF AND DESIGN. Heap Big Beef, Inc. SN 292,376. Pub. 4-28-70. Filed 3-1-68.
- 894,794. U AND HUMAN DESIGN. Arcoa, Inc. SN 314,133. Pub. 4-28-70. Filed 12-11-68.
- 894,795. THE LIFE CYCLE CENTER. Kimberly-Clark Corporation. SN 319,058. Pub. 4-28-70. Filed 2-13-69.

- 894,796. CHOCK FULL O' NUTS. Chock Full O' Nuts Corporation. SN 322,145. Pub. 4-28-70. Filed 3-19-69.
- 894,797. AO AND DESIGN. Atwood Oceanics, Inc. SN 322,546. Pub. 4-28-70. Filed 3-24-69.
- 894,798. INFLATION DEFLATOR. United States Leasing Corporation. SN 322,650. Pub. 4-28-70. Filed 3-24-69.
- 894,799. GAS PROCESSORS INC. AND DESIGN. Gas Processors, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 324,133. Pub. 4-28-70. Filed 4-10-69.
- 894,800. DONUTLAND. Donutland, Inc. SN 327,604. Pub. 4-28-70. Filed 5-19-69.
- 894,801. HABANA INN (LOGO). Habana Inn. SN 327,894. Pub. 4-28-70. Filed 5-21-69.
- 894,802. RR AND DESIGN. Robindex International, Ltd. SN 333,986. Pub. 4-28-70. Filed 7-30-69.
- 894,803. JOLLY CHOLLY AND DESIGN. Charles L. Hollingsworth, Sr. SN 340,015. Pub. 4-28-70. Filed 10-7-69.
- 894,804. VENTURE OUT AND DESIGN. Venture Out in America, Inc. SN 340,209. Pub. 4-28-70. Filed 10-8-69.
- 894,805. VENTURE OUT. Venture Out in America, Inc. SN 340,210. Pub. 4-28-70. Filed 10-8-69.
- 894,806. STIRRUP CUP. Marriott Corporation. SN 345,899. Pub. 4-28-70. Filed 12-11-69.

### Class 101 — Advertising and Business

- 894,806. (See Class 34 for this trademark.)
- 894,807. TRIPLE-S BLUE STAMPS SSS AN AMERICAN TRADITION. Stop and Save Trading Stamp Corporation. SN 308,157. Pub. 4-28-70. Filed 9-24-68.
- 894,808. TSC. TSC Industries, Inc., by change of name and assignment from TSC Industries Inc., d.b.a. Tractor Supply Co. SN 310,504. Pub. 1-27-70. Filed 10-24-68.
- 894,809. TELSTAF. Telstaf Counsellors Limited. SN 313,528. Pub. 4-28-70. Filed 12-8-68.
- 894,810. SHOE BIZ. Jerry Miller, Inc. SN 316,884. Pub. 4-28-70. Filed 1-13-69.
- 894,811. SWING FOR CASH. Petroleum Service Advertising, Inc. SN 339,958. Pub. 4-28-70. Filed 10-7-69.
- 894,812. SUNLIGHTING LAMP AND SHADE CENTER. Sunlighting Systems, Inc. SN 341,758. Pub. 4-28-70. Filed 10-27-69.

### Class 102 — Insurance and Financial

- 894,813. CLASS AND DESIGN. Class Student Services, Inc., assignee of Campus League to Aid Student Savings, Inc., d.b.a. Class. SN 301,820. Pub. 4-28-70. Filed 7-2-68.
- 894,814. AMERI-GARD. Central States Health & Life Co. of Omaha. SN 321,562. Pub. 4-28-70. Filed 4-7-69.
- 894,815. MISCELLANEOUS DESIGN. Independent Life & Accident Insurance Company. SN 347,811. Pub. 4-28-70. Filed 1-6-70.

### Class 103 — Construction and Repair

- 894,799. (See Class 100 for this trademark.)

### Class 104 — Communication

- 894,816. CALYPSOGRAM. ITT World Communications Inc. SN 255,532. Pub. 8-8-67. Filed 9-30-66.



894,817. ALOHAGRAM. ITT World Communications Inc. SN 255,538. Pub. 8-8-67. Filed 9-30-66.

### Class 105—Transportation and Storage

894,818. EXECUTIVE AIRLINES FLORIDA SKY-PASS. Executive Airlines, Inc. SN 315,220. Pub. 4-28-70. Filed 12-26-68.

894,819. MEXICAN ADVENTURE. Rogal/Colpitts Travel Corp. SN 319,960. Pub. 4-28-70. Filed 2-24-69.

894,820. INNERSEARCH. Himalayan Academy, d.b.a. Innersearch World Tours. SN 328,102. Pub. 4-28-70. Filed 5-26-69.

894,821. HOMERIC TOURS. Homeric Tours, Inc. SN 330,928. Pub. 4-28-70. Filed 6-25-69.

894,822. PAD AND DESIGN. Priority Air Dispatch, Inc. SN 331,240. Pub. 4-28-70. Filed 6-27-69.

### Class 106—Material Treatment

894,823. SULF BT. Centre Stephanols de Recherches Mecaniques Hydromecanique et Frottement. SN 313,806. Pub. 4-28-70. Filed 12-6-68.

### Class 107—Education and Entertainment

894,824. YOUTH-QUAKE. Cuna Mutual Insurance Society. SN 306,889. Pub. 4-28-70. Filed 9-9-68.

894,825. CIRCUS CIRCUS CASINO AND DESIGN. Circus Circus, Inc. SN 320,125. Pub. 4-28-70. Filed 2-26-69.

894,826. FIRE & ICE. Gary A. Martin, d.b.a. Cove Productions. SN 336,545. Pub. 4-28-70. Filed 8-28-69.

## SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

### Class 2—Receptacles

894,827. International Paper Company, New York, N.Y. SN 316,791. Filed P.R. 1-16-69; Am. S.R. 1-19-70.

#### MID-LOK

For Molded Pulp Products—Namely, Egg Cartons (Int. Cl. 16).  
First use Oct. 1, 1968.

894,828. Multicup Packaging Products Corporation, Long Island City, N.Y. SN 338,163. Filed P.R. 9-17-69; Am. S.R. 4-10-70.

#### "MULTICUPS"

For Paper Cups and Multiple Paper and Plastic Trays for Use in Candy Packaging (Int. Cl. 16).  
First use Oct. 3, 1960.

### Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

894,829. Samsonite Corporation, Denver, Colo. SN 281,638. Filed P.R. 10-2-67; Am. S.R. 3-2-70.

#### PETITE TOTE

For Luggage (Int. Cl. 18).  
First use June 25, 1967.

894,830. Items, Incorporated, St. Louis, Mo. SN 292,790. Filed P.R. 3-8-68; Am. S.R. 5-7-70.

## PROTECTION

For Animal Boots (Int. Cl. 18).  
First use Oct. 6, 1967.

### Class 4—Abrasives and Polishing Materials

894,831. Minnesota Mining and Manufacturing Company, St. Paul, Minn. SN 321,124. Filed P.R. 3-10-69; Am. S.R. 4-22-70.

#### AUTO PAK

For Coated Abrasives (Int. Cl. 3).  
First use Feb. 26, 1969.

### Class 12—Construction Materials

894,832. The Western Company of North America, Fort Worth, Tex. SN 302,789. Filed P.R. 7-15-68; Am. S.R. 11-24-69.

#### FAST-FIX

For Rapid Setting Cement Compositions (Int. Cl. 19).  
First use Feb. 21, 1968.

### Class 28—Jewelry and Precious-Metal Ware

894,833. Mida Mfg. Inc., Philadelphia, Pa. SN 300,836. Filed P.R. 6-19-68; Am. S.R. 4-24-70.

#### MICRO CLIP

For Jewelry for Personal Use (Int. Cl. 14).  
First use May 14, 1968.

### Class 32—Furniture and Upholstery

894,834. Clopay Corporation, Cincinnati, Ohio. SN 317,728. Filed P.R. 1-28-69; Am. S.R. 4-18-70.

#### SUTTON

For Window Shades (Int. Cl. 20).  
First use Jan. 10, 1969.

### Class 37—Paper and Stationery

894,835. The Holes-Webway Co., St. Cloud, Minn. SN 307,613. Filed 9-18-68.

#### PRESS-STICK

For Complete Photo Albums and Scrapbooks, Including Original Sheets (Int. Cl. 16).  
First use June 3, 1968.

### Class 38—Prints and Publications

894,836. Magazine Management Co., Inc., New York, N.Y., assignee of Perfect Film & Chemical Corporation, d.b.a. Marvel Comics Group, New York, N.Y. SN 308,513. Filed P.R. 9-30-68; Am. S.R. 4-17-70.

#### MODERN MOVIES

For Magazines (Int. Cl. 16).  
First use on or about Apr. 2, 1968.

894,837. M. H. Pubco, Inc., Atlanta, Ga. SN 315,955. Filed P.R. 1-6-69; Am. S.R. 4-10-70.

#### MARITAL HEALTH

For Newsletter (Int. Cl. 16).  
First use on or about May 1, 1967.

894,838. Timber Industry Publishing Company, Portland, Oreg. SN 319,086. Filed P.R. 2-13-69; Am. S.R. 4-27-70.

#### NATIONAL TIMBER INDUSTRY

For Monthly Newspaper (Int. Cl. 16).  
First use Jan. 17, 1969.

894,839. Parents' Magazine Enterprises, Inc., New York, N.Y. SN 319,187. Filed P.R. 2-14-69; Am. S.R. 4-8-70.

#### A BACKGROUND BOOK FOR YOUNG PEOPLE

For Series of Books (Int. Cl. 16).  
First use Dec. 6, 1966.

894,840. Corporate Annual Reports, Inc., New York, N.Y. SN 319,286. Filed P.R. 2-17-69; Am. S.R. 3-31-70.

#### THE CORPORATE COMMUNICATIONS REPORT

For News Circular Relating to Business Communications (Int. Cl. 16).  
First use Jan. 6, 1969.

894,841. House of Art., Baltimore, Md. SN 320,060. Filed P.R. 2-25-68; Am. S.R. 4-27-70.

#### HOUSE OF ART

For Pictorial Reproductions, and Pictorial Prints (Int. Cl. 16).  
First use Jan. 31, 1969.

894,842. Hudson Publishing Company, Los Altos, Calif. SN 327,760. Filed P.R. 5-20-69; Am. S.R. 4-14-70.

## KITCHENS, BATHS and FAMILY ROOMS

For Trade Magazine (Int. Cl. 16).  
First use April 1965.

894,843. Colourpicture Publishers, Inc., Jamaica Plain, Mass. SN 331,690. Filed P.R. 7-3-69; Am. S.R. 4-24-70.

#### KOLOR PAK

For Souvenir Packages of Lithographic Prints Sold as a Unit (Int. Cl. 16).  
First use Nov. 12, 1968.

894,844. Institutional Investor Systems, Inc., New York, N.Y. SN 335,516. Filed P.R. 8-18-69; Am. S.R. 1-29-70.

## INVESTMENT BANKING AND CORPORATE FINANCING

For Magazine (Int. Cl. 16).  
First use at least as early as Dec. 19, 1968.

894,845. McGraw-Hill, Inc., d.b.a. McGraw-Hill Information Systems Co., New York, N.Y. SN 336,830. Filed P.R. 9-2-69; Am. S.R. 4-28-70.

#### RAPID-SEARCH

For Binder Containing Product Information Sheets, Indexes, Selector Slides, Conversion Tables, Graphics and Similar Informational Material for Locating Product Data and Vendors (Int. Cl. 16).  
First use Jan. 1, 1968.

894,846. Richard Clarke Associates, Inc., New York, N.Y. SN 338,998. Filed 9-26-69.

## OPPORTUNITIES FOR THE COLLEGE GRAD: A DIRECTORY OF EQUAL OPPORTUNITY EMPLOYERS

For Magazine Published Annually Containing Employment Information (Int. Cl. 16).  
First use September 1966.

894,847. Broadcasting Publications, Inc. Washington, D.C. SN 339,126. Filed P.R. 9-29-69; Am. S.R. 4-6-70.

#### FocusOnFinance

For Section of a Periodical Magazine (Int. Cl. 16).  
First use October 1964.



**Class 39—Clothing**

894,848. Mohr Laboratories, Inc., Orange, Calif. SN 324,781.  
Filed P.R. 4-17-69; Am. S.R. 4-9-70.

**MORCOMFORT**

For Women's Lingerie Including Brassieres (Int. Cl. 25).  
First use at least as early as Mar. 31, 1969.

894,849. Penn-Carol Hosiery Mills, Inc., Mount Pleasant,  
N.C. SN 325,377. Filed P.R. 4-28-69; Am. S.R. 4-3-70.

**NYLON PLUS**

For Hosiery and Panty Hose (Int. Cl. 25).  
First use Mar. 6, 1969.

**Class 42—Knitted, Netted, and Textile  
Fabrics, and Substitutes Therefor**

894,850. Jorge's Carpet Mills, Inc., Rossville, Ga. SN  
325,490. Filed P.R. 4-24-69; Am. S.R. 4-20-70.

**WILTONTUFT**

For Tufted Carpeting (Int. Cl. 27).  
First use Mar. 31, 1969.

894,851. Jorge's Carpet Mills, Inc., Rossville, Ga. SN  
325,493. Filed P.R. 4-24-69; Am. S.R. 4-20-70.

**TITETUFT**

For Tufted Carpeting (Int. Cl. 27).  
First use Mar 31, 1969.

**TRADEMARK REGISTRATIONS RENEWED**

- |  |   |
|--|---|
| 75,871. LIEDERKRANZ. Cl. 46 (Int. Cl. 29). 11-23-09.               | 527,073. TEAR KLEEN. Cl. 37 (Int. Cl. 16). 7-4-50.                          |
| 79,104. LIFE PRESERVER (DESIGN). Cl. 6 (Int. Cl. 1). 8-9-10.       | 527,262. ECUSTA AND DESIGN. Cl. 8 (INT. CL. 34). 7-4-50.                    |
| 79,795. SIMMONS. Cl. 28 (Int. Cl. 14). 10-4-10.                    | 527,514. DESPARD LINE. Cl. 21 (Int. Cl. 9). 7-11-50.                        |
| 268,630. BAY BISCUITS. Cl. 46 (Int. Cl. 30). 3-18-30.              | 527,671. BALL FLAME. Cl. 34 (Int. Cl. 11). 7-18-50.                         |
| 270,962. DESIGN OF A RED DISK. Cl. 17 (Int. Cl. 34). 5-20-30.      | 527,677. E-Z. Cl. 13 (Int. Cl. 21). 7-18-50.                                |
| 270,997. RED DOT AND DESIGN. Cl. 17 (Int. Cl. 34). 5-20-30.        | 527,996. MARTIN WARE. Cl. 2 (Int. Cl. 21). 7-25-50.                         |
| 270,998. RED DOT. Cl. 17 (Int. Cl. 34). 5-20-30.                   | 528,046. MARTINWARE. Cl. 2 (Int. Cl. 21). 7-25-50.                          |
| 271,668. RED DEVIL LYE AND DESIGN. Cl. 6 (Int. Cl. 3). 6-17-30.    | 528,069. RAPISTAN. Cl. 23 (Int. Cl. 7). 7-25-50.                            |
| 272,108. TREE GOLD. Cl. 46 (Int. Cl. 31). 7-1-30.                  | 528,180. OURTIMES. Cl. 38 (Int. Cl. 16). 8-1-50.                            |
| 272,487. JIFFY. Cl. 46 (Int. Cl. 29). 7-8-30.                      | 528,280. SRB AND DESIGN. Cl. 23 (Int. Cl. 7). 8-1-50.                       |
| 273,172. PICCADILLY. Cl. 19 (Int. Cl. 12). 7-22-30.                | 528,396. RIGHT LANE. Cl. 46 (Int. Cl. 31). 7-14-70.                         |
| 274,370. LACOTE. Cl. 37 (Int. Cl. 16). 8-26-30.                    | 528,397. DB. Cl. 21 (Int. Cl. 17). 8-1-50.                                  |
| 274,639. LEA AND DESIGN. Cl. 4 (Int. Cl. 3). 9-2-30.               | 528,404. PETERS EDITION. Cl. 38 (Int. Cl. 16). 8-1-50.                      |
| 275,438. TYPEASE. Cl. 36 (Int. Cl. 9). 9-23-30.                    | 528,405. EDITION PETERS. Cl. 38 (Int. Cl. 16). 8-1-50.                      |
| 275,555. NIBLETS. Cl. 46 (Int. Cl. 29). 9-23-30.                   | 528,507. RIPON. Cl. 39 (Int. Cl. 25). 8-1-50.                               |
| 443,987. ADLAKE. Cl. 13 (Int. Cls. 6, 11, 20, and 21). 5-16-60.    | 528,609. COLONEL DRAKE AND DESIGN. Cl. 15 (Int. Cl. 4). 8-8-50.             |
| 520,888. BEL-AIRE AND DESIGN. Cl. 6 (Int. Cl. 5). 2-7-50.          | 528,773. BULLET. Cl. 23 (Int. Cl. 7). 8-8-50.                               |
| 522,309. CRAIG CREATIONS. Cl. 42 (Int. Cl. 24). 3-14-50.           | 528,951. CLEAR SCRIPT. Cl. 37 (Int. Cl. 16). 8-15-50.                       |
| 523,017. AMMCO. Cl. 23 (Int. Cl. 8). 3-28-50.                      | 529,259. EARSET. Cl. 44 (Int. Cl. 10). 8-15-50.                             |
| 523,438. CENTRIFUSE. Cl. 19 (Int. Cl. 12). 4-4-50.                 | 529,350. MO-VI. Cl. 46 (Int. Cl. 31). 8-22-50.                              |
| 523,445. MW AND DESIGN. Cl. 19 (Int. Cl. 12). 4-4-50.              | 529,418. ECUSTA. Cl. 8 (Int. Cl. 34). 8-22-50.                              |
| 523,688. DE SOTO. Cl. 46 (Int. Cl. 29). 4-11-50.                   | 529,428. PT. MUGU. Cl. 46 (Int. Cl. 31). 8-22-50.                           |
| 523,838. FLO-MASTER. Cl. 29 (Int. Cl. 16). 4-11-50.                | 529,484. CITATION. Cl. 26 (Int. Cl. 9). 8-22-50.                            |
| 524,003. COM-PAR-TO. Cl. 22 (Int. Cl. 28). 4-11-50.                | 529,486. STROMBERG. Cl. 26 (Int. Cl. 9). 8-22-50.                           |
| 524,115. T & B AND DESIGN. Cl. 34 (Int. Cl. 11). 4-18-50.          | 529,542. LITTLE DASHERS. Cl. 39 (Int. Cl. 25). 8-22-50.                     |
| 524,321. TRUTYPE. Cl. 44 (Int. Cl. 10). 4-25-50.                   | 529,556. THEPTINE. Cl. 18 (Int. Cl. 5). 8-22-50.                            |
| 524,523. TROPILUX. Cl. 16 (Int. Cl. 2). 4-25-50.                   | 529,587. HEARTHSIDE. Cl. 43 (Int. Cl. 23). 8-22-50.                         |
| 524,568. CHUGUM. Cl. 46 (Int. Cl. 30). 4-25-50.                    | 529,657. RIST-ALARM. Cl. 27 (Int. Cl. 14). 8-22-50.                         |
| 524,596. AUGUSTINER BEER AND DESIGN. Cl. 48 (Int. Cl. 32). 5-2-50. | 529,707. SUPERBE. Cl. 39 (Int. Cl. 25). 8-29-50.                            |
| 524,728. EVER-CLEAN. Cl. 37 (Int. Cl. 16). 5-2-50.                 | 529,746. PABST BLUE RIBBON AND LABEL DESIGN. Cl. 48 (Int. Cl. 32). 8-29-50. |
| 524,731. IT'S A MAC PACK AND DESIGN. Cl. 37 (Int. Cl. 16). 5-2-50. | 529,799. AIRESEARCH. Cl. 31 (Int. Cl. 11). 8-29-50.                         |
| 524,791. SYMBOL WITH LETTERS. Cl. 38 (Int. Cl. 16). 5-2-50.        | 529,988. AUTO LOCK. Cl. 32 (Int. Cl. 20). 8-29-50.                          |
| 524,916. THORO-TRED. Cl. 35 (Int. Cls. 12 and 17). 5-9-50.         | 530,015. PREPAKT. Cl. 103 (Int. Cl. 37). 8-29-50.                           |
| 524,941. LOVE MAGIC. Cl. 51 (Int. Cl. 3). 5-9-50.                  | 530,071. DYNAMATIC. Cls. 21 and 23 (Int. Cls. 7 and 9). 9-5-50.             |
| 525,278. ESPECIALISTA. Cl. 44 (Int. Cls. 5 and 10). 5-16-50.       | 530,093. PMAS. Cl. 6 (Int. Cl. 5). 9-5-50.                                  |
| 525,597. CAMERON. Cl. 23 (Int. Cl. 7). 5-30-50.                    | 530,255. NEOTRAN. Cl. 6 (Int. Cl. 5). 9-5-50.                               |
| 525,770. TONI. Cl. 51 (Int. Cl. 3). 5-30-50.                       | 530,271. TEXO. Cl. 46 (Int. Cl. 31). 9-5-50.                                |
| 526,080. HEATFLOW. Cl. 21 (Int. Cl. 11). 6-6-50.                   | 530,459. LADY DOVER. Cl. 21 (Int. Cl. 9). 9-12-50.                          |
| 526,195. MADEMOISELLE. Cl. 40 (Int. Cl. 25). 6-13-50.              | 530,475. KING O' FISH. Cl. 46 (Int. Cl. 29). 9-12-50.                       |
| 526,588. TRANS WORLD AIRMAN. Cl. 27 (Int. Cl. 14). 6-20-50.        | 530,482. SURE-HOLD. Cl. 37 (Int. Cl. 16). 9-12-50.                          |
| 526,589. TRANS WORLD CAPTAIN. Cl. 27 (Int. Cl. 14). 6-20-50.       | 530,488. SALOTEX AND DESIGN. Cl. 22 (Int. Cl. 28). 9-12-50.                 |
| 526,735. RICHELIEU. Cl. 46 (Int. Cls. 29 and 30). 6-27-50.         | 530,521. PHILPRENE. Cl. 1 (Int. Cl. 17). 9-12-50.                           |
| 526,765. ORDEREST IN ORDER TO REST. Cl. 32 (Int. Cl. 20). 6-27-50. | 530,573. TEMPO. Cl. 37 (Int. Cl. 16). 9-12-50.                              |
|  | 530,672. PPP AND DESIGN. Cl. 37 (Int. Cl. 16). 9-12-50.                     |
|  | 530,729. CIN'TI. Cl. 23 (Int. Cl. 7). 9-12-50.                              |
|  | 530,779. BUDGIT. Cl. 23 (Int. Cl. 7). 9-12-50.                              |
|  | 530,838. JJ & S EXTRA SPECIAL LIQUEUR, ETC. Cl. 49 (Int. Cl. 38). 9-19-50.  |
|  | 531,007. SYNCURINE. Cl. 18 (Int. Cl. 5). 9-19-50.                           |

- 531,023. NYCLAD. Cl. 21 (Int. Cl. 9). 9-19-50.  
 531,091. CINCINNATI. Cl. 23 (Int. Cl. 7). 9-19-50.  
 531,134. GR AND DESIGN. Cl. 21 (Int. Cl. 9). 9-26-50.  
 531,251. NODULITE. Cl. 14 (Int. Cl. 6). 9-26-50.  
 531,408. JASMINE. Cl. 28 (Int. Cl. 8). 10-3-50.  
 531,439. RAMBLER ROSE. Cl. 28 (Int. Cls. 8 and 14). 10-3-50.  
 531,443. PHEASANT AND DESIGN. Cl. 46 (Int. Cl. 31). 10-3-50.  
 531,482. DELECTA. Cl. 46 (Int. Cl. 30). 10-3-50.  
 531,509. MICROCOTE. Cl. 6 (Int. Cl. 2). 10-3-50.  
 531,537. MASTER. Cl. 15 (Int. Cl. 4). 10-31-50.  
 531,538. MASTER MOBILE. Cl. 15 (Int. Cl. 4). 10-31-50.  
 531,553. PRONEMIA. Cl. 18 (Int. Cl. 5). 10-31-50.  
 531,603. PEP. Cl. 46 (Int. Cl. 31). 10-10-50.  
 531,688. AIRESEARCH. Cl. 28 (Int. Cl. 12). 10-10-50.  
 531,721. GRANADA. Cl. 36 (Int. Cl. 15). 10-10-50.  
 531,750. CURTISS. Cl. 46 (Int. Cls. 29 and 30). 10-10-50.  
 531,823. STYPOFOAM. Cl. 1 (Int. Cl. 17). 10-10-50.  
 531,850. NYACEL. Cl. 42 (Int. Cl. 24). 10-10-50.

- 531,939. Y & S LIQUORICE CANDY SHOESTRINGS AND DESIGN. Cl. 46 (Int. Cl. 30). 10-10-50.  
 531,950. SAMSON. Cl. 46 (Int. Cl. 30). 10-17-50.  
 532,029. BELL MINE. Cl. 1 (Int. Cl. 19). 10-17-50.  
 532,098. CARLON. Cl. 1 (Int. Cl. 17). 10-17-50.  
 532,115. QUEENSDOWN. Cl. 32 (Int. Cl. 20). 10-17-50.  
 532,139. MICROFILM. Cl. 6 (Int. Cl. 2). 10-17-50.  
 532,156. CARMETHOSE. Cl. 18 (Int. Cl. 5). 10-17-50.  
 532,194. WESTERN. Cl. 23 (Int. Cl. 17). 10-17-50.  
 532,220. DURAWEAWE. Cl. 40 (Int. Cl. 24). 10-17-50.  
 532,224. AMPCO. Cl. 23 (Int. Cl. 7). 10-17-50.  
 532,294. BLUERIDGE. Cl. 46 (Int. Cl. 29). 10-24-50.

**Erratum**

In the OFFICIAL GAZETTE of May 26, 1970, at page TM 212, under Trademark Registrations Renewed, under Reg. No. 513,290 "Fowler" should be deleted and correct mark is CRAFTSMAN AND DESIGN.

**TRADEMARK REGISTRATIONS CANCELED****Section 8**

- 770,125. SCIENTIFIC CHICAGO. Cl. 38. 5-19-64.

The following registrations issued May 26, 1964

- |   |   |
|---|---|
| 770,141. N AND DESIGN. Cl. 1.                               | 770,303. WEAR-TOUGH. Cl. 23.  |
| 770,148. MARBLINE. Cl. 1.                                   | 770,304. TOUGH-PLY. Cl. 23.   |
| 770,156. TREE OF GOLD. Cls 3 and 8.                         | 770,305. SHOPPER'S FAIR. Cl. 25.  |
| 770,158. MARGLO. Cl. 4.                                     | 770,306. MODUFLOW. Cl. 26.  |
| 770,159. CARBON/WHITE. Cl. 6.                               | 770,308. SHOPPER'S FAIR. Cl. 27.  |
| 770,160. TER BEN. Cl. 6.                                    | 770,309. RETROCHOC. Cl. 27.   |
| 770,162. E-Z ICED. Cl. 6.                                   | 770,310. SHOPPER'S FAIR. Cl. 28.  |
| 770,168. NO-VINE. Cl. 6.                                    | 770,312. K AND DESIGN. Cl. 28.  |
| 770,171. GRAND. Cl. 6.                                      | 770,316. L & A. Cl. 28.   |
| 770,174. DESIGN OF A GREEK MYTHOLOGICAL FIG-<br>URE. Cl. 6. | 770,322. PHILMONT. Cl. 28.  |
| 770,176. MANDESTAT. Cl. 6.                                  | 770,323. SHOPPER'S FAIR. Cl. 29.  |
| 770,177. ND AND DESIGN. Cl. 6.                              | 770,324. LANCER. Cl. 29.  |
| 770,192. SPECTRAL. Cl. 6.                                   | 770,325. ALTEST. Cl. 29.  |
| 770,202. STAG ETC. AND DESIGN. Cl. 9.                       | 770,326. SHOPPER'S FAIR. Cl. 30.  |
| 770,204. WIN-WAD. Cl. 9.                                    | 770,328. SHOPPER'S FAIR. Cl. 31.  |
| 770,205. TURF-LITE. Cl. 10.                                 | 770,330. SHOPPER'S FAIR. Cl. 32.  |
| 770,209. SHOPPER'S FAIR. Cl. 12.                            | 770,334. SHOPPER'S FAIR. Cl. 33.  |
| 770,219. SHOPPER'S FAIR. Cl. 14.                            | 770,340. ELECTRO-JUNIOR. Cl. 34.  |
| 770,221. SHOPPER'S FAIR. Cl. 15.                            | 770,346. FUN TEST. Cl. 38.  |
| 770,223. HUDSON PLUS. Cl. 15.                               | 770,350. EXEC-U-TROL EXECUTIVE PLANNING AIDS.<br>Cl. 37.                        |
| 770,225. 20 MULE TEAM (DESIGN). Cl. 16.                     | 770,357. ECCOR X PORT BOARD AND DESIGN. Cl. 37.                                 |
| 770,227. WATSON'S. Cl. 18.                                  | 770,358. HANDSPRINGS. Cl. 37.   |
| 770,229. SULFA-URE-ZOL. Cl. 18.                             | 770,359. CROWN TANGO. Cl. 37.   |
| 770,230. VAPORPOINT-PLANCON. Cl. 18.                        | 770,362. TOP HAT LITHO-SNAP AND DESIGN. Cl. 37.                                 |
| 770,231. COMED. Cl. 18.                                     | 770,364. HI-SIGN. Cl. 37.   |
| 770,232. D PLUS D. Cl. 18.                                  | 770,365. PRIVATE WIRE. Cl. 38.  |
| 770,233. D+D. Cl. 18.                                       | 770,367. WHAT'S NEW IN CHEMICALS AND CHEMICALS<br>EQUIPMENT AND DESIGN. Cl. 38. |
| 770,235. MONOGRAM AND STRAP (DESIGN). Cl. 18.               | 770,368. WINKY RYATT. Cl. 38.   |
| 770,241. PRONDOL. Cl. 18.                                   | 770,369. SOUTHERN SUPPLIES. Cl. 38.   |
| 770,242. TAFURA PREMIX. Cl. 18.                             | 770,370. SOUTHERN POWER & INDUSTRY. Cl. 38.                                     |
| 770,245. NAQUASONE. Cl. 18.                                 | 770,372. LONG SHOTS. Cl. 38.  |
| 770,246. DYREN. Cl. 18.                                     | 770,373. LIGHTING. Cl. 38.  |
| 770,249. VERSINOX. Cl. 18.                                  | 770,376. THE PLASTICS MARKET ANALYST. Cl. 38.                                   |
| 770,250. COURAGE. Cl. 18.                                   | 770,381. A JIFFY BACK. Cl. 39.  |
| 770,251. LERTAID. Cl. 18.                                   | 770,382. EVELYN. Cl. 39.  |
| 770,257. COLEMUL. Cl. 18.                                   | 770,393. NU METH. Cl. 39.   |
| 770,262. RASH-GARD. Cl. 18.                                 | 770,394. HUGGIN-BUG AND DESIGN. Cl. 39.   |
| 770,268. TEL STAR. Cl. 19.                                  | 770,396. BODY BILT. Cl. 39.   |
| 770,271. MAGMAX. Cl. 21.                                    | 770,399. SWIM-SWIM AND DESIGN. Cl. 39.  |
| 770,273. POLYCHROMATrans. Cl. 21.                           | 770,402. SNAP ACTIVE AND DESIGN. Cl. 39.  |
| 770,274. STATOEM. Cl. 21.                                   | 770,406. PIGADILLOS. Cl. 39.  |
| 770,279. SLIM-JIM. Cl. 21.                                  | 770,408. STATITE. Cl. 39.   |
| 770,280. SUBURBANITE. Cl. 21.                               | 770,413. CAPRICORN. Cl. 40.   |
| 770,282. DUNCAN. Cl. 22.                                    | 770,414. COLLEGIATE BEAUS. Cl. 40.  |
| 770,287. VACUUM TWEEZER. Cl. 23.                            | 770,415. SHOPPER'S FAIR. Cl. 41.  |
| 770,292. N AND DESIGN. Cl. 23.                              | 770,417. TEXSILCA. Cl. 42.  |
| 770,295. GOTEC. Cl. 23.                                     | 770,418. TEXSATEENA. Cl. 42.  |
| 770,301. SPEED-PLY. Cl. 23.                                 | 770,419. FIBER-WISE. Cl. 46.  |
| 770,302. PENFIELD. Cl. 23.                                  | 770,423. ENUREFLEX. Cl. 44.   |
|   | 770,426. AC-RHO-DYNE. Cl. 44.   |
|   | 770,430. CHICKEN-A-GO. Cl. 46.  |
|   | 770,433. LYSOSUGAR. Cl. 46.   |
|   | 770,435. ORO Y SOL. Cl. 46.   |



- 770,438. FIGOLU. Cl. 46.  
 770,444. SUE BEE HONEY CREME ETC. AND DESIGN. Cl. 46.  
 770,446. DINNER-REDY 1-2-3. Cl. 46.  
 770,448. BUCCANEER. Cl. 46.  
 770,454. MIZRACH KOSHER POULTRY AND DESIGN. Cl. 46.  
 770,457. TORRE DEL ORO AND DESIGN. Cl. 46.  
 770,458. MET'S. Cl. 46.  
 770,459. FUNNY HUNNY. Cl. 46.  
 770,460. WINDOW PAK. Cl. 46.  
 770,464. BROWNULES. Cl. 46.  
 770,465. BROWNETTES. Cl. 46.  
 770,466. BROWNULAR. Cl. 46.  
 770,471. GOLDEN NECTAR. Cl. 46.  
 770,472. SEVENTEEN 17 AND DESIGN. Cl. 46.  
 770,474. INTER-MI-EL. Cl. 46.  
 770,476. ZOOM. Cl. 47.  
 770,480. SILVER GLADE. Cl. 49.  
 770,482. SCULPCRAFT. Cl. 50.  
 770,483. ESTEEM. Cl. 50.  
 770,488. NEWSLITH. Cl. 50.
- 770,490. SLIC STIC. Cl. 51.  
 770,504. TRI-JOI AND DESIGN. Cl. 51.  
 770,514. SWORD. Cl. 52.  
 770,523. KING-FREEZ. Cl. 100.  
 770,524. COLONIAL PANCAKE HOUSE AND DESIGN. Cl. 100.  
 770,525. BETTER HOMES AND GARDENS IDEA CENTER. Cl. 101.  
 770,531. THE KEY BANK OF PHILADELPHIA ETC. AND DESIGN. Cl. 102.  
 770,532. CM (DESIGN). Cl. 102.  
 770,534. KNIGHT ON HORSEBACK (DESIGN). Cl. 102.  
 770,535. MISCELLANEOUS DESIGN. Cl. 103.  
 770,540. INVICTA IN SHIELD DESIGN. Cl. A.  
 770,545. RAKE'N ROLL. Cl. 12.

## Section 18

- 804,752. 4 STAR AND DESIGN. Cl. 39. 3-1-52.  
 711,169. DURA-HIDE AND DESIGN. Cl. 22. 2-14-61.  
 811,725. GOODYEAR DELUXE BY WEATHERITE. Cl. 39. 7-26-66.

## TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

- 702,227. DRISUDZ. Cl. 52. 4-29-30. Mitchell Wing Company. Stauffer Chemical Company, New York, N.Y. Amended to appear:

## DRISUDZ

- 345,241. MOPICO. Cl. 46. 4-20-37. Mount Olive Pickle Company, Incorporated, Mount Olive, N.C. Corrected: In the certificate, lines 3 and 17, in the heading, signature and in the statement, column 1, line 1, "Co., Inc." should be deleted and *Company, Incorporated* should be inserted.  
 345,242. PICK OF CAROLINA. Cl. 46. 4-20-37. Mount Olive Pickle Company, Incorporated, Mount Olive, N.C. Corrected: In the certificate, lines 3 and 17, in the heading, signature and in the statement, column 1, line 1, "Co., Inc." should be deleted and *Company, Incorporated* should be inserted.  
 346,361. WAY PACK. Cl. 46. 5-25-37. Mount Olive Pickle Company, Incorporated, Mount Olive, N.C. Corrected: In the certificate, lines 3 and 18, in the heading, signature and in the statement, column 1, line 1, "Co., Inc." should be deleted and *Company, Incorporated* should be inserted.  
 347,096. LITTLE REBEL. Cl. 46. 6-15-37. Mount Olive Pickle Company, Incorporated, Mount Olive, N.C. Corrected: In the certificate, lines 3 and 17, in the heading, signature and in the statement, column 1, line 1, "Co., Inc." should be deleted and *Company, Incorporated* should be inserted.  
 511,927. SIGNET. Cl. 38. 7-5-49. The New American Library of World Literature, Inc. The New American Library, Inc., New York, N.Y. Amended to Appear:

## SIGNET

- 518,176. BRAUMEISTER AND DESIGN. Cl. 46. 11-29-49. Winnebago Cheese Company. Borden, Inc., New York, N.Y. Amended to appear:

## BRAUMEISTER

- 572,700. LITTLE SISTER. Cl. 46. 3-31-53. Mount Olive Pickle Company, Incorporated, Mount Olive, N.C. Corrected: In the certificate, lines 4 and 16, in the heading, signature and in the statement, column 1, line 1, "Co., Inc." should be deleted and *Company, Incorporated* should be inserted.  
 572,701. MOUNT OLIVE. Cl. 46. 3-31-53. Mount Olive Pickle Company, Incorporated, Mount Olive, N.C. Corrected: In the certificate, lines 5 and 16, in the heading, signature and in the statement, column 1, line 1, "Inc." should be deleted and *Incorporated* should be inserted.

- 707,258. KITCHEN TREAT AND DESIGN. Cl. 46. 11-15-60. Blue Star Foods, Inc., Council Bluffs, Iowa. Amended to appear:



- 745,464. CRUISAIR. Cl. 34. 2-19-63. Marine Development Company, Marine Development Corporation, Richmond, Va. Amended to appear:



- 761,687. PLAYMATES. Cl. 46. 12-17-63. Mount Olive Pickle Company, Incorporated, Mount Olive, N.C. Corrected: In the statement, column 1, line 1, "Inc." should be deleted and *Incorporated* should be inserted.  
 765,930. MSR MEDICO SURGICAL REFERENCE AND DESIGN. Cl. 38. 3-3-64. Medical Economics, Inc., Oradell, N.J. Amended: In the statement, column 2, line 1, "annual" is deleted.  
 765,931. MSR. Cl. 38. 3-3-64. Medical Economics, Inc., Oradell, N.J. Amended: In the statement, column 2, line 1, "annual" is deleted.  
 778,583. O OROWEAT AND DESIGN. Cl. 46. 10-13-64. Oro-weat Baking Co., Los Angeles, Calif. Corrected: In the statement, column 2, line 2, "July 6" should be deleted and Jan. 6 should be inserted.  
 844,235. BARONESS. Cl. 46. 2-13-68. Mount Olive Pickle Company, Incorporated. Corrected: In the statement, column 1, line 1, "Inc." should be deleted and *Incorporated* should be inserted.  
 884,031. DECORATOR. Cl. 21. 1-13-70. Sunbeam Corporation by merger and change of name from Sunbeam Corporation. Corrected: In the statement, column 1, before line 1, *Sunbeam Corporation (Delaware corporation), by merger and change of name from* should be inserted.  
 886,699. AURICON HOLLYWOOD AND DESIGN. Cl. 26. 2-24-70. Bach Auricon, Inc., Los Angeles, Calif. Corrected: In the statement, column 1, line 4, after "For" *Photographic and sound recording equipment—namely, cameras,* should be inserted.

## TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

- 301,940. SHOOFLY. Cl. 6. The Enterprise Manufacturing Company. 3-21-38. New Cert. Sec. 7(c) to "42" Products, Ltd., Inc., Santa Monica, Calif.  
 364,544. QUADRILLE. Cl. 51. Societe Anonyme Les Parfumeries de Gabilla. 2-7-39. New Cert. Sec. 7(c) to Balenciaga Parfums, Inc., New York, N.Y.  
 403,693. BAUER DOWN AND DESIGN. Cl. 39. Eddie Bauer. 10-12-43. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 431,821. CRISTOBAL BALENCIAGA. Cl. 51. Cristobal Balenciaga Elizaguirre. 8-12-47. New Cert. Sec. 7(c) to Balenciaga Parfums, Inc., New York, N.Y.  
 484,021. SEAFOAM. Cl. 42. American Bleached Goods Company, Inc. 11-4-47. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 547,687. BALENCIAGA. Cl. 51. Societe a Responsabilite Limitee Balenciaga. 9-11-51. New Cert. Sec. 7(c) to Balenciaga Parfums, Inc., New York, N.Y.  
 566,557. LA FUITE DES HEURES. Cl. 51. Societe a Responsabilite Limitee Balenciaga. 11-11-52. New Cert. Sec. 7(c) to Balenciaga Parfums, Inc., New York, N.Y.  
 567,382. LE DIX BALENCIAGA. Cl. 51. Societe a Responsabilite Limitee Balenciaga. 12-2-52. New Cert. Sec. 7(c) to Balenciaga Parfums, Inc., New York, N.Y.  
 579,398. EDDIE BAUER. Cl. 39. Eddie Bauer. 9-1-53. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 639,856. DOG-NAPPER. Cl. 32. Tyee Camp Equipment. 1-1-57. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 702,069. ALL CLEAR. Cl. 6. L.K.R. Chemical Products Corporation. 8-2-60. New Cert. Sec. 7(c) to The Dow Chemical Company, Midland, Mich.  
 804,590. EDDIE BAUER (SIGNATURE). Cls. 22 and 39. Eddie Bauer. 3-1-66. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 746,986. KASANOF'S. Cl. 46. Kasanof's Model Bakery, Inc. 3-19-63. New Cert. Sec. 7(c) to ITI Foods, Inc., New York, N.Y.  
 764,922. CAM CALK. Cl. 12. The Cambridge Tile Mfg. Co. 2-18-64. New Cert. Sec. 7(c) to Woodhill Chemical Sales Corporation, Cleveland, Ohio.  
 767,050. TEL BUTLER. Cl. 21. Orbit Industries, Inc. 3-24-64. New Cert. Sec. 7(c) to Harvey Hubbell, Incorporated, Bridgeport, Conn.  
 768,164. TORNADO (DESIGN). Cl. 23. Newaygo Engineering Company. 4-14-64. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.  
 782,448. POLY-PAD. Cl. 32. William F. Niemi Co. 12-29-64. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 782,760. EB. Cl. 22. Eddie Bauer. 1-5-65. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 788,870. CAM KOTE. Cl. 12. The Cambridge Tile Manufacturing Company. 4-20-65. New Cert. Sec. 7(c) to Woodhill Chemical Sales Corporation, Cleveland, Ohio.  
 798,431. KARA KORAM. Cl. 39. William F. Niemi Co. 11-2-65. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 799,298. ARLBERG. Cl. 22. Anderson & Thompson Ski Co., Inc. 11-23-65. New Cert. Sec. 7(c) to Allcock, Laight & Westwood, Limited, Bramalea, Ontario, Canada.  
 805,631. EB. Cl. 39. Eddie Bauer. 3-15-66. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 805,641. CAMO WEAVE AND BOW AND ARROW DESIGN. Cl. 42. William F. Niemi Co. 3-15-66. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 817,417. SEA FOAM AND DESIGN. Cl. 39. William F. Niemi Co. 10-25-66. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 831,521. DESERT CLOTH AND DESIGN. Cl. 42. William F. Niemi Co. 7-4-67. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 844,175. DOWNTOWNER. Cl. 39. William F. Niemi Company. 2-13-68. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 846,314. SNAP-JAC. Cl. 39. William F. Niemi Co. 3-19-68. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 848,261. BULKIE. Cl. 46. Kasanof's Model Bakery, Inc. 4-30-68. New Cert. Sec. 7(c) to ITI Foods, Inc., New York, N.Y.  
 849,497. EXPEDITION CLOTH. Cl. 42. William F. Niemi Co. 5-21-68. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 852,244. LIFE LIKE AND DESIGN. Cl. 22. William F. Niemi Co. 7-9-68. New Cert. Sec. 7(c) to Eddie Bauer, Inc., Seattle, Wash.  
 880,146. BUFFET AND DESIGN. Cl. 100. Buffet, Inc. 11-4-69. New Cert. Sec. 7(c) to Buffet, Inc., Scottsdale, Ga.

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Abbott Laboratories, North Chicago, Ill. 894,624, pub. 4-28-70. Cl. 38.  
Action Chemicals, Inc., Tipp City, Ohio. 894,783, pub. 4-28-70. Cl. 52.  
Adair, Milton S., d.b.a. Adair Associates, San Francisco, Calif. 894,759, pub. 4-28-70. Cl. 50.  
Adams Industries, Inc., Huntington Woods, Mich. 894,615, pub. 4-28-70. Cl. 37.  
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Allen Pump Co., The, d.b.a. The Allen-Sherman-Hoff Pump Co., Paoli, Pa. 894,529, pub. 2-27-68. Cl. 23.  
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Alpha Research & Development, Inc., Blue Island, Ill. 894,843, pub. 4-28-70. Cl. 38.  
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Amax Industries, Inc., Elgin, Ill. 894,484, pub. 4-28-70. Cl. 21.  
American Accordion-Fold Doors, Inc., Jamaica, N.Y. 894,425, pub. 4-28-70. Cl. 12.  
American Bleached Goods Co., Inc., to Bauer, Eddie, Inc., Seattle, Wash. 434,021, new cert. Cl. 42.  
American Chewing Products Corp., Newark, N.Y. 524,568, ren. 7-14-70. Cl. 46.  
American Cyanamid Co., Wayne, N.J. 770,232-3, can. Cl. 18.  
American Cyanamid Co., Wayne, N.J. 581,553, ren. 7-14-70. Cl. 18.  
American Cyanamid Co., Wayne, N.J. 894,414, pub. 4-28-70. Cl. 11.  
American Dental Co., Chicago, Ill. 770,426, can. Cl. 44.  
American Dream Soap Co., Cleveland, Ohio. 894,787, pub. 4-28-70. Cl. 52.  
American Enka Corp., Enka, N.C. 770,419, can. Cl. 46.  
American Gage & Machine Co., Elgin, Ill. 894,499, pub. 4-28-70. Cl. 21.  
American Home Products Corp., New York, N.Y. 894,701, pub. 4-28-70. Cl. 46.  
American Home Products Corp., New York, N.Y. 894,770, pub. 4-28-70. Cl. 51.  
American Hospital Supply Corp., Evanston, Ill. 894,388, pub. 4-28-70. Multiple Class (Classes 6, 40, and 50).  
American Kitchen Products Co., Jersey City, N.J. 894,710, pub. 4-28-70. Cl. 46.  
American Marblene, Inc., Santa Fe Springs, Calif. 770,148, can. Cl. 1.  
American Sugar Co., New York, N.Y. 770,464-6, can. Cl. 46.  
Amigo Sales, Inc., Bridgeport, Mich. 894,474, pub. 4-28-70. Cl. 19.  
Ammco Tools, Inc., North Chicago, Ill. 523,017, ren. 7-14-70. Cl. 23.  
Anderson Chemical Co., Litchfield, Minn. 894,402, pub. 4-28-70. Cl. 6.  
Anderson & Thompson Ski Co., Inc., to Allcock, Laight & Westwood, Ltd., Bramalea, Ontario, Canada. 799,298, new cert. Cl. 22.  
Animex Centrala Importowo-Eksportowa Artvkułow Przetworow Pochodzenia Zwierzeciego, Warsaw, Poland. 894,689, pub. 4-28-70. Cl. 46.  
Apter Industries, Inc., McKeesport, Pa. 894,398, pub. 4-28-70. Cl. 6.  
Arcoa, Inc., Phoenix, Ariz. 894,794, pub. 4-28-70. Cl. 100.  
Arden, Elizabeth Sales Corp., New York, N.Y. 770,418, can. Cl. 40.  
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Ashenfarb, Henry, Edgewater, N.J. 894,601, pub. 4-28-70. Cl. 32.  
Astro-Occult Press, Inc., Chicago, Ill. 894,634, pub. 4-28-70. Cl. 38.  
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Atwood Oceanics, Inc., Houston, Tex. 894,797, pub. 4-28-70. Cl. 100.  
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Automatic Sprinkler Corp. of America, Cleveland, Ohio, from Raylines Sporting Goods Co., St. Louis, Mo. 894,506, pub. 4-28-70. Cl. 22.  
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Automotive & Marine Products Corp., Brighton, Mass. 582,224, ren. 7-14-70. Cl. 23.  
Auto-Valve, Inc., Dayton, Ohio. 894,429, pub. 4-28-70. Cl. 13.  
Baby Products Corp., East Longmeadow, Mass. 894,593, pub. 4-28-70. Cl. 32.  
Bach Auricon, Inc., Los Angeles, Calif. 886,899, cor. Cl. 26.  
Baker Castor Oil Co., The, Bayonne, N.J. 523,897, ren. 7-14-70. Cl. 21.  
Baker, J. E., Co., The, York, Pa. 770,545, can. Cl. 12.  
Bancroft, Joseph, & Sons Co., Wilmington, Del. 894,668, pub. 4-28-70. Cl. 38.  
Bandal Co., Ltd., Tokyo, Japan. 894,504, pub. 4-28-70. Cl. 22.  
Barber-Greene Co., Aurora, Ill. 894,583, pub. 4-28-70. Cl. 23.  
Barnes-Hind Laboratories, Inc., Sunnyvale, Calif. 770,281, can. Cl. 18.  
Basic Education Computers, Inc., Silver Spring, Md. 894,629, pub. 4-28-70. Cl. 38.  
Bassett, W. E., Co., The, Derby, Conn., from Reed Tool-Die & Mfg. Corp., Kokomo, Ind. 894,548, pub. 4-28-70. Cl. 23.  
Bassett, W. E., Co., The, Derby, Conn. 894,549, pub. 4-28-70. Cl. 23.  
Bates Mfg. Co., The, Orange, N.J. 894,618, pub. 4-28-70. Cl. 37.  
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Bauer, Eddie, to Eddie Bauer, Inc., Seattle, Wash. 579,898, new cert. Cl. 39.  
Bauer, Eddie, to Eddie Bauer, Inc., Seattle, Wash. 782,760, new cert. Cl. 22.  
Bauer, Eddie, to Eddie Bauer, Inc., Seattle, Wash. 804,590, new cert. Multiple Class (Classes 22 and 39).  
Bauer, Eddie, to Eddie Bauer, Inc., Seattle, Wash. 805,631, new cert. Cl. 39.  
Bausch & Lomb Inc., Rochester, N.Y. 529,484, ren. 7-14-70. Cl. 26.  
Beecham Inc., Clifton, N.J. 894,456, pub. 4-28-70. Cl. 18.  
Belden Corp., Chicago, Ill. 531,023, ren. 7-14-70. Cl. 21.  
Bell Aerospace Corp., Palmdale, Calif. 894,541, pub. 4-28-70. Cl. 23.  
Bestran Corp., Monrovia, Calif. 894,497, pub. 4-28-70. Cl. 21.  
Big Bear, Inc., St. Cloud, Minn. 894,442, pub. 1-24-67. Cl. 16.  
Big Bear, Inc., St. Cloud, Minn., from E. I. du Pont de Nemours & Co., Wilmington, Del. 894,443, pub. 1-24-67. Cl. 16.  
Black Light, Inc., Kansas City, Mo. 894,644, pub. 4-28-70. Cl. 38.  
Black Gold Compost Co., Tampa, Fla. 894,367-9, pub. 4-28-70. Multiple Class (Classes 1 and 10).  
Blue Star Foods, Inc., Council Bluffs, Iowa. 707,258, Am. 7(d). Cl. 46.  
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Bombardier Ltd., Valcourt, Quebec, Canada. 894,509, pub. 4-28-70. Cl. 22.  
Boonton Molding Co., Inc., Boonton, N.J. 894,379, pub. 4-28-70. Cl. 2.  
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Borden, Inc., New York, N.Y. 75,871, ren. 7-14-70. Cl. 46.  
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Bradley, Milton, Co., Springfield, Mass. 894,519, pub. 4-28-70. Cl. 22.  
Bradner Central Co., Chicago, Ill. 274,370, ren. 7-14-70. Cl. 37.  
Brecher, Nicholas, d.b.a. Brevoni Creations, New York, N.Y. 894,666, pub. 4-28-70. Cl. 39.  
Breck, John H., Inc., Wayne, N.J. 894,781, pub. 4-28-70. Cl. 51.  
Breck, John H., Inc., Wayne, N.J. 894,789, pub. 4-28-70. Cl. 52.  
Breskin Publications Inc., New York, N.Y. 770,376, can. Cl. 38.  
Bristol-Myers Co., New York, N.Y. 894,460-2, pub. 4-28-70. Cl. 15.  
Broadcasting Publications, Inc., Washington, D.C. 894,847, Cl. 38.  
Brunswick Corp., Chicago, Ill. 894,508, pub. 4-28-70. Cl. 22.  
Brunswick Corp., Chicago, Ill. 894,591, pub. 4-28-70. Cl. 31.  
Brunswick Corp., Chicago, Ill. 894,742, pub. 4-28-70. Cl. 49.  
Buchanan, Roland L., d.b.a. Raco Mfg., Berkeley, Calif. 894,495, pub. 6-17-69. Cl. 21.  
Buell Engineering Co., Inc., Lebanon, Pa. 894,592, pub. 4-28-70. Cl. 31.  
Buffet, Inc., to Buffet, Inc., Scottsdale, Ga. 880,146, new cert. Cl. 100.  
Bunting Tractor Co., Inc., Boise, Idaho. 770,268, can. Cl. 19.  
Burke & James, Inc., Chicago, Ill. 894,584, pub. 4-28-70. Cl. 26.  
Burnett, Wm. T., & Co., Inc., Baltimore, Md. 894,375, pub. 4-28-70. Cl. 1.



Burroughs Wellcome & Co. (U.S.A.), Inc., Tuckahoe, N.Y. 531,007, ren. 7-14-70. Cl. 18.  
 Business Systems Inc., Los Angeles, Calif. 770,362, can. Cl. 37.  
 CTS Corp., Elkhart, Ind. 527,677, ren. 7-14-70. Cl. 13.  
 Calico Cottage Candles, Inc., Hewlett, N.Y. 894,704, pub. 4-28-70. Cl. 46.  
 California Products Corp., Cambridge, Mass. 894,446-8, pub. 4-28-70. Cl. 16.  
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 Cambridge Tile Co., The, to Woodhill Chemical Sales Corp., Cleveland, Ohio, 788,370, new cert. Cl. 12.  
 Cameron Iron Works, Inc., Houston, Tex. 525,597, ren. 7-14-70. Cl. 23.  
 Campus League To Aid Student Savings, Inc.: See—  
 Class Student Services, Inc.  
 Capadalis, Custer E., Dallas, Tex. 894,477, pub. 4-28-70. Cl. 19.  
 Cargill, Inc., Minneapolis, Minn. 894,719, pub. 4-28-70. Cl. 46.  
 Carillon Furs, Inc., New York, N.Y. 894,646, pub. 1-14-69. Cl. 39.  
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 Carnation Co., Los Angeles, Calif. 894,695, pub. 4-28-70. Cl. 46.  
 Carpenter, L. E. & Co., Wharton, N.J. 894,481, pub. 4-28-70. Cl. 20.  
 Carpenter Technology Corp., Reading, Pa. 894,636, pub. 4-28-70. Cl. 38.  
 Carter-Wallace, Inc., New York, N.Y. 894,709, pub. 4-28-70. Cl. 46.  
 Cart-O-Sel Corp., Highland Park, Ill. 894,595, pub. 4-28-70. Cl. 32.  
 Castech, Inc., Tulsa, Tex. 770,192, can. Cl. 6.  
 Castle & Cooke, Inc., Honolulu, Hawaii. 894,726, pub. 5-5-70. Cl. 46.  
 Cawby Bottling Co., Inc., Miami, Fla. 894,740, pub. 4-28-70. Cl. 48.  
 Central Soya Co., Inc., Fort Wayne, Ind. 530,271, ren. 7-14-70. Cl. 46.  
 Central States Health & Life Co. of Omaha, Omaha, Nebr. 894,814, pub. 4-28-70. Cl. 102.  
 Centre Stepanois de Recherches Mechaniques Hydromecanique et Frottement, Saint-Etienne (Loire), France. 894,823, pub. 4-28-70. Cl. 106.  
 Cesco Safety Products, Inc., Chicago, Ill. 894,577, pub. 4-28-70. Cl. 26.  
 Channel Master Corp., Ellenville, N.Y. 770,279, can. Cl. 21.  
 Chap Stick Co., Lynchburg, Va. 524,941, ren. 7-14-70. Cl. 51.  
 Chapman Chemical Co., Memphis, Tenn. 770,168, can. Cl. 6.  
 Chateau-Gai Wines Ltd., Toronto, Ontario, Canada. 894,738, pub. 4-28-70. Cl. 47.  
 Chemolex Industries, Inc., Bordentown, N.J. 894,614, pub. 4-28-70. Cl. 37.  
 Chesebrough-Pond's Inc., New York, N.Y. 894,769, pub. 4-28-70. Cl. 51.  
 Chicken-A-Go, San Diego, Calif. 770,430, can. Cl. 46.  
 Chinook Packing Co., Chinook, Wash. 530,475, ren. 7-14-70. Cl. 48.  
 Chiss Records, Inc., Los Angeles, Calif. 894,609, pub. 4-28-70. Cl. 38.  
 Chock Pull O' Nuts Corp., New York, N.Y. 894,796, pub. 4-28-70. Cl. 100.  
 Chocoladefabriken Lindt & Sprungli Aktiengesellschaft, Zurich, Switzerland. 894,708, pub. 4-28-70. Cl. 46.  
 Christian, Jimmy Neal, d.b.a. Christian Trailer Finishing, Spokane, Wash. 894,478, pub. 4-28-70. Cl. 19.  
 Ciba Corp., Summit, N.J. 532,156, ren. 7-14-70. Cl. 18.  
 Cincinnati Mine Machinery Co., The, Cincinnati, Ohio. 530,729, ren. 7-14-70. Cl. 23.  
 Cincinnati Mine Machinery Co., The, Cincinnati, Ohio. 531,091, ren. 7-14-70. Cl. 23.  
 Circus Circus, Inc., Las Vegas, Nev. 894,825, pub. 4-28-70. Cl. 107.  
 Clairol Inc., New York, N.Y. 894,764, pub. 4-28-70. Cl. 51.  
 Clairol Inc., New York, N.Y. 894,767, pub. 4-28-70. Cl. 51.  
 Clarke, Richard, Associates, Inc., New York, N.Y. 894,846, Cl. 38.  
 Class Student Services, Inc., Rockville, from Campus League to Aid Student Savings, Inc., Bethesda, Md. 894,813, pub. 4-28-70. Cl. 102.  
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 Colson Corp., The, Chicago, Ill. 894,534, pub. 4-28-70. Cl. 23.  
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 Comfort Glass Corp., Miami, Fla. 894,417, pub. 4-28-70. Cl. 12.  
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 Continental Mfg. Co., Baltimore, Md. 894,605, pub. 4-28-70. Cl. 34.  
 Continental Oil Co., Ponca City, Okla. 532,098, ren. 7-14-70. Cl. 1.  
 Corporate Annual Reports, Inc., New York, N.Y. 894,840, Cl. 38.  
 Crescent Mfg. Co., Seattle, Wash. 894,691-2, pub. 4-28-70. Cl. 46.  
 Cristobal Balenciaga Elizaguirre, to Balenciaga Parfums, Inc., New York, N.Y. 431,821, new cert. Cl. 51.  
 Crown Zellerbach Corp., San Francisco, Calif. 770,359, can. Cl. 37.  
 Crown Zellerbach Corp., San Francisco, Calif. 894,612, pub. 11-24-64. Cl. 37.  
 Cuna Mutual Insurance Society, Madison, Wis. 894,824, pub. 4-28-70. Cl. 107.  
 Curtiss Candy Co., The, Chicago, Ill. 531,750, ren. 7-14-70. Cl. 46.  
 Cushionlight Corp., Sunnyside, Calif. 894,475, pub. 4-28-70. Cl. 19.  
 DCA Educational Products, Inc., Philadelphia, Pa. 894,628, pub. 4-28-70. Cl. 38.  
 Dampney Co., The, Boston, Mass. 894,449, pub. 4-28-70. Cl. 16.  
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 Denver Canning, Inc., Loveland, Colo. 770,448, can. Cl. 46.  
 Depue, Eugene D., and Lester E. Depue, Long Beach, Calif. 770,202, can. Cl. 9.  
 Diesel Kiki Kabushiki Kaisha, Tokyo, Japan. 894,478, pub. 4-28-70. Multiple Class (Classes 19 and 23).  
 Dietene Co., The, Minneapolis, Minn. 894,690, pub. 4-28-70. Cl. 46.  
 Diverser Corp., The, Chicago, Ill. 894,401, pub. 4-28-70. Cl. 6.  
 Doleshal, George F., d.b.a. Geo. F. Doleshal Laboratories, Towson, Md. 770,162, can. Cl. 6.  
 Donutland, Inc., Loves Park, Ill. 894,800, pub. 4-28-70. Cl. 100.  
 Dow Chemical Co., The, Midland, Mich. 530,255, ren. 7-14-70. Cl. 6.  
 Dow Chemical Co., The, Midland, Mich. 531,823, ren. 7-14-70. Cl. 1.  
 Dow Chemical Co., The, Midland, Mich. 894,411, pub. 4-28-70. Cl. 6.  
 Draper Corp., Hopedale, Mass. 770,301-4, can. Cl. 23.  
 Dresser Industries, Inc., Dallas, Tex. 530,779, ren. 7-14-70. Cl. 23.  
 Dri Mark Products, Inc., Mount Vernon, N.Y. 894,536, pub. 4-28-70. Cl. 23.  
 Dri Mark Products, Inc., Mount Vernon, N.Y. 894,616, pub. 4-28-70. Cl. 37.  
 Dril de Mexico, S.A., Mexico City, Mexico. 894,404-5, pub. 4-28-70. Cl. 6.  
 Drive & Serve, Inc., Chicago, Ill. 770,523, can. Cl. 100.  
 Du Barry, Inc., Morris Plains, N.J. 894,777, pub. 4-28-70. Cl. 51.  
 Dubois-Prevost, Raoul, Paris, France. 770,433, can. Cl. 46.  
 Duncan, Donald F., Inc., Evanston, Ill. 770,282, can. Cl. 22.  
 Dunhall, Inc., Gravette, Ark. 770,241, can. Cl. 18.  
 Du Pont, Francis I., & Co., New York, N.Y. 894,623, pub. 4-28-70. Cl. 38.  
 Du Pont de Nemours, E. I., & Co.: See—  
 Big Bear, Inc.  
 Dynatech Corp., Cambridge, Mass. 894,568, pub. 4-28-70. Cl. 26.  
 Eagle Shirtmakers, Inc., Quakertown, Pa. 894,669, pub. 4-28-70. Cl. 39.  
 Earlibest Orange Assn., Inc., Exeter, Calif. 894,711, pub. 4-28-70. Cl. 46.  
 Eastman Kodak Co., Rochester, N.Y. 894,390, pub. 4-28-70. Multiple Class (Classes 6 and 26).  
 Eaton Yale & Towne Inc., Cleveland, Ohio. 530,071, ren. 7-14-70. Multiple Class (Classes 21 and 28).  
 Eckerle, Otto, Apparate- und Maschinenfabr., Malsch, Kreis Karlsruhe, Germany. 770,295, can. Cl. 23.  
 Economics Laboratory, Inc., St. Paul, Minn. 894,444, pub. 4-28-70. Cl. 16.  
 Elanay Jewelry Mfg. Co., Inc., Philadelphia, Pa. 770,316, can. Cl. 28.  
 Electric Regulator Corp., Norwalk, Conn. 770,274, can. Cl. 21.  
 Electronic's Inc., Vermillion, S. Dak. 770,840, can. Cl. 34.  
 Elmer Candy Corp., New Orleans, La. 894,707, pub. 4-28-70. Cl. 46.  
 Emerson Electric Co., St. Louis, Mo. 526,080, ren. 7-14-70. Cl. 21.

Engineered Container Corp., Houston, Tex. 770,357, can. Cl. 37.  
 Enterprise Mfg. Co., The, to "42" Products, Ltd., Inc., Santa Monica, Calif. 801,940, new cert. Cl. 6.  
 Erving Paper Mills, Erving, Mass. 894,619, pub. 4-28-70. Cl. 37.  
 Essex Wire Corp., Fort Wayne, Ind. 770,273, can. Cl. 21.  
 Esteem Associates Inc., Stillwater, Okla. 770,483, can. Cl. 50.  
 Etablissement Actimonde, Vaduz, Liechtenstein. 894,745, pub. 4-28-70. Cl. 49.  
 Etablissements Lefevre Utile, Societe en nom Collectif, Nantes, France. 770,438, can. Cl. 46.  
 Ethyl Corp., Richmond, Va. 894,364, pub. 9-17-68. Cl. 1.  
 Ethyl Corp., Richmond, Va. 894,383, pub. 9-17-68. Cl. 5.  
 Ethyl Corp., Richmond, Va. 894,389, pub. 9-10-68. Cl. 6.  
 Ethyl Corp., Richmond, Va. 894,416, pub. 9-24-68. Cl. 12.  
 Ethyl Corp., Richmond, Va. 894,471, pub. 9-24-68. Cl. 42.  
 Evelyn Hat Co., Inc., Boston, Mass. 770,352, can. Cl. 39.  
 Everette Pen Corp., New York, N.Y. 894,620, pub. 4-28-70. Cl. 37.  
 Executive Airlines, Inc., Boston, Mass. 894,818, pub. 4-28-70. Cl. 105.  
 FMC Corp., San Jose, Calif. 894,540, pub. 4-28-70. Cl. 23.  
 FPC Electronics Corp., Timonium, Md. 894,487, pub. 4-28-70. Cl. 21.  
 Fansteel Inc., North Chicago, Ill. 894,498, pub. 4-28-70. Cl. 21.  
 Fedders Corp., Edison, N.J. 894,488, pub. 4-28-70. Cl. 21.  
 Fedtro, Inc., Rockville Centre, N.Y. 894,378, pub. 4-28-70. Cl. 2.  
 Fernandez Francisco Nunez, Sevilla, Spain. 770,457, can. Cl. 46.  
 Ferrero, P., & C. S.p.A., Alba, Italy. 894,699, pub. 4-28-70. Cl. 46.  
 Ferrero, P., & C. S.p.A., Alba, Cuneo, Italy. 894,717, pub. 4-28-70. Cl. 46.  
 Fieldcrest Mills, Inc., Eden, N.C. 894,676-9, pub. 4-28-70. Cl. 42.  
 Fields, Tom Ltd., Northvale, N.J. 894,782, pub. 4-28-70. Cl. 52.  
 Firestone Tire & Rubber Co., The, Akron, Ohio. 524,916, ren. 7-14-70. Cl. 35.  
 Firma Adidas Sportschuhfabriken Adi Dassler, Herzogenaurach, Germany. 894,752, can. Cl. 39.  
 Firma Woerner Oeler-Und Fetterfabrik Eugen Woerner, Wertheim (Main), Germany. 894,428, pub. 4-28-70. Multiple Class (Classes 18 and 23).  
 Flint & Walling Mfg. Co., Inc., Kendallville, Ind. 528,773, ren. 7-14-70. Cl. 23.  
 Flintkote Co., The, White Plains, N.Y. 894,400, pub. 5-12-70. Cl. 6.  
 Franklin Mint, Inc., The, Yeadon, Pa. 894,513, pub. 4-28-70. Cl. 22.  
 Franklin Mint, Inc., The, Yeadon, Pa. 894,633, pub. 4-28-70. Cl. 38.  
 Franklin Mint, Inc., The, Yeadon, Pa. 894,749-57, pub. 4-28-70. Cl. 50.  
 GAF Corp., New York, N.Y. 894,407, pub. 4-28-70. Cl. 6.  
 Gallo, E., & J. Winery d.b.a. Gallo Vineyards, Modesto, Calif. 894,737, pub. 4-28-70. Cl. 47.  
 Gardco Mfg. Inc., San Leandro, Calif. 894,500, pub. 4-28-70. Cl. 21.  
 Gardner Solder Co., Chicago, Ill. 894,603, pub. 4-28-70. Cl. 34.  
 Gardner Mfg. Co., Holicon, Wis. 894,493, pub. 4-28-70. Cl. 21.  
 Garrett Corp., The, Los Angeles, Calif. 529,799, ren. 7-14-70. Cl. 31.  
 Garrett Corp., The, Los Angeles, Calif. 531,688, ren. 7-14-70. Cl. 23.  
 Gas Processors, Inc., Brea, Calif. 894,799, pub. 4-28-70. Multiple Class (Classes 100 and 103).  
 Gee, Sally, Inc., New York, N.Y. 894,654, pub. 4-28-70. Cl. 39.  
 Gely Chemical Corp., Ardsley, N.Y. 894,469-70, pub. 4-28-70. Cl. 18.  
 General Electric Co., Owensboro, Ky. 894,486, pub. 11-4-69. Cl. 21.  
 General Foods Corp., White Plains, N.Y. 894,715, pub. 4-28-70. Cl. 46.  
 General Metalware Co., Minneapolis, Minn. 527,996, ren. 7-14-70. Cl. 2.  
 General Metalware Co., Minneapolis, Minn. 528,046, ren. 7-14-70. Cl. 2.  
 General Mills, Inc.: See—  
 Morton Foods, Inc.  
 General Mills, Inc., Minneapolis, Minn. 894,720-3, pub. 4-28-70. Cl. 46.  
 General Mills, Inc., Minneapolis, Minn. 894,725, pub. 4-28-70. Cl. 46.  
 General Mills, Inc., Minneapolis, Minn. 894,727-31, pub. 4-28-70. Cl. 46.  
 General Radio Co., West Concord, Mass. 531,184, ren. 7-14-70. Cl. 21.  
 General Spice, Inc., Linden, N.J. 894,696, pub. 4-28-70. Cl. 46.  
 Gettysburg Shoe Co., Gettysburg, Pa. 770,406, can. Cl. 39.  
 Gidley Laboratories, Inc., Fairhaven, Mass. 894,894, pub. 4-28-70. Cl. 6.  
 Gillette Co., The, d.b.a. The Toni Co., Boston, Mass. 525,770, ren. 7-14-70. Cl. 51.  
 Givaudan Corp., Clifton, N.J. 894,893, pub. 4-28-70. Cl. 6.  
 Glendale Optical Co., Inc., Woodbury, N.Y. 894,583, pub. 4-28-70. Cl. 26.  
 Good Life, The, North Hollywood, Calif. 894,471, pub. 4-28-70. Cl. 18.  
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 894,373, pub. 4-28-70. Cl. 1.  
 Gotham Ink & Color Co., Inc., Long Island City, N.Y. 894,413, pub. 4-28-70. Cl. 11.  
 Grand Union Co., The, East Paterson, N.J. 770,171, can. Cl. 6.  
 Grant Co., The, Chicago, Ill. 894,531, pub. 4-28-70. Cl. 23.  
 Green Giant Company, Le Sueur, Minn. 275,555, ren. 7-14-70. Cl. 46.  
 Griffin, James H.: See—  
 United States Atomic Energy Commission.  
 Gropper, Stanley, Franklin Square, N.Y. 894,645, pub. 5-9-67. Cl. 39.  
 Grow Chemical Coatings Corp., New York, N.Y. 524,523, ren. 7-14-70. Cl. 16.  
 Gruen Industries, Inc., New York, N.Y. 526,588-9, ren. 7-14-70. Cl. 27.  
 Gruen Industries, Inc., New York, N.Y. 529,657, ren. 7-14-70. Cl. 27.  
 Habana Inn, Oklahoma City, Okla. 894,801, pub. 4-28-70. Cl. 100.  
 Hall Syndicate, Inc., New York, N.Y. 770,368, can. Cl. 38.  
 Hall Syndicate, Inc., The, New York, N.Y. 770,372, can. Cl. 38.  
 Hallmark Cards, Inc., Kansas City, Mo. 894,641, pub. 4-28-70. Cl. 38.  
 Hamilton Allied Corp., Hamilton, Ohio. 531,251, ren. 7-14-70. Cl. 14.  
 Harding, Milo, Co., Monterey Park, Calif. 530,573, ren. 7-14-70. Cl. 37.  
 Hardtmuth, L. & C., Inc., Bloomsbury, N.J. 894,621, pub. 4-28-70. Cl. 37.  
 Harris, P. Buford, Atlanta, Ga. 894,636, pub. 4-28-70. Cl. 38.  
 Hawkins-Hawkins Co., Inc., Berkeley, Calif. 894,432, pub. 4-28-70. Cl. 13.  
 Hawthorn-Melody Farms Dairy of Wisconsin, Inc., Waukesha, Wis. 894,686, pub. 4-28-70. Cl. 46.  
 Hayden Textiles, Inc., New York, N.Y. 894,675, pub. 4-28-70. Cl. 42.  
 Hayes-Sammons Chemical Co., Mission, Tex. 770,160, can. Cl. 6.  
 Head-To-Toe Products, from D. Jaffe, d.b.a. Head To Toe Products, Rahway, N.J. 894,747, pub. 3-18-69. Cl. 50.  
 Heap Big Beef, Inc., Hartsdale, N.Y. 894,792-3, pub. 4-28-70. Cl. 100.  
 Henslee Mobile Homes, Inc., Arlington, Tex. 894,479, pub. 4-28-70. Cl. 19.  
 Hercules Inc., Wilmington, Del. 894,408, pub. 4-28-70. Cl. 6.  
 Hercules Powder Co., Wilmington, Del. 770,174, can. Cl. 6.  
 Heublein, Inc., Hartford, Conn. 894,746, pub. 4-28-70. Cl. 49.  
 Hexco, Inc., Houston, Tex. 894,565, pub. 4-28-70. Cl. 26.  
 Himalayan Academy, d.b.a. Innersearch World Tour, Virginia City, Nev. 894,820, pub. 4-28-70. Cl. 105.  
 Hi-Vi Dog Food Co., Rush Springs, Okla. 529,350, ren. 7-14-70. Cl. 46.  
 Hoffmann-La Roche Inc., Nutley, N.J. 770,249, can. Cl. 18.  
 Holes-Webway Co., The, St. Cloud, Minn. 894,835, Cl. 37.  
 Hollingsworth, Charles L., Sr., Centerville, Ala. 894,803, pub. 4-28-70. Cl. 100.  
 Homeric Tours, Inc., New York, N.Y. 894,821, pub. 4-28-70. Cl. 105.  
 Honeywell Inc., Minneapolis, Minn. 894,569, pub. 4-28-70. Cl. 26.  
 Hoover Co., The, North Canton, Ohio. 530,459, ren. 7-14-70. Cl. 21.  
 House of Art, Baltimore, Md. 894,841, Cl. 38.  
 Hubbell, Harvey, Inc., Bridgeport, Conn. 894,485, pub. 4-27-70. Cl. 21.  
 Hudson Oil Co., Kansas City, Kans. 770,223, can. Cl. 15.  
 Hudson Publishing Co., Los Altos, Calif. 894,842, Cl. 38.  
 IRT World Communications Inc., New York, N.Y. 894,816-17, pub. 8-8-67. Cl. 104.  
 Illinois Shoulder Pad Co., Chicago, Ill. 526,195, ren. 7-14-70. Cl. 40.  
 Independent Life & Accident Insurance Co., Jacksonville, Fla. 894,815, pub. 4-28-70. Cl. 102.  
 Indian Head Inc., New York, N.Y. 532,220, ren. 7-14-70. Cl. 40.  
 Industrial Rubber Cement Co., City of Industry, Calif. 894,385, pub. 4-28-70. Cl. 5.  
 Inmout Corp., New York, N.Y. 894,386, pub. 4-28-70. Cl. 5.  
 Inner Cities Chemical Products, Inc., Jamaica, N.Y. 894,784, pub. 4-28-70. Cl. 52.  
 Institute for Scientific Information, Inc., Philadelphia, Pa. 894,627, pub. 4-28-70. Cl. 38.  
 Institutional Investor Systems, Inc., New York, N.Y. 894,844, Cl. 38.  
 Intercraft Industries Corp., Chicago, Ill. 894,599-600, pub. 4-28-70. Cl. 32.  
 International Alliance of Theatrical Stage Employees & Moving Picture Machine Operators of the United States & Canada, New York, N.Y. 524,791, ren. 7-14-70. Cl. 38.  
 International Harvester Co., Chicago, Ill. 894,552, pub. 4-28-70. Cl. 23.  
 International Paper Co., New York, N.Y. 894,827, Cl. 2.  
 Intrusion-Prepakt Inc., Cleveland, Ohio. 530,015, ren. 7-14-70. Cl. 103.  
 Items, Inc., St. Louis, Mo. 894,830, Cl. 3.  
 Jaffe, David: See—  
 Head-To-Toe Products.  
 Jameson, John, & Son, Ltd., Dublin, Ireland. 530,838, ren. 7-14-70. Cl. 49.  
 Jarvis Corp., Hartford, Conn. 894,532, pub. 4-28-70. Cl. 23.  
 Jaydee Camera Exchange Inc., New York, N.Y. 894,585, pub. 4-28-70. Cl. 26.  
 Jayson Shoe Mfg. Co., Inc., Clayton, Mo. 894,648, pub. 4-28-70. Cl. 39.  
 Jeres, Andre, Montreal, Quebec, Canada 770,423, can. Cl. 44.  
 John's, Inc., Apopka, Fla. 894,374, pub. 4-28-70. Cl. 1.



Johnson & Johnson, New Brunswick, N.J. 525,278, ren. 7-14-70. Cl. 44.  
 Johnson & Johnson, New Brunswick, N.J. 894,457, pub. 4-28-70. Cl. 18.  
 Johnson & Johnson, New Brunswick, N.J. 894,778-9, pub. 4-28-70. Cl. 51.  
 Johnson, S. C. & Son, Inc., Racine, Wis. 894,768, pub. 4-28-70. Cl. 51.  
 Jorge Carpet Mills, Inc., Rossville, Ga. 894,850-1, Cl. 42.  
 Joseph, Lawrence H., Jr., d.b.a. Collection Management Co., Los Angeles, Calif. 770,532, can. Cl. 102.  
 Just Desserts Inc., Cicero, Ill. 894,702-3, pub. 4-28-70. Cl. 46.  
 KMS Industries, Inc., Ann Arbor, Mich. 894,572, pub. 4-28-70. Cl. 26.  
 Kali-Chemie Aktiengesellschaft, Hannover, Germany. 894,459, pub. 4-28-70. Cl. 18.  
 Kasanof's Model Bakery, Inc., to ITI Foods, Inc., New York, N.Y. 746,986, new cert. Cl. 46.  
 Kasanof's Model Bakery, Inc., to ITI Foods, Inc., New York, N.Y. 848,261, new cert. Cl. 46.  
 Kenner Products Co., Cincinnati, Ohio. 894,520, pub. 4-28-70. Cl. 22.  
 Kimberly-Clark Corp., Neenah, Wis. 894,795, pub. 4-28-70. Cl. 100.  
 Kirk, Jack R., d.b.a. Smoker's World, Tallahassee, Fla. 894,412, pub. 4-28-70. Cl. 8.  
 Knoxville Glove Co., Knoxville, Tenn. 894,660, pub. 4-28-70. Cl. 39.  
 Kratos, Pasadena, Calif. 894,574, pub. 4-28-70. Cl. 26.  
 Kreisler, Jacques, Mfg. Corp., North Bergen, N.J. 770,322, can. Cl. 25.  
 Kresge, S. S. Co., Detroit, Mich. 894,785, pub. 4-28-70. Cl. 52.  
 K-2 Ski Co., Vashon, Wash. 894,523, pub. 4-28-70. Cl. 22.  
 Kurtes Paint Co., Louisville, Ky. 894,445, pub. 4-28-70. Cl. 16.  
 Kurim, Tos, Kurim, Czechoslovakia. 894,556-7, pub. 4-28-70. Cl. 23.  
 Laboratorio Orafico Nicolis Cola, Vicenza, Italy. 894,587, pub. 4-28-70. Cl. 28.  
 Lake Shore Industries, Inc., Toledo, Ohio. 894,422, pub. 4-28-70. Cl. 12.  
 Lamarick Beauty System, Inc., Greenville, S.C. 894,773, pub. 7-14-70. Cl. 51.  
 Lanewood Laboratories, Inc., Framingham, Mass. 894,788, pub. 4-28-70. Cl. 52.  
 Layne Calcium Corp., Hallandale, Fla. 894,693, pub. 4-28-70. Cl. 46.  
 LBM-Importwaren G.m.b.H., Bremen, Germany. 770,474, ren. 7-14-70. Cl. 46.  
 Lea Manufacturing Co., The, Waterbury, Conn. 274,639, ren. 7-14-70. Cl. 4.  
 Leon Products, Inc., Jacksonville, Fla. 894,772, pub. 4-28-70. Cl. 51.  
 Les Fils de Louis Mulliez, Roubaix, France. 894,683, pub. 4-28-70. Cl. 43.  
 Leslie Salt Co., San Francisco, Calif. 770,242, ren. 7-14-70. Cl. 18.  
 Lever Brothers Co., New York, N.Y. 770,446, can. Cl. 46.  
 Lever Brothers Co., New York, N.Y. 894,735, pub. 4-28-70. Cl. 46.  
 Lever Brothers Co., New York, N.Y. 894,791, pub. 4-28-70. Cl. 52.  
 Levy, Louis, Long Branch, N.J. 894,512, pub. 4-28-70. Cl. 22.  
 Liggett & Myers Inc., New York, N.Y. 894,453, pub. 4-28-70. Cl. 17.  
 Linear Motion Technology, Inc., Farmingdale, N.Y. 894,575, pub. 4-28-70. Cl. 26.  
 Linear Motion Technology, Inc., Farmingdale, N.Y. 894,580, pub. 4-28-70. Cl. 26.  
 Little Red Hen Country Chicken, Inc., Chicago, from Little Red Hen Country Chicken, Inc., Northbrook, Ill. 894,606, pub. 4-28-70. Multiple Class (Classes 34, 46, 100, and 101).  
 Livingston, W. R., d.b.a. W. R. Livingston Fish Co., Moncks Corner, S.C. 894,706, pub. 4-28-70. Cl. 46.  
 Lizar, S. A., Montilla, Spain. 770,435, can. Cl. 46.  
 Londontown Mfg. Co., The, Baltimore, Md. 770,408, can. Cl. 39.  
 Lorival Ltd., Little Lever, England. 894,494, pub. 4-28-70. Cl. 21.  
 Lumured Plastics Corp., Woodbridge, N.J. 894,381, pub. 4-28-70. Cl. 3.  
 MPO Sales & Training Programs, Inc., New York, N.Y. 894,566, pub. 4-28-70. Cl. 26.  
 MacAdam, A. E. & Co., Inc., Melville, N.Y. 524,781, ren. 7-14-70. Cl. 37.  
 Magazine Management Co., Inc., from Perfect Film & Chemical Corp., d.b.a. Marvel Comics Group, New York, N.Y. 894,836, Cl. 38.  
 Maldenform, Inc., New York, N.Y. 894,667, pub. 4-28-70. Cl. 39.  
 Maisson Gelaweller et Fils, Societe Anonyme, (Cote D'Or), France. 894,789, pub. 4-28-70. Cl. 47.  
 Management Aids Corp., Mount Vernon, N.Y. 770,350, can. Cl. 37.  
 Mangel Stores Corp., New York, N.Y. 770,209, can. Cl. 12.  
 Mangel Stores Corp., New York, N.Y. 770,219, can. Cl. 14.  
 Mangel Stores Corp., New York, N.Y. 770,221, can. Cl. 15.  
 Mangel Stores Corp., New York, N.Y. 770,305, can. Cl. 25.  
 Mangel Stores Corp., New York, N.Y. 770,308, can. Cl. 27.  
 Mangel Stores Corp., New York, N.Y. 770,310, can. Cl. 28.  
 Mangel Stores Corp., New York, N.Y. 770,323, can. Cl. 29.  
 Mangel Stores Corp., New York, N.Y. 770,326, can. Cl. 30.  
 Mangel Stores Corp., New York, N.Y. 770,328, can. Cl. 31.  
 Mangel Stores Corp., New York, N.Y. 770,330, can. Cl. 32.  
 Mangel Stores Corp., New York, N.Y. 770,334, can. Cl. 33.  
 Mangel Stores Corp., New York, N.Y. 770,415, can. Cl. 41.  
 Mannens, Mary, Upper Black Eddy, Pa. 894,761, pub. 4-28-70. Cl. 50.  
 Marine Development Co., to Marine Development Corp., Richmond, Va. 745,464, Am. 7(d). Cl. 34.  
 Marks Specialties, Inc., Norwood, Mass. 894,537, pub. 4-28-70. Multiple Class (Classes 23 and 44).  
 Markwitz, Bernhard, Hamburg, Germany. 894,510, pub. 4-28-70. Cl. 22.  
 Marriott Corp., Washington, D.C. 894,806, pub. 4-28-70. Cl. 100.  
 Mars Broadcasting, Inc., Stamford, Conn. 770,346, can. Cl. 36.  
 Martin, Gary A., d.b.a. Cove Productions, Iowa City, Iowa. 894,826, pub. 4-28-70. Cl. 107.  
 Martinoni, E., Co., San Francisco, Calif. 770,480, can. Cl. 49.  
 Marvel Products, Inc., Bridgeport, Conn. 894,622, pub. 3-11-69. Cl. 38.  
 Masco-Eagle Corp., Brazil, Ind. 894,426, pub. 4-28-70. Cl. 12.  
 Massey, L. E., Shoes, Inc., Washington, D.C. 894,650-1, pub. 4-28-70. Cl. 39.  
 Master Lubricants Co., Philadelphia, Pa. 531,537-8, ren. 7-14-70. Cl. 15.  
 Mattel, Inc., Hawthorne, Calif. 711,169, can. Cl. 22.  
 Mattel, Inc., Hawthorne, Calif. 894,524-7, pub. 4-28-70. Cl. 22.  
 Maurer & Wirtz K.G., Stolberg/Rheinland, West Germany. 894,766, pub. 4-28-70. Cl. 51.  
 May Department Stores Co., The, St. Louis, Mo. 770,312, can. Cl. 28.  
 McCormick & Co., Inc., Cockeysville, Md. 894,714, pub. 4-28-70. Cl. 46.  
 McGraw-Ellison Co., Elgin, Ill. 275,438, ren. 7-14-70. Cl. 36.  
 McGraw-Ellison Co., Canonsburg, Pa. 770,280, can. Cl. 21.  
 McGraw-Ellison Co., Elgin, Ill. 894,555, pub. 4-28-70. Cl. 23.  
 McGraw-Hill, Inc., New York, N.Y. 894,632, pub. 4-28-70. Cl. 38.  
 McGraw-Hill, Inc., d.b.a. McGraw-Hill Information Systems Co., New York, N.Y. 894,845, Cl. 38.  
 McMillan Co., Inc., The, Atlanta, Ga. 894,748, pub. 4-28-70. Cl. 50.  
 Meadowbrook Inventions, Inc., Bernardsville, N.J. 894,435, pub. 4-28-70. Cl. 14.  
 Mebane Co., The, Mebane, N.C. 532,115, ren. 7-14-70. Cl. 32.  
 Medical Economics, Inc., Oradell, N.J. 765,930-1, Am. 7(d). Cl. 38.  
 Medical Economics, Inc., Oradell, N.J. 894,635, pub. 4-28-70. Cl. 38.  
 Medline Industries, Inc., Evanston, Ill. 894,673, pub. 4-28-70. Cl. 42.  
 Medline Industries, Inc., Evanston, Ill. 894,684, pub. 4-28-70. Cl. 44.  
 Meridith Publishing Co., Des Moines, Iowa. 770,525, can. Cl. 101.  
 Merriam, G. & C., Co., Springfield, Mass. 894,040, pub. 4-28-70. Cl. 38.  
 Met Provisions, Inc., Jamaica, N.Y. 770,458, can. Cl. 46.  
 Mickens, Glenn, d.b.a. Scott & Co., Reseda, Calif. 894,505, pub. 4-28-70. Cl. 22.  
 Mida Mfg. Inc., Philadelphia, Pa. 894,833, Cl. 28.  
 Miller, Hess & Co., Inc., Akron, Pa. 529,542, ren. 7-14-70. Cl. 39.  
 Miller, Jerry, Inc., New York, N.Y. 894,810, pub. 4-28-70. Cl. 101.  
 Milwaukee Electric Tool Corp., Brookfield, Wis. 894,551, pub. 4-28-70. Cl. 23.  
 Miner Industries, Inc., New York, N.Y. 894,517-18, pub. 4-28-70. Cl. 22.  
 Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. 770,306, can. Cl. 26.  
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 894,560, pub. 4-28-70. Cl. 25.  
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 894,831, Cl. 4.  
 Mias Doriana, Inc., Miami, Fla. 894,658, pub. 4-28-70. Cl. 39.  
 Mitchell Wing Co., Stauffer Chemical Co., New York, N.Y. 270,227, Am. 7(d). Cl. 52.  
 Mite Corp., New Haven, Conn. 529,486, ren. 7-14-70. Cl. 26.  
 Misrach Kasher Provisions, Inc., New York, N.Y. 770,454, can. Cl. 46.  
 Mohr Laboratories, Inc., Orange, Calif. 894,848, Cl. 39.  
 Morgan Construction Co., Worcester, Mass. 770,535, can. Cl. 108.  
 Morrel, John, & Co., Chicago, Ill. 272,487, ren. 7-14-70. Cl. 46.  
 Morris, Philip, Inc., New York, N.Y. 894,450, pub. 4-28-70. Cl. 17.  
 Morton Foods, Inc., Dallas, Tex., from General Mills, Inc., Minneapolis, Minn. 894,705, pub. 4-28-70. Cl. 46.  
 Motor Wheel Corp., Lansing, Mich. 523,438, ren. 7-14-70. Cl. 19.  
 Motor Wheel Corp., Lansing, Mich. 523,445, ren. 7-14-70. Cl. 19.  
 Mount Olive Pickle Co., Inc., Mount Olive, N.C. 345,241-2, cor. Cl. 46.  
 Mount Olive Pickle Co., Inc., Mount Olive, N.C. 346,361, cor. Cl. 46.  
 Mount Olive Pickle Co., Inc., Mount Olive, N.C. 347,096, cor. Cl. 46.  
 Mount Olive Pickle Co., Inc., Mount Olive, N.C. 572,700-1, cor. Cl. 46.  
 Mount Olive Pickle Co., Inc., Mount Olive, N.C. 761,687, cor. Cl. 46.  
 Multicup Packaging Products Corp., Long Island City, N.Y. 894,828, Cl. 2.  
 Murphy, G. C., Co., McKeesport, Pa. 894,433, pub. 4-28-70. Cl. 13.  
 Naezel, Herman, Co., The, Chicago, Ill. 894,468, pub. 4-28-70. Cl. 18.  
 Nash, J. M., Co., Inc., d.b.a. J. M. Nash Co., Inc., Oshkosh, Wis. 770,292, can. Cl. 28.

Nash-De Camp Co., Visalia, Calif. 531,443, ren. 7-14-70. Cl. 46.  
 Nash-De Camp Co., Visalia, Calif. 531,608, ren. 7-14-70. Cl. 46.  
 Nashua Corp., Nashua, N.H. 530,482, ren. 7-14-70. Cl. 37.  
 National Biscuit Co., New York, N.Y. 894,718, pub. 4-28-70. Cl. 46.  
 National Federation of Coffee Growers of Colombia, New York, N.Y. 894,724, pub. 4-28-70. Cl. 46.  
 National Feed Improvement Association, Inc., Castroville, Calif. 894,697, pub. 4-28-70. Cl. 46.  
 National Gypsum Co., Buffalo, N.Y. 770,159, can. Cl. 6.  
 National Student Marketing Corp., New York, N.Y. 894,642, pub. 4-28-70. Cl. 38.  
 Natoli, Elisabeth, d.b.a. The Adro Co., Lyndhurst, N.J. 520,888, ren. 7-14-70. Cl. 6.  
 Nekooza-Edwards Paper Co., Port Edwards, Wis. 894,613, pub. 8-20-68. Cl. 37.  
 Nepera Chemical Co., Inc., Village of Harriman, N.Y. 770,176, can. Cl. 6.  
 Nestle Company, Inc., The, White Plains, N.Y. 531,482, ren. 7-14-70. Cl. 46.  
 Nethercutt Laboratories, d.b.a. Cosgenic Labs, Hollywood, Calif. 770,490, can. Cl. 51.  
 New American Library of World Literature, Inc., The New American Library, Inc., New York, N.Y. 511,927, Am. 7(d). Cl. 38.  
 Newway Engineering Co., to Combustion Engineering, Inc., Windsor, Conn. 765,164, new cert. Cl. 23.  
 Newman-Dell Co., Brooklyn, N.Y. 894,603, pub. 4-28-70. Cl. 22.  
 Newton, Oa. & Son Co., Bridgeville, Del. 770,141, can. Cl. 1.  
 Nicholson File Co., Providence, R.I. 894,545, pub. 4-28-70. Cl. 28.  
 Nicolet Industries, Inc., Norristown, Pa. 894,427, pub. 4-28-70. Cl. 12.  
 Niemi, William F., Co., to Eddie Bauer, Inc., Seattle, Wash. 782,448, new cert. Cl. 32.  
 Niemi, William F., Co., to Eddie Bauer, Inc., Seattle, Wash. 798,431, new cert. Cl. 39.  
 Niemi, William F., Co., to Eddie Bauer, Inc., Seattle, Wash. 805,641, new cert. Cl. 42.  
 Niemi, William F., Co., to Eddie Bauer, Inc., Seattle, Wash. 817,417, new cert. Cl. 39.  
 Niemi, William F., Co., to Eddie Bauer, Inc., Seattle, Wash. 831,521, new cert. Cl. 42.  
 Niemi, William F., Co., to Eddie Bauer, Inc., Seattle, Wash. 844,175, new cert. Cl. 39.  
 Niemi, William F., Co., to Eddie Bauer, Inc., Seattle, Wash. 846,314, new cert. Cl. 39.  
 Niemi, William F., Co., to Eddie Bauer, Inc., Seattle, Wash. 849,497, new cert. Cl. 42.  
 Niemi, William F., Co., to Eddie Bauer, Inc., Seattle, Wash. 852,244, new cert. Cl. 22.  
 Norden Laboratories, Inc., Lincoln, Nebr. 894,455, pub. 10-28-70. Cl. 18.  
 Norden Laboratories, Inc., Wilmington, Del. 894,464, pub. 4-28-70. Cl. 18.  
 Northern Petrochemical Co., Des Plaines, Ill. 894,399, pub. 4-28-70. Cl. 6.  
 Norton Co., Worcester, Mass., from Clipper Mfg. Co., Inc., Grandview, Mo. 894,554, pub. 4-28-70. Cl. 23.  
 Nujuete Inc., New York, N.Y. 894,672, pub. 5-27-69. Cl. 42.  
 Nu Meth Corp., Milton, Del. 770,393, can. Cl. 39.  
 Oatey Co., Cleveland, Ohio. 894,418, pub. 4-28-70. Cl. 12.  
 Old Mansion, Inc., Richmond, Va. 531,950, ren. 7-14-70. Cl. 46.  
 Olin Corp., Stamford, Conn. 527,262, ren. 7-14-70. Cl. 8.  
 Olin Corp., Stamford, Conn. 529,418, ren. 7-14-70. Cl. 8.  
 Olin Mathieson Chemical Corp., East Alton, Ill. 770,204, can. Cl. 9.  
 Olof Daughters of Sweden, Inc., New York, N.Y. 894,656, pub. 4-28-70. Cl. 39.  
 Onelda Ltd., Onelda, N.Y. ren. 7-14-70. Cl. 28.  
 Onelda Ltd., Onelda, N.Y. 894,550, pub. 4-28-70. Cl. 28.  
 Opto Mechanisms, Inc., Plainview, N.Y. 894,573, pub. 4-28-70. Cl. 26.  
 Orbit Industries, Inc., to Harvey Hubbell, Inc., Bridgeport, Conn. 767,050, new cert. Cl. 21.  
 Orders Mattress Co., Inc., Greenville, S.C. 526,765, ren. 7-14-70. Cl. 32.  
 Organon Inc., West Orange, N.J. 894,397, pub. 4-28-70. Cl. 6.  
 Oroweat Baking Co., Los Angeles, Calif. 778,583, cor. Cl. 46.  
 Our Own Hardware Co., Minneapolis, Minn. 894,543, pub. 4-28-70. Cl. 23.  
 Owens Country Sausage, Inc., Richardson, Tex. 894,713, pub. 4-28-70. Cl. 46.  
 Oxford Industries, Inc., Atlanta, Ga. 894,649, pub. 4-28-70. Cl. 39.  
 P.A.B. Produits et Appareils de Beaute, Paris, France. 894,765, pub. 4-28-70. Cl. 51.  
 Pabst Brewing Co., Milwaukee, Wis. 529,746, ren. 7-14-70. Cl. 48.  
 Packing Materials Corp., Chicago, Ill. 894,387, pub. 4-28-70. Multiple Class (Classes 5 and 37).  
 Palmer Products Inc., Worcester, Pa. 894,415, pub. 4-28-70. Cl. 12.  
 Pantasote Co., New York, N.Y. 894,655, pub. 4-28-70. Cl. 39.  
 Parechoc S.A., Le Sentier (Vaud-Switzerland). 770,309, can. Cl. 27.  
 Parents' Magazine Enterprises, Inc., New York, N.Y. 894,839, Cl. 38.  
 Parke, Davis, & Co., Detroit, Mich. 894,472, pub. 4-28-70. Cl. 18.  
 Parker-Hannifin Corp., Cleveland, Ohio. 894,530, pub. 4-8-69. Cl. 23.  
 Parodi Cigar Corporation, Scranton, Pa. 270,962, ren. 7-14-70. Cl. 17.  
 Parodi Cigar Corporation, Scranton, Pa. 270,997-8, ren. 7-14-70. Cl. 17.  
 Pass & Seymour, Inc., Syracuse, N.Y. 527,514, ren. 7-14-70. Cl. 21.  
 Peddler's, Inc., The, Anderson, Ind. 894,665, pub. 4-28-70. Cl. 39.  
 Peill & Putzler Glasbüttenwerke G.m.b.H., Duren, Germany. 894,602, pub. 4-28-70. Cl. 33.  
 Penmar Engineering, Inc., Hialeah, Fla. 894,538, pub. 4-28-70. Cl. 23.  
 Penn, Robert, d.b.a. Margio Co., Chicago, Ill. 770,153, can. Cl. 4.  
 Penn-Carol Hosiery Mills, Inc., Mount Pleasant, N.C. 894,849, Cl. 39.  
 Pennsylvania Refining Co., Butler, Pa. 528,609, ren. 7-14-70. Cl. 15.  
 Pennwalt Corp., from Pennsalt Chemicals Corp., Philadelphia, Pa. 894,896, pub. 4-28-70. Cl. 6.  
 Pennwalt Corp., from Pennsalt Chemicals Corp., Philadelphia, Pa. 894,528, pub. 2-27-68. Cl. 23.  
 Pennwalt Corp., Philadelphia, Pa. 271,668, ren. 7-14-70. Cl. 6.  
 Pep Boys—Manny, Mo & Jack, The, Philadelphia, Pa. 273,172, ren. 7-14-70. Cl. 19.  
 Perfect Film & Chemical Corp.: See—Magazine Management Co., Inc.  
 Perfect Fit Industries, Inc., New York, N.Y. 522,309, ren. 7-14-70. Cl. 42.  
 Peters, C. F., Corp., New York, N.Y. 528,404-5, ren. 7-14-70. Cl. 38.  
 Peterson, Eugene G., d.b.a. Peterson's Labels, Basking Ridge, N.J. 894,502, pub. 4-28-70. Cl. 22.  
 Petroleum Service Advertising, Inc., Blue Island, Ill. 894,811, pub. 4-28-70. Cl. 101.  
 Pettibone Laboratories, Inc., New York, N.Y. 894,776, pub. 4-28-70. Cl. 51.  
 Pfizer, Chas., & Co. Inc., New York, N.Y. 770,229, can. Cl. 18.  
 Pfizer, Chas., & Co. Inc., New York, N.Y. 894,780, pub. 4-28-70. Cl. 51.  
 Phillips Petroleum Co., Bartlesville, Okla. 530,521, ren. 7-14-70. Cl. 1.  
 Phillips Petroleum Co., Bartlesville, Okla. 894,377, pub. 4-28-70. Cl. 2.  
 Phillips Petroleum Co., Bartlesville, Okla. 894,440, pub. 4-28-70. Cl. 15.  
 Phillips Petroleum Co., Bartlesville, Okla. 894,547, pub. 4-28-70. Cl. 23.  
 Pierce, M. H., & Co., Inc., Port Chester, N.Y. 894,653, pub. 4-28-70. Cl. 39.  
 Pioneer Magnetics Inc., Santa Monica, Calif. 894,492, pub. 4-28-70. Multiple Class (Classes 21 and 26).  
 Pizzitola, Jasper, d.b.a. The Orbit Chemical Research & Developing Co., Houston, Tex. 894,489, pub. 4-28-70. Cl. 15.  
 Plancon, George E., Sr., New Plymouth, Idaho. 770,280, can. Cl. 18.  
 Pollak, Henry, Inc., New York, N.Y. 529,707, ren. 7-14-70. Cl. 39.  
 Pope, M. Edward, d.b.a. Eddie Pope & Co., Altadena, Calif. 894,521, pub. 4-28-70. Cl. 22.  
 Precision Industries, Inc., Providence, R.I. 894,558, pub. 4-28-70. Cl. 23.  
 Prince Gardner Co., Inc., St. Louis, Mo. 770,156, can. Multiple Class (Classes 3 and 8).  
 Priority Air Dispatch, Inc., Washington, D.C. 894,822, pub. 4-28-70. Cl. 105.  
 Pritchard Pharmaceutical Products, Inc., Kansas City, Mo. 770,257, can. Cl. 18.  
 Provident Traders Bank & Trust Co., Philadelphia, Pa. 770,531, can. Cl. 102.  
 Prudential Paper Products Co., Inc., Elmhurst, N.Y. 530,672, ren. 7-14-70. Cl. 37.  
 Przemyslowe Handlini Zagranicznego "Agros," Warsaw, Poland. 894,744, pub. 4-28-70. Cl. 49.  
 Pubco, M. H., Inc., Atlanta, Ga. 894,837, Cl. 38.  
 Purdie Frederick Co., The, Yonkers, N.Y. 894,466, pub. 4-28-70. Cl. 18.  
 Putman Publishing Co., Chicago, Ill. 770,367, can. Cl. 38.  
 Pyle-National Co., The, d.b.a. Steber Mfg. Co., Chicago, Ill. 894,491, pub. 4-28-70. Cl. 21.  
 Quaker Chemical Corp., Conshohocken, Pa. 531,509, ren. 7-14-70. Cl. 6.  
 Quaker Chemical Corp., Conshohocken, Pa. 532,139, ren. 7-14-70. Cl. 6.  
 Quaker Fabric Corp., New York, N.Y. 894,674, pub. 4-28-70. Cl. 42.  
 Quindar Electronics, Inc., Springfield, N.J. 894,564, pub. 4-28-70. Cl. 26.  
 Qui-Vive N.V., Enschede, Holland. 894,657, pub. 4-28-70. Cl. 39.  
 RC Publications Inc., Washington, D.C. 894,639, pub. 4-28-70. Cl. 38.  
 Ralston Purina Co., St. Louis, Mo. 894,712, pub. 4-28-70. Cl. 46.  
 Ralston Purina Co., St. Louis, Mo. 894,736, pub. 7-28-70. Cl. 46.  
 Ransburg Electro-Coating Corp., Indianapolis, Ind. 894,535, pub. 4-28-70. Cl. 23.  
 Ransburg Electro-Coating Corp., Indianapolis, Ind. 894,542, pub. 4-28-70. Cl. 23.  
 Rapistan Inc., Grand Rapids, Mich. 528,069, ren. 7-14-70. Cl. 23.  
 Ratcliff Seed Co., Austin, Minn. 894,366, pub. 4-28-70. Cl. 1.  
 Rehikoff Underwater Products, Inc., Fort Lauderdale, Fla. 894,476, pub. 4-28-70. Cl. 19.



Reynolds, R. J., Foods, Inc., New York, N.Y. 894,716, pub. 4-28-70. Cl. 46.  
 Richardson-Merrell Inc., New York, N.Y. 894,458, pub. 4-28-70. Cl. 18.  
 Richman Bros. Co., The, Cleveland, Ohio. 894,663, pub. 4-28-70. Cl. 39.  
 Riessman, Frank, Bronx, N.Y. 894,630, pub. 4-28-70. Cl. 38.  
 Ripon Industries, Inc., d.b.a. Ripon Knitting Works, Ripon, Wis. 528,507, ren. 7-14-70. Cl. 39.  
 Roberts, James C., d.b.a. Roberts Irrigation Co., Pauma Valley, Calif. 894,430, pub. 4-28-70. Cl. 13.  
 Roblinex International, Ltd., East Rochester, N.Y. 894,802, pub. 4-28-70. Cl. 100.  
 Rockland, Inc., Winter Garden, Fla. 894,546, pub. 4-28-70. Cl. 28.  
 Royal/Colpitts Travel Corp., Boston, Mass. 894,819, pub. 4-28-70. Cl. 105.  
 Ronald Jewelers of Minneapolis, Inc., Minneapolis, Minn. 894,586, pub. 4-28-70. Multiple Class (Classes 27 and 28).  
 Rooster, Inc., Philadelphia, Pa. 894,664, pub. 4-28-70. Cl. 39.  
 Rovsek, Edward J., and Avery B. Duff, Dearborn, Mich. 894,686, pub. 4-28-70. Cl. 46.  
 Royal China, Inc., Sebring, Ohio. 894,589, pub. 4-28-70. Cl. 30.  
 Rubin, Morris M., d.b.a. M. Rubin & Co., Inc., Milwaukee, Wis. 894,758, pub. 4-28-70. Cl. 50.  
 Russ Togs, Inc., Long Island City, N.Y. 894,659, pub. 4-28-70. Cl. 39.  
 S. A. Establecimiento Modelo Terrabusi, Buenos Aires, Argentina. 268,680, ren. 7-14-70. Cl. 46.  
 Sahlein, J. M., Music Co., Inc., San Francisco, Calif. 531,721, ren. 7-14-70. Cl. 36.  
 Salow, Elvin, Co., Boston, Mass. 530,488, ren. 7-14-70. Cl. 22.  
 Samsonte Corp., Denver, Colo. 894,829, Cl. 3.  
 Santa Clara Lemon Association, Oxnard, Calif. 528,396, ren. 7-14-70. Cl. 46.  
 Santa Clara Lemon Association, Oxnard, Calif. 529,428, ren. 7-14-70. Cl. 46.  
 Schawk Graphics, Inc., Chicago, Ill. 894,562, pub. 3-17-70. Cl. 26.  
 Scheib, Robert L., Charlotte, Mich. 524,728, ren. 7-14-70. Cl. 37.  
 Schering Corp., Bloomfield, N.J. 770,245, can. Cl. 18.  
 Schimmel, Wilhelm, Pianofortefabrik, G.m.b.H., Braunschweig, Germany. 894,607, pub. 4-28-70. Cl. 36.  
 Schmidt, J. P., Jun. A/S, Fredericia, Jutland, Denmark. 894,451-2, pub. 4-28-70. Cl. 17.  
 Schneider, Battinus & Simon, Inc., Chicago, Ill. 770,396, can. Cl. 39.  
 Scintrex Ltd., Downsview, Ontario, Canada. 894,563, pub. 4-28-70. Cl. 28.  
 Scott & Fetzer Co., The, Chicago, Ill. 894,483, pub. 4-28-70. Cl. 21.  
 Sculptcraft Corp., The, Cleveland, Ohio. 770,482, can. Cl. 50.  
 Sears, Roebuck, & Co., Chicago, Ill. 529,587, ren. 7-14-70. Cl. 43.  
 Sears, Roebuck, & Co., Chicago, Ill. 894,597, pub. 4-28-70. Cl. 32.  
 Select Dineaway, Inc., Bay Harbor Island, Fla. 894,598, pub. 4-28-70. Cl. 32.  
 Service Industries, Philadelphia, Pa. 894,392, pub. 4-28-70. Cl. 6.  
 Shakespeare Co., Kalamazoo, Mich. 894,522, pub. 4-28-70. Cl. 22.  
 Sherman Sealecraft Corp., Las Vegas, Nev. 894,559, pub. 4-28-70. Cl. 25.  
 Shorell, Irma, Inc., New York, N.Y. 894,771, pub. 4-28-70. Cl. 51.  
 Shriver, B. F., Co., The, Westminster, Md. 532,294, ren. 7-14-70. Cl. 46.  
 Shure, Herbert Jay, d.b.a. H & M Distributing, Washington, D.C. 894,652, pub. 4-28-70. Cl. 39.  
 Siddons, Alfreda L., d.b.a. Circle Eight, Hawthorne, Calif. 770,405, can. Cl. 39.  
 Silipo, Samuel C., M.D., d.b.a. Medical Mechanics Co., Santa Barbara, Calif. 770,364, can. Cl. 37.  
 Silverline, Inc., Moorhead, Minn. 894,480, pub. 4-28-70. Cl. 19.  
 Silverlith Corp., Edmonston, Md. 770,488, can. Cl. 50.  
 Simmons Co., New York, N.Y. 529,988, ren. 7-14-70. Cl. 32.  
 Simmons, R. F., Co., Attleboro, Mass. 79,795, ren. 7-14-70. Cl. 28.  
 Simmons, Robert, Inc., New York, N.Y. 770,324, can. Cl. 29.  
 Simonis Co.: See—  
 Texize Chemicals, Inc.  
 Simonoff, Natalie, d.b.a. Naymor, Long Beach, N.Y. 770,381, can. Cl. 39.  
 Simplex Industries, Inc., Adrian, Mich. 894,760, pub. 4-28-70. Cl. 50.  
 Sioux Honey Association, d.b.a. Sioux Honey Assn., Sioux City, Iowa. 770,444, can. Cl. 46.  
 Skor-Mor Corp., Anaheim, Calif. 894,515, pub. 4-28-70. Cl. 22.  
 Smith Kline & French Laboratories, Philadelphia, Pa. 529,556, ren. 7-14-70. Cl. 18.  
 Smith Kline & French Laboratories, Philadelphia, Pa. 770,246, can. Cl. 18.  
 Smith, Miller & Patch, Inc., New Brunswick, N.J., from Smith, Miller & Patch, Inc., New York, N.Y. 894,465, pub. 4-28-70. Cl. 18.  
 Smith, Miller & Patch, Inc., New Brunswick, N.J., from Smith, Miller & Patch, Inc., New York, N.Y. 894,467, pub. 4-28-70. Cl. 18.  
 Smith, Walter E., Caldwell, Idaho. 894,611, pub. 4-28-70. Cl. 36.  
 Smith, W. R. C., Publishing Co., Atlanta, Ga. 770,869-70, can. Cl. 38.  
 Smith, W. R. C., Publishing Co., Atlanta, Ga. 770,878, can. Cl. 38.  
 Sociables, Inc., The, from Samuel J. Temperato, d.b.a. The Sociables, St. Louis, Mo. 894,637, pub. 4-28-70. Cl. 38.  
 Societe Anonyme Les Parfumeries de Gabilla, to Balenciaga Parfums, Inc., New York, N.Y. 364,544, new cert. Cl. 51.  
 Societe Francaise de Recherches Biochimiques, Paris, France. 894,454, pub. 4-28-70. Cl. 18.  
 Societe a Responsabilite Limitee Balenciaga, to Balenciaga Parfums, Inc., New York, N.Y. 547,687, new cert. Cl. 51.  
 Societe a Responsabilite Limitee Balenciaga, to Balenciaga Parfums, Inc., New York, N.Y. 566,557, new cert. Cl. 51.  
 Societe a Responsabilite Limitee Balenciaga, to Balenciaga Parfums, Inc., New York, N.Y. 567,882, new cert. Cl. 51.  
 Software Sciences Corp., New York, N.Y. 894,626, pub. 4-28-70. Cl. 38.  
 South Australian Fishermen's Co-Operative Ltd., Adelaide, Australia. 894,688, pub. 8-5-69. Cl. 46.  
 Sprague Electric Co., North Adams, Mass. 770,271, can. Cl. 21.  
 Squibb, E. R., & Sons, Inc., New York, N.Y. 894,395, pub. 4-28-70. Cl. 6.  
 Stamm, B. I. J., Stamm Associates, Englewood, N.J. 527,671, ren. 7-14-70. Cl. 34.  
 Standard Oil Co. of California, San Francisco, Calif. 894,441, pub. 4-28-70. Cl. 15.  
 Starr, Malcolm Inc., New York, N.Y. 894,662, pub. 4-28-70. Cl. 39.  
 Sterling Drug Inc., New York, N.Y. 770,235, can. Cl. 18.  
 Sterling Drug Inc., New York, N.Y. 894,463, pub. 4-28-70. Cl. 18.  
 Stewart-Warner Corp., Chicago, Ill. 894,490, pub. 4-28-70. Cl. 21.  
 Stewart-Warner Corp., Chicago, Ill. 894,576, pub. 4-28-70. Cl. 26.  
 Stig, Ravn A/S, Farum, Denmark. 894,511, pub. 4-28-70. Cl. 22.  
 Stinson, Jonathan C., d.b.a. Clever Games Co., Evanston, Ill. 894,507, pub. 4-28-70. Cl. 22.  
 Stop & Save Trading Stamp Corp., South Hackensack, N.J. 894,807, pub. 4-28-70. Cl. 101.  
 Strohmeyer & Arpe Co., d.b.a. United Pure Food Co., New York, N.Y. 770,460, can. Cl. 46.  
 Sunbeam Corp., by merger and change of name from Sunbeam Corp., Chicago, Ill. 894,031, cor. Cl. 21.  
 Sunlighting Systems, Inc., Chevy Chase, Md. 894,812, pub. 4-28-70. Cl. 101.  
 Sunshine Biscuits, Inc., New York, N.Y. 894,698, pub. 4-28-70. Cl. 46.  
 Sunshine Brewing Co., d.b.a. Bavarian Brewing Co., Reading, Pa. 894,741, pub. 4-28-70. Cl. 48.  
 Swim-Safe, Inc., New York, N.Y. 770,399, can. Cl. 39.  
 Synrox, Inc., Cincinnati, Ohio. 894,419, pub. 4-28-70. Cl. 12.  
 TRW Inc., Cleveland, Ohio. 528,280, ren. 7-14-70. Cl. 22.  
 TSC Industries, Inc., from TSC Industries Inc. d.b.a. Tractor Supply Co., Chicago, Ill. 894,808, pub. 4-27-70. Cl. 101.  
 Tanabe Sanyaku Co., Ltd., Osaka, Japan. 894,891, pub. 4-28-70. Multiple Class (Classes 6, 18, and 46).  
 Tasty Baking Co., Philadelphia, Pa. 894,734, pub. 4-28-70. Cl. 46.  
 Taterstate Frozen Foods, Washburn, Maine. 894,694, pub. 4-28-70. Cl. 46.  
 Taylor Food Products, Inc., El Segundo, Calif. 894,700, pub. 4-28-70. Cl. 46.  
 Telex Corp., The, Tulsa, Okla. 529,259, ren. 7-14-70. Cl. 44.  
 Telstat Counsellors Ltd., Toronto, Ontario, Canada. 894,809, pub. 4-28-70. Cl. 101.  
 Temperato, Samuel J.: See—  
 Sociables, Inc., The.  
 Tensitron, Inc., Harvard, Mass. 894,582, pub. 4-28-70. Cl. 26.  
 Texize Chemicals, Inc., Greenville, S.C., from Simonis Co., Chicago, Ill. 894,882, pub. 5-2-67. Cl. 4.  
 Texize Chemicals, Inc., Greenville, S.C., from Simonis Co., Chicago, Ill. 894,436, pub. 5-13-69. Cl. 15.  
 Textile Corp. of America, Los Angeles, Calif. 770,417-18, can. Cl. 42.  
 Thermium, Inc., Highland, Ind. 894,424, pub. 4-28-70. Cl. 12.  
 Thermo Electric Co., Inc., Saddle Brook, N.J. 894,561, pub. 6-18-68. Cl. 26.  
 Thiolol Chemical Corp., Bristol, Pa. 894,409, pub. 4-28-70. Cl. 6.  
 Thomas Equipment Ltd., Centreville, New Brunswick, Canada. 894,539, pub. 4-28-70. Cl. 23.  
 Thompson's Dairy, Inc., d.b.a. Thompson's Honor Dairy, Washington, D.C. 770,472, can. Cl. 46.  
 Thyrocon Controls Corp., Chalfont, Pa. 894,496, pub. 4-28-70. Cl. 21.  
 Tilt-A-Bed Corp., The, Minneapolis, Minn. 894,596, pub. 4-28-70. Cl. 32.  
 Timber Industry Publishing Co., Portland, Oreg. 894,838, Cl. 38.  
 Timex Oil Co., Los Angeles, Calif. 894,438, pub. 4-28-70. Cl. 15.  
 Tombigbee Lightweight Aggregate Corp., Livingston, Ala. 894,370, pub. 4-28-70. Cl. 1.  
 Torite Enterprises, Inc., d.b.a. Tarite Filter Co., City of Industry, Calif. 894,590, pub. 4-28-70. Cl. 31.  
 Towle Mfg. Co., Newburyport, Mass. 531,439, ren. 7-14-70. Cl. 28.  
 Trader Joe, Inc., Pasadena, Calif. 894,743, pub. 4-28-70. Cl. 49.  
 Trans-Aire Electronics, Inc., New Hyde Park, N.Y. 894,489, pub. 4-28-70. Cl. 21.  
 Transistales, Inc., Falls Church, Va. 894,608, pub. 4-28-70. Cl. 36.  
 Treb-Kirby Co., Cleveland, Ohio. 894,384, pub. 5-13-69. Cl. 5.  
 Trifar, Krussman & Fishel, Inc., New York, N.Y. 894,588, pub. 4-28-70. Cl. 28.  
 Tri-Joi Co., St. Paul, Minn. 770,504, can. Cl. 51.

Turner Machine Co., Inc., Danbury, Conn. 894,553, pub. 4-28-70. Cl. 28.  
 Tyee Camp Equipment, to Eddie Bauer, Inc., Seattle, Wash. 639,850, new cert. Cl. 32.  
 Ultrasonic Laboratories, Inc., Rahway, N.J. 770,287, can. Cl. 28.  
 Union Carbide Corp., New York, N.Y. 770,540, can. Cl. A.  
 Union Carbide Corp., New York, N.Y. 894,511, pub. 4-28-70. Cl. 26.  
 Union Carbide Corp., New York, N.Y. 894,070, pub. 4-28-70. Cl. 39.  
 United Biscuit Co. of America, Melrose Park, Ill. 770,471, can. Cl. 46.  
 United States Atomic Energy Commission, Washington, D.C., from James H. Griffin, Los Alamos, N. Mex. 894,625, pub. 12-9-69. Cl. 38.  
 United States Borax & Chemical Corp., Los Angeles, Calif. 770,225, can. Cl. 16.  
 United States Leasing Corp., San Francisco, Calif. 894,798, pub. 4-28-70. Cl. 100.  
 Vanguard Fund, Inc., Pasadena, Calif. 770,534, can. Cl. 102.  
 Vaughan's Seed Co., Chicago, Ill. 770,205, can. Cl. 10.  
 Venesta Ltd., London, England. 894,420, pub. 4-28-70. Cl. 12.  
 Venture Out in America, Inc., Knoxville, Tenn. 894,804-5, pub. 4-28-70. Cl. 100.  
 Venus Esterbrook Corp., New York, N.Y. 523,838, ren. 7-14-70. Cl. 29.  
 Vernors Inc., Detroit, Mich. 894,687, pub. 4-28-70. Cl. 46.  
 Vexilar Engineering Inc., Minneapolis, Minn. 894,578, pub. 4-28-70. Cl. 26.  
 Vita Craft Corp., Shawnee, Kans. 894,431, pub. 4-28-70. Cl. 13.  
 Vulcan Steel Corp., Birmingham, Ala. 894,544, pub. 4-28-70. Cl. 23.  
 Wachholz, Hilton J., d.b.a. Wacho Products Co., Columbus, Ohio. 894,570, pub. 4-28-70. Cl. 26.  
 Wagner, August, Breweries, Inc., Columbus, Ohio. 524,596, ren. 7-14-70. Cl. 48.  
 Walters, William A., d.b.a. A & W Fastener Industries, Riverside, Ill. 894,421, pub. 4-28-70. Cl. 12.  
 Wander Co., The, Chicago, Ill. 770,250-1, can. Cl. 18.  
 Wander Co., The, Chicago, Ill. 770,262, can. Cl. 18.  
 Warner Co., Philadelphia, Pa. 532,029, ren. 7-14-70. Cl. 1.  
 Watson, George H., Anniston, Ala. 770,227, can. Cl. 18.  
 Weather-Rite Sportswear Co., Inc., Brooklyn, N.Y. 811,725, can. Cl. 39.  
 Webb, C. J., Inc., Dresher, Pa. 894,790, pub. 4-28-70. Cl. 52.  
 Weller, Robert S., d.b.a. Scientific Chiao, Chicago, Ill. 770,125, can. Cl. 38.  
 Weiss-Lawrence, Inc., Dover, N.H. 770,394, can. Cl. 39.  
 West Point-Pepperell, Inc., West Point, Ga. 894,680-1, pub. 4-28-70. Cl. 42.  
 Westab Inc., Dayton, Ohio. 528,951, ren. 7-14-70. Cl. 37.  
 Western Co. of North America, The, Fort Worth, Tex. 894,832, Cl. 12.  
 Western Felt Works, Chicago, Ill. 532,194, ren. 7-14-70. Cl. 23.  
 Western Litho Plate & Supply Co., d.b.a. Western Litho Plate & Supply Co., St. Louis, Mo. 894,786, pub. 4-28-70. Cl. 52.  
 Whitman, Philip G., Inc., New York, N.Y. 894,365, pub. 4-28-70. Multiple Class (Classes 1, 37, and 42).  
 Winnebago Cheese Co., to Borden, Inc., New York, N.Y. 518-176, Am. 7(d), Cl. 46.  
 Wyomissing Corp., West Reading, Pa. 531,850, ren. 7-14-70. Cl. 42.  
 Xerox Corp., Rochester, N.Y. 528,180, ren. 7-14-70. Cl. 38.  
 Y. & S. Candles, Inc., Brooklyn, N.Y. 531,939, ren. 7-14-70. Cl. 46.  
 Yankee Photo Products, Inc., Gardena, Calif. 894,579, pub. 4-28-70. Cl. 26.  
 Yardley of London, Inc., New York, N.Y. 894,774-5, pub. 4-28-70. Cl. 51.  
 Zaninovich, Marko, Inc., d.b.a. Vista Del Sol Vineyards, Delano, Calif. 894,733, pub. 4-28-70. Cl. 46.





# U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

July 21, 1970

Volume 876

Number 3

## PATENTS NOTICES

### Board of Appeals Decisions Rendered in the Month of June 1970

Examiner affirmed	132
Examiner affirmed in part	16
Examiner reversed	34
<b>Total</b>	<b>182</b>

HIGH INDEX OF REFRACTION. Patent dated Mar. 31, 1970. Disclaimer filed June 3, 1970, by the inventor; the assignee, *The Bendix Corporation*, consenting.

Hereby disclaims the terminal portion of the term of the patent subsequent to Aug. 12, 1986.

### Certificates of Correction for the Week of July 21, 1970

<b>Dedication</b>	Re. 26,732	3,477,854	3,488,189	3,494,976
	Re. 26,789	3,478,092	3,488,213	3,494,981
	D. 216,440	3,480,035	3,488,224	3,494,996
3,451,935.— <i>Arnold S. Roald</i> , Wezembeek-Oppem Brabant, and <i>Nicolaas T. de Oude</i> , Brussels, Belgium. GRANULAR ENZYME-CONTAINING LAUNDRY COMPOSITION. Patent dated June 24, 1969. Dedication filed Dec. 29, 1969, by the assignee, <i>The Procter &amp; Gamble Company</i> .	3,316,213	3,480,081	3,488,300	3,495,235
	3,352,683	3,480,641	3,488,541	3,495,291
	3,400,095	3,481,031	3,488,583	3,495,433
	3,420,821	3,483,571	3,488,677	3,495,606
	3,425,020	3,484,118	3,489,577	3,495,942
Hereby dedicates the entire remaining term of said patent to the Public.	3,425,235	3,484,164	3,490,291	3,495,969
	3,435,584	3,484,217	3,490,665	3,496,088
	3,438,999	3,484,238	3,490,832	3,496,220
	3,441,685	3,484,290	3,491,021	3,496,294
	3,443,638	3,484,328	3,491,095	3,496,318
	3,450,528	3,484,462	3,491,128	3,496,384
<b>Disclaimer and Dedication</b>	3,453,071	3,484,620	3,491,584	3,496,480
3,437,073.— <i>Edwin George Drake</i> , La Salle, Quebec, and <i>Marius Frechette</i> , Ville St. Michel, Quebec, Canada. METHOD AND APPARATUS FOR TREATING PARTICULATE MATERIAL IN A FLUIDIZED BED. Patent dated Apr. 8, 1969. Disclaimer and dedication filed June 4, 1970, by the assignee, <i>Wisconsin Alumni Research Foundation</i> .	3,453,362	3,484,776	3,492,274	3,497,328
	3,456,674	3,485,738	3,492,286	3,497,348
	3,457,191	3,485,799	3,492,605	3,497,571
	3,457,568	3,485,807	3,492,681	3,498,640
	3,459,967	3,485,819	3,492,833	3,498,977
Hereby disclaims and dedicates the entire patent to the Public.	3,461,356	3,485,862	3,493,113	3,498,986
	3,464,717	3,485,865	3,493,263	3,498,997
	3,465,704	3,485,896	3,493,292	3,499,115
	3,466,021	3,486,086	3,493,417	3,500,553
	3,466,718	3,486,135	3,493,476	3,501,251
	3,468,920	3,486,333	3,493,663	3,501,721
<b>Disclaimers</b>	3,469,236	3,486,374	3,493,680	3,502,271
3,400,284.— <i>Shmuel Elazar</i> , El Monte, Calif. PIEZOELECTRIC ACCELEROMETER. Patent dated Sept. 3, 1968. Disclaimer filed Mar. 23, 1970, by the assignee, <i>Bell &amp; Howell Company</i> .	3,469,749	3,486,717	3,493,941	3,502,561
	3,470,292	3,487,020	3,494,084	3,502,895
	3,472,425	3,487,106	3,494,296	3,503,050
Hereby enters this disclaimer to claims 1, 2, 3, 8 and 9 of said patent.	3,473,027	3,487,210	3,494,475	3,503,101
	3,474,145	3,487,414	3,494,584	3,503,699
	3,476,699	3,487,668	3,494,670	3,503,793
	3,476,999	3,487,700	3,494,686	3,503,978
	3,477,045	3,487,873	3,494,828	3,504,752
3,503,764.— <i>John C. Young</i> , Portuguese Bend, Calif. CORE GLASS FOR FIBER-OPTIC STRUCTURES HAVING	3,477,797	3,488,173	3,494,941	3,505,402

### New Applications Received During May 1970

Patents	8198
Designs	462
Plant Patents	9
Reissues	38
<b>Total</b>	<b>8707</b>

### Issue—July 21, 1970

Patents	800—No. 3,520,801 to No. 3,521,600, incl.
Designs	53—No. 218,084 to No. 218,136, incl.
Plant Patents	1—No. 2,981
<b>Total</b>	<b>854</b>



## Adjudicated Patents

(D.C. Ill.) Eyberger Reissue Patent No. 25,441 (18—42), for PRESSURE FORMING APPARATUS, *Held invalid. Magnetics, Incorporated v. Arnold Engineering Company*, 309 F. Supp. 291; — USPQ —.

(C.A. Ill.) Mayes et al. Reissue Patent No. 25,740 (343—792.5), for LOG PERIODIC BACKWARD WAVE ANTENNA ARRAY, *Held invalid. University of Illinois Foundation v. Blonder-Tongue Laboratories, Incorporated*, 422 F.2d 769; — USPQ —.

(D.C. Idaho) Burrill Patent No. 2,680,815 (250—49.5), for METHOD OF AND APPARATUS FOR TREATING SUBSTANCES WITH HIGH ENERGY ELECTRONS, *Held invalid. High Voltage Engineering Corporation v. Boise Cascade Corporation*, 310 F. Supp. 395; 165 USPQ 233.

(D.C. Idaho) Robinson Patent No. 2,729,748 (250—49.5), for APPARATUS FOR STERILIZING FOODS, DRUGS AND OTHER SUBSTANCES BY SCANNING ACTION OF HIGH-ENERGY ELECTRONS, *Held invalid. Id.*

(Ct. Cl.) Taylor et al. Patent No. 2,804,633 (9—11), for INFLATABLE LIFE RAFT COMPRISING IMPROVED CANOPY AND SUPPORTING MEANS THEREFOR. Claims 1 to 3 *Held valid and infringed. Garrett Corporation v. United States*, 422 F. Supp. 874; — USPQ —.

(C.A. Calif.) Stevenson Patent No. 2,815,846 (198—33), for FEEDING AND ORIENTING DEVICE. Claims 1, 2, 4 to 6, 9 to 11, 13 to 16 and 18 to 20 *Held invalid. Stevenson v. Diebold, Incorporated*, 422 F.2d 1228; 165 USPQ 10.

(Ct. Cl.) Canfield Patent No. 2,914,799 (18—5), for PLASTIC BOTTLE BLOWING APPARATUS. Claim 3 *Held valid and infringed*; claims 2, 5 and 6 *Held invalid. Garrett Corporation v. United States*, 422 F.2d 874; 164 USPQ 521.

(D.C. Calif.) Griswold Patent No. 3,155,809 (219—36), for MEANS AND TECHNIQUES FOR MAKING ELECTRICAL CONNECTIONS, *Held valid and infringed. Digital Sensors, Incorporated v. Wems, Incorporated*, 310 F. Supp. 678; 164 USPQ 417.

(C.A. Ill.) Isbell Patent No. 3,210,767 (343—792.5), for FREQUENCY INDEPENDENT UNIDIRECTIONAL ANTENNAS, *Held valid. University of Illinois Foundation v. Blonder-Tongue Laboratories, Incorporated*, 422 F.2d 769; 164 USPQ 545.

(C.A. Ill.) Blonder et al. Patent No. 3,259,904 (353—792.5), for ANTENNA HAVING COMBINED SUPPORT AND LEAD-IN. Claim 5 *Held invalid. University of Illinois Foundation v. Blonder-Tongue Laboratories, Incorporated*, 422 F.2d 769; — USPQ —.

## Patents Available for Licensing or Sale

D. 216,940. BAIT CONTAINER OR SIMILAR ARTICLE. Alfred E. Stonedahl, 3633 Chinden Blvd., Boise, Idaho, 83704.

3,195,125. TELEVISION AID TO AIRCRAFT INSTRUMENT LANDING. Henry Reitter, P.O. Box 785, Nashville, Tenn., 37202.

3,393,523. TUNNEL LINING UNIT. Alfred Krieva, P.O. Box 1055, Oroville, Calif., 95965.

3,432,245. TOOTHBRUSH WITH DENTIFRICE HOLDER. Virginia Z. Hudson, 598 East Ave., Chico, Calif., 95926.

3,460,828. RANDOM MOTION RECREATION VEHICLE. John W. Curlee, 17910 S. Sayre, Tinley Park, Ill., 60477.

3,488,281. CONTINUOUS FLUIDIZED-BED CATALYTIC HYDRO-REFINING. Miloslav Petracek, et al., Czechoslovakia. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,491,469. APPARATUS FOR IRONING ARTICLES OF APPAREL. Sinram & Wendt, Weser, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,494,446. COMBINATION STEPLADDER AND TABLE. Henry A. Jacobson, 5908 Kerxes Ave. So., Minneapolis, Minn., 55410.

3,494,463. PACKAGE BIOLOGICAL SEWAGE TREATMENT. Floyd L. Vermette, 2246 Saines Manor Drive, Jackson, Mich., 49201.

3,508,235. COMBINED DIAPER FASTENER AND SIGNALLING DEVICE. Joyce B. Ballsdon, 2021 Lemon Heights Drive, Santa Ana, Calif., 92705.

3,518,681. BACKCOUNTRY RADIO BOOSTERS. Paul E. Klepe, 118 Village Lane, Boise, Idaho, 83720.

The following 2 patents are offered by: Kennecott Copper Corporation.

Inquiries concerning licenses may be addressed to: Lowell H. McCarter, Ledgemont Laboratory, Kennecott Copper Corporation, 128 Spring St., Lexington, Mass., 02173.

3,504,307. THIN SAMPLE ULTRASONIC DELAY LINE.

3,515,512. COMPLEX SULFITES OF COPPER AND IRON AND THE METHOD OF PREPARING THEM.

The following 3 patents are offered by: John W. Barnd, 32 Hollybrook Road, Paramus, N.Y.

3,351,128. MULTI-ZONE TEMPERATURE CONTROL.

3,496,991. FLUID TEMPERATURE REGULATING METHOD AND APPARATUS.

3,515,345. MULTI-ZONE TEMPERATURE CONTROL.

General Electric Company is prepared to grant non-exclusive licenses under the following 79 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: Patent Counsel, Mobile Radio Dept., General Electric Company, Mountain View Road, Lynchburg, Va., 24502.

2,826,731. TRANSISTOR CONVERTER.

Applications for license under the following patent may be addressed to: Division Patent Counsel, General Electric Company, Space Division, P.O. Box 8555, Philadelphia, Pa., 19101.

3,502,563. CONTROL OF ELECTRODEPOSITS.

Applications for licenses under the following 5 patents may be addressed to: General Electric Company, Appliance Components Division, 1635 Broadway, Fort Wayne, Ind., 46804, Attn: Patent Counsel.

Re. 26,788. MOTOR STATOR STACK OF BONDED LAMINATIONS WITH LESS BONDING MATERIAL AT BOLT HOLE REGIONS.

3,487,526. APPARATUS FOR ATTAINING THE DESIRED CONFIGURATIONS OF ELECTRICAL COILS.

3,490,143. METHOD OF MANUFACTURING A CORE FOR AN ELECTRICAL INDUCTIVE DEVICE.

3,499,504. LUBRICATED MOVABLE AND INTERACTING COMPONENTS FOR USE IN MACHINES AND A METHOD FOR FORMING AND BREAKING IN SUCH COMPONENTS.

3,504,557. THERMAL MOTOR.

Applications for license under the following 6 patents may be addressed to: Patent Counsel, Metallurgical Products Department, General Electric Company, Box 237-GPO, Detroit, Mich., 48232.

3,132,022. METAL WHISKERS HAVING AN ESSENTIALLY CONSTANT DIAMETER OF NOT MORE THAN 1000 ANGSTROMS.

3,188,182. USE OF THE WORKING MATERIAL AS PART OF THE CRYSTAL MAKING APPARATUS.

3,243,284. PROCESS FOR COLLECTING METAL WHISKERS.

3,262,812. MAGNETIC RECORDING TAPE WITH MAGNETIC LAYER OF OXIDE COATED IRON-COBALT ALLOY PARTICLES IN A BINDER.

3,284,359. BARIUM POTASSIUM FERRITE MAGNETIC MATERIAL EXHIBITING NON-VANISHING ROTATIONAL HYSTERESIS IN APPLIED MAGNETIC FIELDS.

3,415,695. PROCESS FOR PRODUCING IRON-RHODIUM ALLOYS HAVING IMPROVED MAGNETIC TRANSITION PROPERTIES.

Applications for license under the following 7 patents may be addressed to: General Electric Company, Patent Counsel, Housewares Division, 1285 Boston Ave., Bridgeport, Conn., 06602.

3,071,899. KNIFE SHARPENER.

3,222,780. LID HOLDING MEANS FOR CAN OPENER.

3,305,659. LIQUID DIVERTING SWITCH ACTUATOR.

3,334,214. ELECTRIC FIRE STARTER.

3,357,275. POWER TOOL.

3,412,767. SABRE SAW CHUCK.

3,430,980. SUPPORTING STAND.

Applications for license under the following 11 patents may be addressed to: Patent Counsel, LSTG-I & MT Division, General Electric Company, 1 River Road, Bldg. 28, Schenectady, N.Y.

3,301,314. METHOD AND MEANS FOR INCREASING THE HEAT TRANSFER COEFFICIENT BETWEEN A WALL AND BOILING LIQUID.

3,393,335. ELASTOMERIC SPRING FOR RESTRICTING RADIAL VIBRATION OF WINDINGS IN SLOTS.

3,423,562. GLOW DISCHARGE APPARATUS.

3,441,040. VALVE GEAR LOCKING AND EMERGENCY CLOSING SYSTEM.

3,479,543. COMPOUND EXCITATION SYSTEM.

3,481,835. MULTIPLE EFFECT DISTILLATION APPARATUS.

3,488,949. BALANCED THREE-BELLOWS EXPANSION JOINT.

3,490,852. GAS TURBINE ROTOR BUCKET COOLING AND SEALING ARRANGEMENT.

3,495,501. VALVE OPERATING AND EMERGENCY CLOSING MECHANISM.

3,500,115. ELECTRONIC GRATICULE FOR CATHODE RAY TUBES.

3,505,546. GAS COOLED DYNAMOELECTRIC MACHINE WITH CAGE TYPE STATOR FRAME.

Applications for license under the following 10 patents may be addressed to: Patent Counsel, Appliance and Television Group, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,367,868. OUTLET VALVE FOR DISHWASHER PUMP.

3,374,944. COMPRESSOR UNIT.

3,378,954. REVERSIBLY MOUNTED CABINET DOOR.

3,423,659. MOTOR WINDING CONTROL EMBODYING A FLUID AMPLIFIER.

3,423,660. MOTOR WINDING CONTROL MEANS.

3,477,747. SUPPORT MEANS FOR A FOOD WASTE DISPOSER.

3,486,804. FRONT OPENING DISHWASHER WITH IMPROVED RACK ASSEMBLY.

3,490,486. CONTROL MEANS FOR AN AUTOMATIC DISHWASHER.

3,498,327. PUMP OUTLET VALVE MEANS.

3,506,292. REFRIGERATOR DOOR LATCH.

Applications for license under the following 11 patents may be addressed to: Patent Counsel, Contractor Equipment Division, General Electric Company, 1285 Boston Ave., Bldg. 21 ES, Bridgeport, Conn., 06602.

2,728,879. ELECTRICAL COIL.

3,304,049. FLUID CONTROL DEVICES.

3,334,320. MAGNETIC REED SWITCHES HAVING MINIMUM CONTACT BOUNCE.

3,379,863. REED SWITCH CIRCUITS.

3,400,729. RATE OF CHANGE OF PRESSURE SENSOR.

3,418,443. MAGNETICALLY RESPONSIVE CONTROL APPARATUS.

3,420,255. FLUID CONTROL DEVICES.

3,431,388. WELDING DEVICE.

3,454,917. OVERCURRENT PROTECTIVE DEVICE FOR ELECTRICAL APPARATUS.

3,489,926. TURN-ON AND TURN-OFF CIRCUIT FOR A SEMICONDUCTOR CONTROLLED RECTIFIER ENERGIZED BY AN ALTERNATING CURRENT SUPPLY.

3,489,971. MAGNETICALLY ACTUATED LIMIT SWITCH.

Applications for license under the following 27 patents may be addressed to: Patent Counsel, Consumer Electronics Division, General Electric Company, Building 1, Rm. 104, Electronics Park, Syracuse, N.Y., 13201.

2,599,228. ELECTRONIC CONTROL CIRCUIT.

2,614,246. MODULATION SYSTEM.

2,637,888. AMPLITUDE MODULATION CIRCUIT.

2,647,947. HIGH-FREQUENCY COUPLING DEVICE.

2,653,186. PLURAL CAMERA TELEVISION CONTROL SYSTEM.

2,666,179. TRANSIENT ANALYZING SYSTEM.

2,679,554. ELECTRONIC SWITCHING APPARATUS.

2,679,586. PULSE WIDENING CIRCUIT.

2,686,831. HIGH DEFINITION TELEVISION SYSTEM AND METHOD.

2,725,475. BALANCED PUSH-PULL WAVE GENERATION CIRCUITS.

2,742,641. ANTENNA SYSTEM.

2,758,273. VOLTAGE REGULATED POWER SUPPLY.

2,784,246. ELECTRICAL SYSTEM.

2,784,247. INDICATOR FOR TELEVISION IMAGES.

2,844,647. AMPLIFIER-LIMITER CIRCUIT.

2,883,480. LIMITING AMPLIFIER.

2,913,684. CONDUCTIVE CAVITIES.

2,951,114. CARRIER WAVE TRANSMISSION SYSTEM AND METHOD OF OPERATION THEREOF.

2,952,816. LIMITING AMPLIFIER.

2,958,825. PULSE DETECTION APPARATUS.

2,991,637. COMBINATION CLUTCH AND COUPLING.

3,019,438. ANTENNA STRUCTURE.

3,021,386. BOILER PORT VIEWING SYSTEM.

3,066,294. HELICAL ANTENNAS COUPLED TO CIRCULAR WAVEGUIDE CARRYING ORTHOGONAL MODES.

3,177,594. LEARNING LABORATORY AUDIO DISTRIBUTION APPARATUS.

3,333,208. AUTOMATIC GAIN CONTROL AMPLIFIER.

3,336,440. SYSTEM FOR LOCKING AN OSCILLATOR TO A REFERENCE FREQUENCY HAVING A PARTICULAR SHAPED WAVEFORM TO FACILITATE SYNCHRONIZATION.

The RCA Corporation offers to grant non-exclusive licenses on reasonable terms and conditions under the following 98 patents.

Inquiries respecting licenses should be addressed to: RCA Corporation, Staff Vice President, Domestic Licensing, 1133 Avenue of the Americas, New York, N.Y., 10036.

3,481,214. ASYNCHRONOUS DRIVE SYSTEM.

3,481,781. SILICATE GLASS COATING OF SEMICONDUCTOR DEVICES.

3,482,038. WIDE BAND RECORDING AND REPRODUCING SYSTEM.

3,482,167. AUTOMATIC GAIN CONTROL SYSTEM EMPLOYING MULTIPLE INSULATED GATE FIELD EFFECT TRANSISTOR.

3,482,172. MULTIPLE STATE LOGIC CIRCUITS.

3,482,191. MAGNETOSTRICTIVE DELAY LINE HAVING A FLAT, THIN SHEET OF MAGNETOSTRICTIVE MATERIAL.

3,482,220. CRYOELECTRIC MEMORIES.

3,482,243. PROTECTIVE SYSTEM.

3,482,286. CATHODE RAY TUBE MANUFACTURE.

3,483,038. INTEGRATED ARRAY OF THIN-FILM PHOTOVOLTAIC CELLS AND METHOD OF MAKING SAME.

3,483,517. BALANCED MATRIX DRIVER ARRANGEMENT.

3,483,615. PRINTED CIRCUIT BOARDS.

3,484,208. SUPERCONDUCTORS.

3,485,237. SELF-PROPELLING HOSE.

3,485,679. THERMOELECTRIC DEVICE WITH EMBOSSED GRAPHITE MEMBER.

3,485,959. TRANSDUCER WITH CURVED SURFACE FOR CARTRIDGE TAPE PLAYER.

3,486,058. SPUTTER RESISTIVE COLD CATHODE FOR LOW PRESSURE GAS DISCHARGE DEVICE.

3,487,165. VIDEO PEAKING CONTROL NETWORK.

3,487,213. CIRCUITS FOR THERMISTOR BOLOMETER WITH INCREASED RESPONSIVITY.

3,487,316. THRESHOLD GATES AND CIRCUITS.

3,487,329. LASER COLOR CONTROL.

3,487,338. THREE TERMINAL SEMICONDUCTOR DEVICE FOR CONVERTING AMPLITUDE MODULATED SIGNALS INTO FREQUENCY MODULATED SIGNALS.

3,487,339. INTERMEDIATE FREQUENCY COUPLING NETWORK HAVING A SHARPLY TUNED SOUND CARRIER CANCELLATION TRAP INDUCTIVELY COUPLED TO THE INPUT CIRCUIT.

3,487,909. ARTICLE HANDLING APPARATUS.

3,487,986. PRINTER FEED SPEED CONTROL.

3,488,165. SUPERCONDUCTORS HAVING A FLEXIBLE SUBSTRATE AND A COATING SUBSTANTIALLY OF Nb<sub>3</sub>Sn.



- 3,488,190. METHOD FOR PREPARING COLOR SEPARATION PRINTING NEGATIVES.
- 3,488,455. METHOD OF SPLICING A MAGNETIC TAPE HAVING DIAGONAL RECORD TRACKS THEREON.
- 3,488,508. SOLID STATE IMAGE SENSOR PANEL.
- 3,488,541. GEODESIC ELECTROMAGNETIC DEFLECTION YOKE.
- 3,488,553. DEFLECTION CONTROL.
- 3,488,662. BINARY MAGNETIC RECORDING WITH INFORMATION-DETERMINED COMPENSATION FOR CROWDING EFFECT.
- 3,488,663. APPARATUS FOR COMPARISON AND CORRECTION OF SUCCESSIVE RECORDED PULSES.
- 3,488,835. TRANSISTOR FABRICATION METHOD.
- 3,489,482. IMAGE TRANSMISSION THROUGH A FIBER OPTICS DEVICE.
- 3,490,669. TAPE HANDLING APPARATUS.
- 3,490,945. MAGNETIC RECORDING ELEMENT AND METHOD FOR PREPARING SAME.
- 3,490,946. MAGNETIC RECORDING ELEMENTS.
- 3,491,026. FERROMAGNETIC-SEMICONDUCTOR COMPOSITION.
- 3,491,261. DYNAMIC CONVERGENCE CIRCUITS.
- 3,491,345. CRYOELECTRIC MEMORIES EMPLOYING LOOP CELLS.
- 3,491,357. SWITCHABLE CIRCULATOR R.F. AMPLIFICATION FAULT CIRCUIT FOR A MICROWAVE RECEIVER.
- 3,492,548. ELECTROLUMINESCENT DEVICE AND METHOD OF OPERATING.
- 3,492,620. PHOTSENSITIVE DEVICE.
- 3,493,674. TELEVISION MESSAGE SYSTEM FOR TRANSMITTING AUXILIARY INFORMATION DURING THE VERTICAL BLANKING INTERVAL OF EACH TELEVISION FIELD.
- 3,493,729. TIMING SYSTEM.
- 3,493,771. LENGTH MONITORING SYSTEM.
- 3,493,785. BISTABLE CIRCUITS.
- 3,493,786. UNBALANCED MEMORY CELL.
- 3,493,812. INTEGRATED THIN FILM TRANSLATORS.
- 3,493,961. CIRCUIT FOR SELECTIVELY ALTERING THE SLOPE OF RECURRING RAMP SIGNALS.
- 3,493,962. CONVERTER FOR SELF-CLOCKING DIGITAL SIGNALS.
- 3,494,444. OVAL LOUDSPEAKER BASKET.
- 3,495,030. COLOR KILLER CIRCUITS CONTROLLED BY THE LOCAL OSCILLATOR.
- 3,495,098. SYNCHRONOUS SYMMETRICAL A.C. SWITCH.
- 3,495,124. COLOR TELEVISION DISPLAY SYSTEM WITH REDUCED PINCUSHION DISTORTION.
- 3,495,126. VOLTAGE SUPPLY.
- 3,495,140. LIGHT-EMITTING DIODES AND METHOD OF MAKING SAME.
- 3,495,178. SIGNAL TRANSLATING AND ANGLE DEMODULATING SYSTEMS.
- 3,495,193. VARIABLE RADIO FREQUENCY ATTENUATOR.
- 3,495,892. SPLIT BEAM LIGHT MODULATOR.
- 3,496,027. THERMOELECTRIC GENERATOR COMPRISING THERMOELEMENTS OF INDIUM-GALLIUM ARSENIDES OR SILICON-GERMANIUM ALLOYS AND A HOT STRAP OF SILICON CONTAINING SILICIDES.
- 3,497,223. RECORDING APPARATUS WITH PLURAL INDEPENDENT RECORD-REPRODUCE DEVICES.
- 3,497,749. COLOR DISPLAY TUBE WHOSE BLUE EMITTER IS A SILVER-ACTIVATED ZINC SULPHIDE CONTAINING ONLY ONE OF MAGNESIUM, CALCIUM, STRONTIUM AND BARIUM.
- 3,499,104. VIDEO OUTPUT STAGE EMPLOYING STACKED HIGH VOLTAGE AND LOW VOLTAGE TRANSISTORS.
- 3,499,106. COLOR SIGNAL PREPROCESSING CIRCUITS INCLUDING AN ARRAY OF GRID-PULSED, GROUNDED-CATHODE COLOR-DIFFERENCE AMPLIFIERS.
- 3,499,112. ELECTRO-OPTICAL DEVICE.
- 3,499,702. NEMATIC LIQUID CRYSTAL MIXTURES FOR USE IN A LIGHT VALVE.
- 3,500,010. ELECTROMECHANICAL SWITCH.
- 3,500,062. DIGITAL LOGIC APPARATUS.
- 3,500,063. SCANNING LASER OBSTRUCTION DETECTION SYSTEM UTILIZING A RETROREFLECTIVE STRIP.
- 3,500,113. SIMPLIFIED HORIZONTAL DYNAMIC CONVERGENCE CIRCUIT.
- 3,500,127. SWITCHING TYPE VOLTAGE AND CURRENT REGULATOR AND LOAD THEREFOR.
- 3,500,234. UNITARY Q-SWITCH LASER DEVICE.
- 3,500,246. VARIABLE FREQUENCY OSCILLATOR WITH CONSTANT AMPLITUDE OUTPUT.
- 3,500,310. TRUE PRESENCE VEHICLE DETECTOR INCLUDING MEANS TO DISTINGUISH BETWEEN SLOW AMBIENT CHANGES AND CHANGES DUE TO THE PRESENCE OF A VEHICLE.
- 3,500,359. MEMORY LINE SELECTION MATRIX FOR APPLICATION OF READ AND WRITE PULSES.
- 3,500,360. RANDOM-ACCESS MEMORY ORGANIZATION.
- 3,500,411. RETRODIRECTIVE PHASED ARRAY ANTENNA FOR A SPACECRAFT.
- 3,501,231. SLIDE PROJECTOR INCLUDING TWO LIGHT PATHS AND ONE SLIDE MAGAZINE.
- 3,501,232. SLIDE PROJECTOR INCLUDING TWO LIGHT PATHS AND ONE SLIDE MAGAZINE.
- 3,501,647. EMITTER COUPLED LOGIC BIASING CIRCUIT.
- 3,501,682. CONSTANT TENSION-CONSTANT SPEED DRIVE BY MEANS OF A TANDEM MOTOR CONNECTION.
- 3,501,969. STEPPER DRIVE DEVICE.
- 3,502,555. SELECTIVE ETCHING OF CHROMIUM-SILICA LAMINATES.
- 3,502,590. PROCESS FOR PREPARING PHOSPHOR.
- 3,502,807. BRIGHTNESS CONTROL CIRCUIT.
- 3,502,824. SLIDE SELECTOR CONTACT SWITCH WITH ORTHOGONAL U-SHAPED SPRING DETENT.
- 3,502,884. METHOD AND APPARATUS FOR DETECTING LIGHT BY CAPACITANCE CHANGE USING SEMICONDUCTOR MATERIAL WITH DEPLETION LAYER.
- 3,502,935. TRANSISTOR DEFLECTION CIRCUITS.
- 3,503,551. DISPLAY APPARATUS.
- 3,503,672. REDUCTION OF TURN-ON DELAY IN LIQUID CRYSTAL CELL.
- 3,503,673. REDUCTION OF TURN-ON DELAY IN LIQUID CRYSTAL CELL.
- 3,503,727. METHOD FOR GLASS TO GLASS SEALING UTILIZING SOFTENED AND RIGID CIRCUMFERENTIAL SEGMENTS.
- 3,504,199. SQUARE WAVE GENERATOR COMPRISING BACK-TO-BACK SERIES-CONNECTED CHARGE STORAGE DIODES.
- 3,504,239. TRANSISTOR WITH DISTRIBUTED RESISTOR BETWEEN EMITTER LEAD AND EMITTER REGION.
- D. 216,402. GAME BOARD OR SIMILAR ARTICLE.
- 3,504,609. OPTICAL DATA SELECTION AND DISPLAY.
- 3,505,132. METHOD OF ETCHING SEMICONDUCTIVE DEVICE HAVING LEAD-CONTAINING ELEMENTS.
- 3,505,139. METHOD OF MAKING A LAMINATED FERRITE MEMORY.
- 3,505,485. TAPE REELING SEARCH SYSTEM WITH TRANSISTOR SEARCH AMPLIFIER.
- 3,505,537. SIGNAL ENVELOPE DISCRIMINATOR AND GATING CIRCUIT.
- 3,505,541. ELECTRONIC TIMER.
- 3,505,667. CODE CONVERTER.
- 3,505,744. CENTRIFUGAL FORCE CONTROLLED TRANSDUCER.
- 3,505,804. SOLID STATE CLOCK.
- 3,506,441. DOUBLE PHOTORESIST PROCESSING.
- 3,506,817. BINARY ARITHMETIC CIRCUITS EMPLOYING THRESHOLD GATES IN WHICH BOTH THE SUM AND CARRY ARE OBTAINED IN ONE GATE DELAY INTERVAL.

- 3,506,845. NETWORKS OF ELEMENTS FOR IMPLEMENTING THRESHOLD FUNCTIONS.
- 3,507,252. COMBINATION OF A CONTAINER FOR A LIQUID AND MEANS FOR DISPENSING THE LIQUID.
- 3,507,426. METHOD OF DICING SEMICONDUCTOR WAFERS.
- 3,507,592. METHOD OF FABRICATING PHOTOMASKS.
- 3,507,986. SYNC SLIPPER.
- 3,508,033. COUNTER CIRCUITS.
- 3,508,076. LOGIC CIRCUITRY.
- 3,508,231. TEST TAPE WITH PRESELECTED SKEW.
- 3,508,696. TAPE BASKET.
- 3,508,719. MAGNETIC TAPE REEL.
- 3,508,809. HIGH EFFICIENCY LIGHT POLARIZATION SYSTEM.
- 3,509,362. SWITCHING CIRCUIT.
- 3,509,379. MULTIVIBRATORS EMPLOYING TRANSISTORS OF OPPOSITE CONDUCTIVITY TYPES.
- 3,509,450. THYRISTOR CONTROLLED VOLTAGE REGULATING CIRCUIT.



# PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner  
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JUNE 30, 1970

## PATENT EXAMINING GROUPS

Actual  
Filing Date  
of Oldest  
New Case  
Awaiting  
Action

### CHEMICAL EXAMINING GROUPS

GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director.....	12-03-68
Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director.....	4-02-68
Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director.....	8-13-68
Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director....	1-02-69
Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director..	3-11-68
Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	

### ELECTRICAL EXAMINING GROUPS

INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director.....	7-01-69
Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	
SECURITY, GROUP 220—S. BOYD, Director.....	9-05-68
Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director.....	12-03-68
Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director.....	11-22-68
Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	
PHYSICS, GROUP 280—R. L. EVANS, Director.....	6-07-68
Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	
DESIGNS, GROUP 290—S. BOYD, Director.....	10-02-69
Industrial Arts; Household, Personal and Fine Arts.	

### MECHANICAL EXAMINING GROUPS

HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director.....	5-16-69
Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director.....	1-02-69
Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director.....	3-10-69
Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletary; Printing; Typewriters; Stationery; Information Dissemination.	
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director.....	7-01-69
Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director.....	3-10-69
Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	

Total number of pending applications (excluding Designs).....	184,894
Total number of Design applications pending.....	3,018

Expiration of patents: The patents within the range of numbers indicated below expire during July 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 660, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1944 (58 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents.....	Numbers 2,644,159 to 2,647,268, inclusive
Plant Patents.....	Numbers 1,201 to 1,207, inclusive

# DECISIONS IN PATENT AND TRADEMARK CASES

United States Court of Appeals  
District of Columbia Circuit

ESSO RESEARCH AND ENGINEERING COMPANY

v.

EDWARD J. BRENNER, COMMISSIONER OF PATENTS

No. 23,417. Decided March 18, 1970

[— U.S.App.D.C. —; — F.2d —; — USPQ —]

## 1. INTERFERENCE—SETTLEMENT AGREEMENT—35 U.S.C. 135(c).

"It was the position of the appellee that he had no authority [under 35 U.S.C. 135(c)] to accept the [settlement] agreement after the expiration of the statutory six months' grace period following the interference termination. Appellant seeks to scale this barrier by asserting that appellee failed to give a timely notice within the meaning of the statute. His argument in essence is that the notice was given too far in advance, and that a 'reasonable' timing of the notice would have been at, or shortly before, the termination. But we see nothing in the statute, or in its legislative history, that compels this construction. The notice was given prior to termination in this instance; and its statutory purpose would have been fully achieved except for appellant's neglect. Although the sanction [rendering the prevailing patent permanently unenforceable] is concededly harsh, especially in a case like this where only human failure—and not deliberate disregard—was apparently involved, only Congress can conceivably relieve appellant from the consequences which surely attach under the statute as written."

APPEAL from the United States District Court for the District of Columbia.

AFFIRMED.

Mr. Marcus B. Finnegan, with whom Messrs. Ford F. Farabow, Jr., and Arthur S. Garrett were on the brief, for appellant.

Mr. Raymond E. Martin, Attorney, U.S. Patent Office, with whom Mr. S. Wm. Cochran, Acting Solicitor, U.S. Patent Office, was on the brief for appellee.

Before BAZELON, Chief Judge, McGOWAN and ROBB, Circuit Judges  
PER CURIAM:

In 1962 Congress provided that any settlement agreement with respect to an interference proceeding in the Patent Office must be filed prior to termination of that proceeding, on pain of rendering the prevailing patent permanently unenforceable. 35 U.S.C. § 135(c). The statute directed the Commissioner of Patents to give notice of the filing requirement "a reasonable time prior" to the termination of the proceeding. When the law was enacted, appellant was a party to a pending interference proceeding and, as such, received a written notice of the new requirement from the Patent Office a few days after it became effective. Sixteen months later a settlement agreement was reached and the interference proceeding terminated. However, because of inadvertence, the agreement was never filed. It was first tendered to the Patent Office some four years later and, upon the refusal of the Patent Office to receive it, suit was brought in the District Court to compel such receipt. On cross-motions for summary judgment, that of appellee was granted.

[1] It was the position of appellee that he had no authority to accept the agreement after the expiration of the statutory six-months' grace period following the interference termination. Appellant seeks



to scale this barrier by asserting that appellee failed to give a timely notice within the meaning of the statute. His argument in essence is that the notice was given too far in advance, and that a "reasonable" timing of the notice would have been at, or shortly before, the termination. But we see nothing in the statute, or in its legislative history,<sup>1</sup> that compels this construction. The notice was given prior to termination in this instance; and its statutory purpose would have been fully achieved except for appellant's neglect. Although the sanction is concededly harsh, especially in a case like this where only human failure—and not deliberate disregard—was apparently involved, only Congress can conceivably relieve appellant from the consequences which surely attach under the statute as written.

**AFFIRMED.**

<sup>1</sup> Appellant points to testimony in the Congressional hearings in which the Commissioner of Patents said that notice would be given at the time of the interference termination, and urges that Congress passed the law in reliance upon this representation. But this does not, in context, appear to have been anything like a fixed commitment, and the Commissioner's subsequent letter to the Senate Committee refers to the giving of notice "before" termination.

## PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

- 2,636,994, J. Neufeld, SPECTROMETER; 2,639,390, S. A. Scherbatskoy, RADIATION DETECTING DEVICE; 2,758,217, same, AUTOMATIC SCINTILLATION COUNTER; 2,778,947, same, AUTOMATIC PROPORTIONAL COUNTER; 2,962,590, same, RADIATION DETECTING; 3,184,597, same, STABILIZED SCINTILLATION DETECTOR; Re. 24,797, same, NUCLEAR WELL LOGGING, filed Apr. 16, 1970, U.S. Ct. of Cl., Washington, D.C., Doc. 126-70, *Serge A. Scherbatskoy v. The United States of America*.
- 2,639,390. (See 2,636,994.)
- 2,694,692, Amos, McCurdy and McIntyre, METHOD OF MAKING LINEAR INTERPOLYMERS OF MONOVINYL AROMATIC COMPOUNDS AND A NATURAL OR SYNTHETIC RUBBER, filed Apr. 22, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70-845-WPG, *Union Carbide Corporation v. The Dow Chemical Company*.
- 2,758,217. (See 2,636,994.)
- 2,778,947. (See 2,636,994.)
- 2,848,045, D. L. Bennett, VERTICAL VENETIAN BLIND; 2,993,535, E. F. Taylor, WINDOW BLIND CONSTRUCTION; 3,028,910, Bopp and Taylor, SHAFT HOOK AND MOUNTING FOR VERTICAL BLINDS; 3,061,005, same; LOUVER TYPE WINDOW BLIND; 3,038,534, R. J. Cayton, VERTICAL VENETIAN BLINDS; 3,054,446, same, VERTICAL VENETIAN BLINDS, filed Sept. 9, 1965, D.C., S.D.N.Y., Doc. 65-C-2733, *Louverdrape, Inc. et ano. v. M. Klahr, Inc.* Stipulation and order, complaints and counterclaims in actions Nos. 62-3274, 65-2733 and 66-508 dismissed with prejudice, Feb. 11, 1970.
- 2,870,548, C. Chedister, DRIVER TRAINING AND TESTING EQUIPMENT; 2,935,794, H. N. Durham, AUTOMOBILE DRIVER TRAINING AND TESTING APPARATUS; 3,015,169, Chedister and Chedister, DRIVER TRAINING AND TESTING EQUIPMENT; 3,071,874, C. Chedister, DRIVER TRAINING APPARATUS; 3,108,384, Jazbutis and Crommelin, TRAINING AND TESTING DEVICE; 3,154,864, A. Jazbutis, VEHICLE SIMULATOR, filed Mar. 9, 1970, D.C. Del. (Wilmington), Doc. 3855, *The Aetna Casualty and Surety Company v. Singer-General Precision, Inc. and Allstate Insurance Company*.
- 2,935,794. (See 2,870,548.)
- 2,962,590. (See 2,636,994.)
- 2,993,535. (See 2,848,045.)
- 3,015,169. (See 2,870,548.)
- 3,028,910. (See 2,848,045.)
- 3,038,534. (See 2,848,045.)
- 3,054,446. (See 2,848,045.)
- 3,061,005. (See 2,848,045.)
- 3,071,874. (See 2,870,548.)
- 3,105,748, W. Stahl, METHOD AND SYSTEM FOR DRYING GAS AND RECONCENTRATING THE DRYING ABSORBENT, filed Apr. 22, 1970, D.C., N.D. Okla. (Tulsa), Doc. 70-C-126, *Combustion Engineering, Inc. v. Black, Sivalls & Bryson, Inc.*
- 3,108,384. (See 2,870,548.)
- 3,109,503, Recknor, Merchant, Miller and Miller, WEIGHING AND MEASURING APPARATUS FOR GRANULAR AND THE LIKE MATERIAL, filed Apr. 27, 1970, D.C. Nebr. (Omaha), Doc. C-03522, *Produx Corporation v. Automatic Equipment Manufacturing Co.*
- 3,154,864. (See 2,870,548.)
- 3,184,597. (See 2,636,994.)
- 3,277,770, A. G. McCulloch, MASONRY ANCHOR BOLT, filed Sept. 19, 1969, D.C. Minn. (Minneapolis), Doc. 4-69-C-328, *Lester Lerich and Wej-It Expansion Products, Inc. v. Allan G. McCulloch, Langford Tool & Drill Co.* Stipulation of dismissal, Dec. 15, 1969.
- 3,321,061, A. H. Willinger, AQUARIUM FILTER APPARATUS; 3,392,836, same, AQUARIUM WATER CONDITIONING APPARATUS, filed Mar. 27, 1970, D.C., E.D.N.Y. (Brooklyn), Doc. 70-C-258, *Metaframe Corporation v. Edward Cisco, doing business as Ed's Tropical Aquariums*.
- 3,392,836. (See 3,321,061.)
- 3,406,572. (See 3,472,448.)
- 3,472,448, Wolf, Marino, Simon and Kummer, RECORDING SYSTEM FOR BUSINESS MACHINES; 3,406,572, Wolf and Marino, CONTROLLED AMPLITUDE FREQUENCY SHIFT SIGNAL GENERATOR, filed Dec. 24, 1969, D.C.N.J. (Newark), Doc. C-1533-69, *Digitronics Corp. v. Marketing Systems, Inc.*
- Re. 24,797. (See 2,636,994.)
- Re. 26,725, J. W. Sellner, COMBINED RECLINING EXERCISING AND MASSAGING DEVICE, filed Apr. 30, 1970, D.C., S.D. Calif. (San Diego), Doc. 70-127-S, *Embro Co., Inc. v. House of Slender Gem, Inc.*

## PLANT PATENTS

GRANTED JULY 21, 1970

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,981

ROSE PLANT

Maurice Combe, St. Martin d'Heres, France, assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Sept. 18, 1968, Ser. No. 760,739

Int. Cl. A01h 5/00

U.S. Cl. Plt.—21

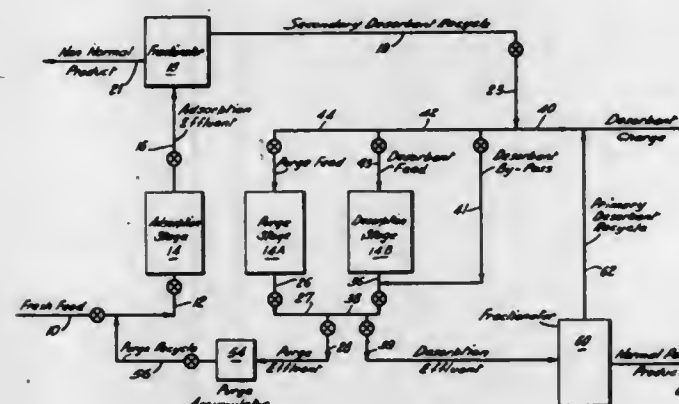
1 Claim

1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of an upright plant habit of average vigor, and a distinctive, attractive and unusual flower color generally corresponding to Garnet Brown suffused with Nopal Red and Scarlet.



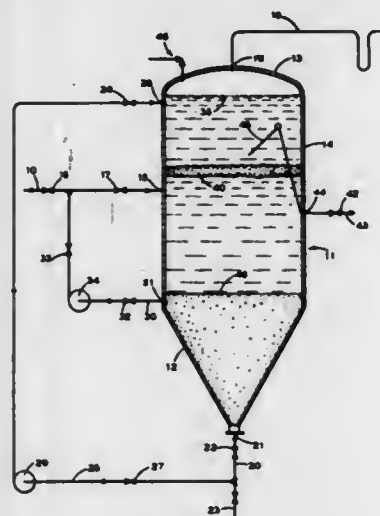
# **PATENTS** GRANTED JULY 21, 1970 **CHEMICAL**

**3,520,801**  
**LIMITING DESORPTION IN N-PARAFFIN ADSORPTION SEPARATION**  
Ralph M. Lewis, Nederland, and Richard W. Stokeld, Jr., Groves, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware  
Filed June 10, 1968, Ser. No. 735,752  
Int. Cl. C10g 25/04; C07c 7/12  
U.S. Cl. 208—310 16 Claims



A vapor phase hydrocarbon separation process wherein the straight chain hydrocarbon components of the feed to the adsorption zone are adsorbed on a molecular sieve selective adsorbent and desorption is carried out to remove from 50-70% of the adsorbed straight chain hydrocarbons from the selective adsorbent.

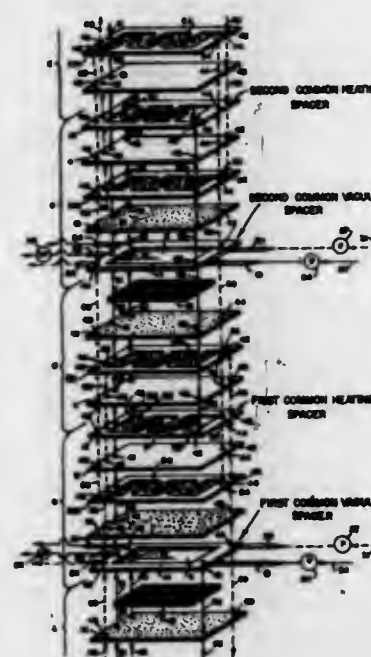
**3,520,802**  
**METHOD OF TREATING LIQUID WASTES**  
Edgar H. Pavia, 610 Poydras St., New Orleans, La. 70112  
Filed Apr. 26, 1968, Ser. No. 724,384  
Int. Cl. C02c 5/10  
U.S. Cl. 210—5 4 Claims



A method of treating high protein liquid wastes under anaerobic conditions to effect a substantial reduction in the biochemical oxygen demand thereof, in a relatively short treatment time.

604

**3,520,803**  
**MEMBRANE FLUID SEPARATION APPARATUS AND PROCESS**  
William B. Iaconelli, Schuette, Mass., assignor to Ionics, Incorporated, Watertown, Mass.  
Filed Dec. 24, 1968, Ser. No. 786,634  
Int. Cl. B01d 13/00  
U.S. Cl. 210—23 16 Claims



An apparatus for the separation of fluid mixtures having a plurality of three compartment subassemblies or units arranged in pair, each subassembly consisting of a vapor, a heating, and a feed compartment defined from each other by separating barriers placed therebetween. The vapor compartment is placed common to a pair of subassemblies and contains therein a membrane barrier support structure, both sides of this structure placed in face to face contact with a semi-permeable membrane; said vapor compartment associated with fluid inlet and outlet side ports which communicate with fluid conduits serving a pair of identical compartments located in subassemblies that are positioned on opposite sides of the common vapor compartment.

**3,520,804**  
**DESALINATION USING AN N-3-OXOHYDROCARBON-SUBSTITUTED ACRYLAMIDE POLYMER MEMBRANE**  
Donald I. Hoke, Chagrin Falls, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio  
Continuation-in-part of application Ser. No. 654,415, July 19, 1967. This application Jan. 14, 1969, Ser. No. 814,864  
Int. Cl. B01d 31/00, 13/00  
U.S. Cl. 210—23 11 Claims  
Films of polymers (both homopolymers and interpolymers) of N-3-oxohydrocarbon-substituted acrylamides, preferably N-(1,1-dimethyl-3-oxobutyl)acrylamide or diacetone acrylamide, are prepared from the appropriate polymers in bulk, solution, suspension, or emulsion; the

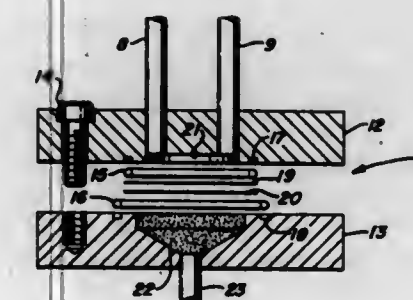
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CHEMICAL

605

latter includes lattices which are particularly useful. The films may be crosslinked by reacting with a wide variety

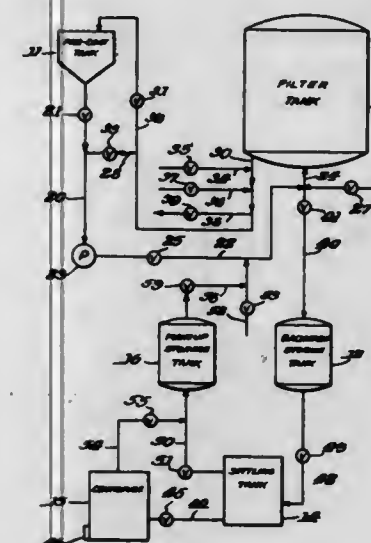
liquid-swallowable, organic liquid-insoluble polymer, and separating the polymer with the organic liquids imbibed therein. Useful for purifying water.



**3,520,807**  
**GREASE THICKENED WITH FIBERS COATED WITH A SOAP**  
Edward A. Cross, Beaumont, Tex., and Richard L. Frye, Baton Rouge, La., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 580,900, Sept. 21, 1966. This application June 26, 1968, Ser. No. 740,084  
Int. Cl. C10m 5/14, 5/16, 7/20  
U.S. Cl. 252—13 11 Claims  
A shear stable, water resistant grease composition thickened with a soap-wettable fiber which is coated with soap and a method of preparing said composition.

of reagents. They are particularly useful as membranes for the desalination of water by hyperfiltration.

**3,520,805**  
**METHOD OF DISPOSAL OF RADIOACTIVE SOLIDS**  
Leo F. Ryan, Westwood, N.J., assignor, by mesne assignments, to Union Tank Car Company, Chicago, Ill., a corporation of Delaware  
Filed May 29, 1967, Ser. No. 642,104  
Int. Cl. B01d 15/06  
U.S. Cl. 210—32 16 Claims

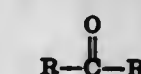


A method for removal and disposal of radioactive solids from a contaminated liquid, which employs a filter pre-coated with disposable finely divided ion exchange resin particles. When the resin particles are exhausted, the filter is cleaned by the simultaneous introduction of warm liquid and air in reverse flow, followed by a backwash cycle. The radioactive pre-coat material is allowed to settle from the cleaning and backwash liquids and is then centrifuged and discarded.

**3,520,806**  
**SEPARATION OF LIQUID ORGANIC MATERIALS FROM SUBSTRATES**  
Daniel H. Haigh, Beaverton, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 553,021, May 26, 1966. This application May 26, 1967, Ser. No. 641,459  
Int. Cl. C02b 1/14; B01d 15/00  
U.S. Cl. 210—40 15 Claims  
A method of separating organic liquids from substrates such as water which comprises contacting the substrate and organic liquid with a particulate cross-linked organic

**3,520,808**  
**LUBRICATING COMPOSITIONS CONTAINING NOVEL PHOSPHINIC REACTION PRODUCTS**  
Kenneth K. Light, Freehold, N.J., assignor to Mobil Oil Corporation, a corporation of New York  
No Drawing. Filed June 4, 1968, Ser. No. 734,220  
Int. Cl. C10m 1/48, 3/42; C10l 1/24  
U.S. Cl. 252—46.6 18 Claims  
Reaction products are produced by the reaction between thionophosphinesulfide dimers and phosphorus nucleophiles. These products are useful additives for industrial organic base media.

**3,520,809**  
**STABILIZATION OF ORGANIC SUBSTANCES**  
Allen K. Sparks, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
No Drawing. Filed July 3, 1967, Ser. No. 650,586  
Int. Cl. C10m 1/20, 3/14; B01l 1/16  
U.S. Cl. 252—52 10 Claims  
Stabilization of organic substances against oxidative deterioration and ultraviolet light absorption by incorporating in the organic substance a minor but stabilizing concentration of a compound of the following formula



where R is a polynuclear radical of four or more condensed aromatic rings and R' is hydrocarbyl or substituted hydrocarbyl, as exemplified by benzoylpyrene.

**3,520,810**  
**MANUFACTURE OF SINGLE CRYSTAL SEMICONDUCTORS**  
Thomas S. Plaskett, Ossining, Jerry M. Woodall, White Plains, and William C. Wuestenhoefer, Mahopac, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Jan. 15, 1968, Ser. No. 697,729  
Int. Cl. B01j 17/00, 17/20; H01c 3/00  
U.S. Cl. 252—62.3 4 Claims  
GaAs injection lasers operate more efficiently and yield higher power outputs if single crystals of GaAs having a high degree of crystalline perfection (free of dislocations and defects resulting from chemical inhomogeneities) are used. For operation as an essential element in an injection laser, the gallium to be combined with the arsenic is heavily doped, such that the resulting GaAs crystal has a carrier concentration of approximately  $2-4 \times 10^{18}/\text{cc}$ . Previous attempts to grow heavily doped dislocation-free GaAs crystals from a melt by the conventional horizontal Bridgman technique have been un-



successful. While extreme care has been taken to control pressure and temperature conditions during the growth from a melt of single crystals of GaAs, it was not realized that the dislocation density of a crystal depended on its growth orientation. This disclosure teaches that heavily doped crystals of GaAs grown in the <031> direction are essentially free of dislocations, and that such novel teaching can be applied to the growth of any doped compound provided that the stoichiometry of the compound can be varied and that the growth parameters are maintained under severe control. This disclosure also teaches that dopants with distribution coefficients farthest from unity are preferred for growing crystalline perfect doped crystals. It also teaches that higher As overpressure will enhance crystalline perfection. It further teaches that the stoichiometry of doped crystals changes with growth direction.

3,520,811

# COATED MAGNETIC AGGLOMERATES CONTAINING CHROMIUM DIOXIDE

Thomas J. Swoboda, Chester County, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Nov. 13, 1967, Ser. No. 682,620  
Int. Cl. H01f 1/26; G03g 9/00, 7/00

U.S. Cl. 252-62.54 13 Claims  
Fine, hard magnetic particles containing some chromium oxide in which the average valence of the chromium is greater than 3 can be formed into agglomerates of controlled size by shearing agitation in organic media in the presence of surfactants, and the particles then coated, and cemented in the agglomerates by a drying or semi-drying alkyd resin or the like. The alkyd coated agglomerates are ionized in basic media and thus form stable toners and inks containing the agglomerates in the magnetized state. The agglomerates can also be used to make reflex thermomagnetic recording members.

3,520,812

# REFRIGERANT COMPOSITION CONTAINING AMMONIA, ETHANOL, AND MINERAL OIL

Ray A. Ecklund, 160 E. Hurst Blvd., Hurst, Tex. 76053; Alvin G. Keller, trustee  
Filed Feb. 16, 1968, Ser. No. 706,072  
Int. Cl. C09k 3/00

U.S. Cl. 252-69 1 Claim  
This patent discloses a novel refrigerant composition useful at temperatures as low as -200° F., as well as methods and apparatus for using such composition. The advantage is taken of the properties of the composition to obtain refrigerating or air-conditioning equipment far more compact and efficient than anything hitherto known. The refrigerant is made by mixing mineral oil with ethanol to form crystals, which are then placed without agitation in cold household ammonia to form refrigerant liquid.

3,520,813

# METHOD AND COMPOSITION FOR CONTROLLING BOILER SCALE FORMATION

Gerald D. Hansen, Hollicong, and Elizabeth A. Guthrie, Philadelphia, Pa., assignors to Betz Laboratories, Inc., Philadelphia, Pa., a corporation of Pennsylvania  
No Drawing. Filed Nov. 3, 1966, Ser. No. 591,719  
The portion of the term of the patent subsequent to June 16, 1967, has been disclaimed

Int. Cl. B01d 15/00; C02b 1/14; C02h 5/06  
U.S. Cl. 252-85 9 Claims  
The present invention concerns a method and a composition for the treatment of boiler waters, and in particular, boiler waters containing calcium and magnesium impurities. The method of the invention provides for the control of scale formed from calcium and magnesium impurities in the water by adding to the water an acid hav-

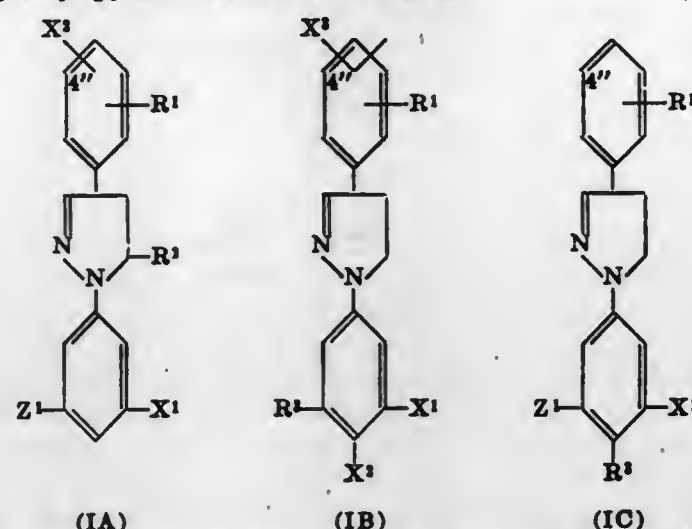
ing a dissociation constant of between about 3 and 8, a precipitating agent capable of reacting with said calcium and magnesium impurities in the presence of said acid to form a precipitate, and an adsorbent capable of adsorbing the precipitate formed. The acid is added in a quantity sufficient to reduce the rate of reaction of the impurities with the precipitating agent and sufficient to reduce the rate of particle growth and precipitation of the precipitate formed. Accordingly, the composition of the invention consists essentially of at least 0.1 mole of a precipitating agent, between 0.05 to 0.9 mole of an acid having a dissociation constant of between 3 to 8 for each mole of calcium impurities and between 1 to 1,000 parts by weight of an adsorbent for each 1,000,000 parts by weight of the water being treated.

3,520,814

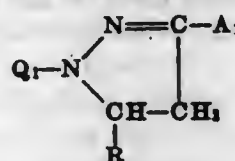
# PYRAZOLINE OPTICAL BRIGHTENERS

Heinrich Hausermann, Riehen, and Siegfried Rosenberger, Munchenstein, Basel-Land, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware  
Application Nov. 12, 1965, Ser. No. 507,309, now Patent No. 3,357,988, dated Dec. 12, 1967, which is a continuation-in-part of application Ser. No. 386,080, July 21, 1964. Divided and this application May 3, 1967, Ser. No. 647,283

Claims priority, application Switzerland, May 27, 1964, 6,917/64  
Int. Cl. C11d 7/54; D06l 3/12  
U.S. Cl. 252-95 2 Claims  
Optical brighteners especially for textile materials made from synthetic polyamide or cellulose ester fibers and detergents for laundering such fibers are selected from 2,3-diphenyl pyrazolines of the formulae:



wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, X<sup>1</sup>, X<sup>2</sup>, X<sup>3</sup>, and Z<sup>1</sup> are as defined in the specification and mixtures of such compounds with each other and with the compound of the formula:



wherein A<sub>1</sub>, R and Q<sub>1</sub> are as defined in the specification.

3,520,815

# PROCESS OF PREPARING STABLE DETERGENT COMPOSITION

Forrest Ashton Wessells, Baltimore, Md., assignor to W. R. Grace & Co., a corporation of Connecticut  
No Drawing. Continuation-in-part of application Ser. No. 586,023, Oct. 12, 1966. This application Sept. 4, 1969, Ser. No. 855,412

Int. Cl. C11d 7/56  
U.S. Cl. 252-99 4 Claims  
A detergent composition is disclosed having both improved deforming agent and chlorine-release stabilities

upon prolonged storage. The detergent composition, particularly suitable for use in automatic dishwashers, contains as essential ingredients a chlorine degradable polyethenoxy nonionic surfactant deforming agent, chlorinated trisodium phosphate, and sodium metasilicate pentahydrate.

3,520,816

# SOAP BAR COMPOSITIONS

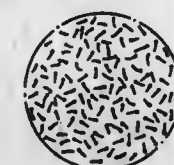
William De Acetis, New York, N.Y., and Richard F. Schimbor, San Francisco, and Rupert C. Morris, Berkeley, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Nov. 25, 1966, Ser. No. 596,744  
Int. Cl. C11d 9/02

U.S. Cl. 252-108 7 Claims  
Soap bar products high in beta-phase crystallinity are produced from unworked soap compositions comprising (a) 10% to 90% tallow soap and (b) soap of mixed C<sub>12</sub>-C<sub>18</sub> carboxylic acids wherein at least a portion of the mixture is of odd carbon number and at least a portion of acid of any single carbon number is of straight-chain structure and at least a portion is of branched-chain structure.

3,520,817

# PROCESS FOR MAKING FAST HYDRATING TRIPOLYPHOSPHATES AND DETERGENTS CONTAINING SAID PHOSPHATES

Linda J. Caldwell, Felham, N.Y., and Seymore Goldwasser, Teaneck, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine  
Filed Apr. 21, 1966, Ser. No. 544,244  
Int. Cl. C11d 9/14; B01d 9/00; C01b 25/30  
U.S. Cl. 252-109 9 Claims



NEEDLE-LIKE CRYSTALS  
(ABOUT 200X MAGNIFICATION)



PLATE-LIKE CRYSTALS  
(ABOUT 200X MAGNIFICATION)

The disclosure is concerned with a slow hydrating phosphate, e.g., pentasodium tripolyphosphate, which is mixed, i.e., treated, with an acid phosphate, e.g., disodium dihydrogen pyrophosphate, to increase the rate of hydration of the phosphate and to promote the formation of desirable needle-like crystals. The disclosure is also concerned with a detergent composition containing a mixture of the aforementioned phosphates.

3,520,818

# ABRASIVE LIQUID DETERGENT COMPOSITIONS

Cushman Merlin Cambre, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio  
No Drawing. Filed Dec. 20, 1966, Ser. No. 603,098  
Int. Cl. C11d 9/14, 9/20, 9/32

U.S. Cl. 252-113 13 Claims  
Liquid detergent compositions suitable for cleaning hard surfaces which are capable of supporting particulate material, e.g., abrasives; said detergent compositions contain water, soap, zwitterionic synthetic detergents and tetrapotassium pyrophosphate, and can, additionally, contain borate ions and interpolymers of methyl vinyl ether and maleic anhydride esterified with a zwitterionic synthetic detergent.

3,520,819

# HIGH ENERGY GAMMA RAY SOURCE

Albert E. Litherland, Toronto, and Thomas K. Alexander and Alan T. Jeffs, Deep River, Ontario, Canada, assignors to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada  
No Drawing. Filed Sept. 7, 1967, Ser. No. 665,985  
Int. Cl. C09k 3/00

U.S. Cl. 252-301.1 4 Claims  
A gamma ray source is described in which the capture of energetic alpha particles by certain element nuclei result in an excited state of a daughter element of higher atomic number and which has a sufficiently long life time in that state before decay by gamma radiation, so that the recoil velocity consequent upon the alpha particle absorption makes negligible contribution to broadening of the gamma ray spectrum line.

The source of alpha particles must be energetic and preferably comprises plutonium, curium, or americium and the element used for capture is preferably boron 10 or carbon 13.

3,520,820

# COLD WATER DISPERSIBLE EMULSIONS OF FILMING AMINES

Chih Ming Hwa, Arlington Heights, Ill., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut  
No Drawing. Continuation-in-part of application Ser. No. 407,849, Oct. 30, 1964. This application Jan. 29, 1968, Ser. No. 701,135

Int. Cl. B01j 13/00  
U.S. Cl. 252-311 10 Claims  
Filming amine corrosion inhibitors containing aliphatic fatty amines and acetic acid are mixed with non-ionic emulsifiers to form liquid, cold water dispersible emulsions.

3,520,821

# SEALING POROUS, POLYMERIC MATERIAL, MEMBRANES WHICH FORM CAPSULE WALLS

David J. Striley, Centerville, and James E. Williams, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland  
No Drawing. Filed Aug. 29, 1966, Ser. No. 575,542  
Int. Cl. B01j 13/02; B44d 1/44

U.S. Cl. 252-316 8 Claims  
A process is provided for treating, en masse, hydrophilic-material walls of minute capsules to reduce loss of the capsule contents due to permeation through the capsule walls. Capsules treated by the novel process are especially those which contain liquid materials having highly polar characteristics. The treatment includes dispersing preformed capsules in an aqueous treatment solution of polyhydric material and then isolating the capsules from the treatment solution and drying the capsule walls. The capsules are subsequently redispersed in the liquid vehicle.

3,520,822

# FOAM DESTRUCTION DEVICE

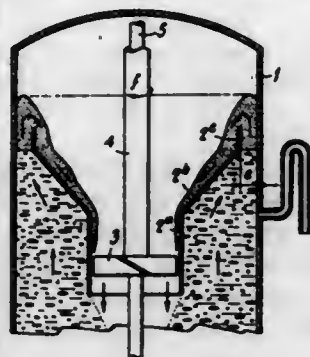
Knut Rude Traelnes, Yverdon, Switzerland, assignor to Societe d'assistance technique pour produits Nestle S.A., Lausanne, Switzerland, a corporation of Switzerland  
Filed Apr. 15, 1968, Ser. No. 721,230

Claims priority, application Switzerland, Apr. 13, 1967, 5,230/67  
Int. Cl. B01d 19/02

U.S. Cl. 252-361 5 Claims  
A foam destruction device comprises an open-ended chamber, preferably conical, with an interior wall flared upwardly and outwardly, a cylindrical base and an impeller within or below the base. The liquid level outside the chamber is raised and the surface foam overflows into



the chamber where it is broken up by the vortex caused by the impeller and is returned to the liquid. Other fea-



tures of the invention are described in the following specification and accompanying drawing.

3,520,823

## SYNTHESIS GAS PROCESS

William L. Slater, La Habra, Calif., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware  
Filed Apr. 24, 1967, Ser. No. 633,147  
Int. Cl. C07c 1/02; C01b 2/02, 2/30

U.S. Cl. 252-373

1 Claim

A synthesis gas process comprising contacting saline water with hot hydrocarbon liquid to produce a hydrocarbon-water complex containing about 10 to 50 percent desalted water, and feeding a portion of said complex into a partial oxidation generator to produce a hot effluent stream comprising carbon monoxide, hydrogen, and entrained carbonaceous solid. Said hot effluent stream is cooled with quench water in which the unconverted carbon forms a dispersion. Another portion of said complex is added to said quench water to absorb the carbonaceous solids and to form a carbon-complex slurry which is separated from the quench water and fed to the generator. Mineral-free water, which separates out upon cooling a portion of said complex, is added to the quench water system as makeup and to satisfy the water requirements for a subsequent carbon monoxide shift reaction.

3,520,824

## METHOD OF PREPARING SILICA-ALUMINA HYDROSOLS

Charles J. Plank, Woodbury, and Edward J. Rosinski, Deptford, N.J., assignors to Mobil Oil Corporation, a corporation of New York  
No Drawing. Continuation of application Ser. No. 454,708, May 10, 1965. This application Apr. 1, 1969, Ser. No. 812,455

Int. Cl. B01j 13/00

U.S. Cl. 252-313

6 Claims

A method of converting a silica-alumina hydrogel to a silica-alumina hydrosol comprising peptizing the hydrogel with aqueous ammonia with at least about 0.25 moles of ammonia per mole of silica-alumina hydrogel being present in the peptizing mixture.

3,520,825

## COMPOSITIONS CONTAINING ORGANIC PEROXIDES

Michael Koehler, Munich, and Gottfried Brossmann, Holtriegelskreuth, near Munich, Germany, assignors to Elektrochemische Werke München Aktiengesellschaft, Holtriegelskreuth, near Munich, Germany  
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,753  
Claims priority, application Germany, Dec. 15, 1965, E 30,667

Int. Cl. C08g 35/00; C08f 15/16

U.S. Cl. 252-426

5 Claims

An organic peroxide-containing paste composition containing a solid organic peroxide, water and a polyethylene

glycol which melts at a temperature below the decomposition temperature of the peroxide and which, in admixture with the water and peroxide, melts at below room temperature.

3,520,826

## CATALYST COMPOSITIONS AND THEIR PREPARATION

Kenjiro Tanaka, Hideo Komura, Katsuhiko Ono, Yoshinobu Tachibana, Hiroshi Ichikawa, and Toshitake Nishimura, Tokuyama-shi, Japan, assignors to Idemitsu Kosan Co., Ltd., Tokyo, Japan, a corporation of Japan  
No Drawing. Filed Feb. 14, 1967, Ser. No. 615,905  
Claims priority, application Japan, Nov. 21, 1966, 41/76,151

Int. Cl. C08f 3/02, 7/02; C08d 3/04

U.S. Cl. 252-429

4 Claims

This invention relates to a novel catalyst composition useful for the polymerization of  $\alpha$ -olefins, which comprises (1) an organometallic compound of a transition metal of Groups IV to VI and Group VIII of the Periodic Table and (2) the halide of a transition metal of Groups IV to VI and Group VIII of the Periodic Table.

3,520,827

## PROCESS FOR MANUFACTURING NEW POLYMERIZATION CATALYSTS, THE RESULTING NEW CATALYSTS AND THEIR USES

Jean Lepage, Saint-Germain-en-Laye, and Masch Organ, Paris, France, assignors to Institut Français du Pétrole des Carburants et Lubrifiants, Rueil-Malmaison, France

No Drawing. Filed Nov. 24, 1967, Ser. No. 685,289  
Claims priority, application France, Dec. 2, 1966, 86,080

Int. Cl. B01j 11/84

U.S. Cl. 252-431

7 Claims

A polymerization catalyst consists of partially hydrolyzing a double alcoholate of the Formula I  $M^1 [M(OR)_2]_2$  by means of water. Instead of the complex of Formula I a mixture of alcoholates of the Formula II  $M(OR)_3$  and III  $M^1(OR)_2$  may be subjected to the hydrolysis step. In Formulas I to III, M is a trivalent metal selected from Groups III to VIII as well as arsenic, antimony or bismuth,  $M^1$  is a bivalent metal selected from Groups IIa and IIb as well as amongst metals of atomic Nos. 22 to 29 and R is a monovalent hydrocarbon radical.

3,520,828

## INORGANIC OXIDE GEL AND METHOD OF PREPARING THE SAME

Edward J. Rosinski, Deptford, N.J., assignor to Mobil Oil Corporation, a corporation of New York  
Filed May 17, 1966, Ser. No. 550,719

Int. Cl. B01j 11/40

U.S. Cl. 252-453

6 Claims

Preparation of composite particles of an inorganic oxide gel, e.g. of silica-alumina, having fines dispersed therein, e.g. of crystalline aluminosilicate zeolite. Process comprises forming a rapidly gelling hydrosol of the inorganic oxide and spraying the hydrosol into a gaseous medium to form a stream of particles which are suspended therein for a time sufficient to effect gelation. Fines are incorporated in the hydrosol prior to gelation by dispersing the fines in the hydrosol prior to spraying or by spraying the hydrosol into a gaseous medium containing fines suspended therein. The product, in which the fines constitute greater than 40% by volume, is useful as a catalyst, as for hydrocarbon cracking.

3,520,829

## HYDROCONVERSION CATALYST

Bernard F. Mulaney, Pinole, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 742,321, July 3, 1968, which is a continuation-in-part of application Ser. No. 645,855, June 8, 1967, which in turn is a continuation-in-part of application Ser. No. 568,536, July 25, 1966. This application Nov. 7, 1968, Ser. No. 774,207

Int. Cl. B01j 11/40, 11/58

U.S. Cl. 252-454

4 Claims

A novel catalyst composition consisting essentially of nickel, or compounds thereof, and tin, or compounds thereof, associated with a crystalline zeolitic aluminosilicate.

3,520,830

## METHOD OF AGGLOMERATING FINELY DIVIDED BAUXITE

Victor Audley Chapman, Jr., Houston, Tex., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed July 7, 1967, Ser. No. 651,684

Int. Cl. B01j 11/06

U.S. Cl. 252-463

5 Claims

Bauxite fines are pelletized using a mix in which the binder component comprises an alkali metal hydroxide and an alkali metal carbonate.

3,520,831

## ELECTRICALLY CONDUCTIVE GLASS FOR A SECONDARY EMISSION ELECTRODE

Hendrikus Johan Lodewijk Trap, Emmasingel, Eindhoven, Netherlands, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Jan. 4, 1967, Ser. No. 607,147  
Claims priority, application Netherlands, Jan. 29, 1966, 6601167; Sept. 13, 1966, 6612854

Int. Cl. H01b 1/08; H01j 43/00

U.S. Cl. 252-518

5 Claims

A glass composition especially adapted for use in a secondary-emissive electrode which composition consists of  $V_2O_5$ - $P_2O_5$ - $PbO$  containing a small amount of  $As_2O_3$  or  $Sb_2O_3$ .

3,520,832

## FLAME RESISTANT EPOXY RESINS AND PROCESS OF MAKING SAME

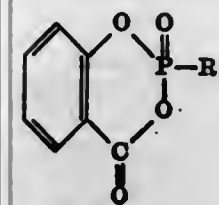
Wilhelm Vogt, Cologne-Sulz, Paul Janssen, Cologne, and Hermann Richtzenhain, Cologne-Sulz, Germany, assignors to Dynamit Nobel A.G., Troisdorf, Bezirk Cologne, Germany, a corporation of Germany  
No Drawing. Filed July 15, 1965, Ser. No. 472,311  
Claims priority, application Germany, July 17, 1964, D 44,968

Int. Cl. C08g 30/10

U.S. Cl. 260-2

9 Claims

Flame resistant resins from epoxy compounds are produced by hardening epoxy resins having more than one 1,2 epoxy group per molecule, with a mixed ester anhydride of aromatic orthohydroxy carboxylic acids and trivalent or quinquivalent phosphorus compound reactive with the aromatic hydroxycarboxylic acid to form the fixed ester anhydride. The mixed ester can be, for example,



wherein  $R_1$  is chlorine, bromine, thiocyanate, alkyl, aryl, aralkyl, alkaryl, chloralkyl, alkoxy, aryloxy or cycloalkyl.

3,520,833  
METHOD OF MAKING EXPANDABLE POLYMERS

Harold A. Wright, Murrysville, Pa., assignor to Sinclair-Koppers Company, a partnership  
No Drawing. Filed Jan. 15, 1968, Ser. No. 697,601  
Int. Cl. C08d 13/08; C08f 47/10; C08j 1/26

U.S. Cl. 260-2.5

4 Claims

Expandable polystyrene beads that exhibit excellent anti-lumping properties and good fusion on molding are produced by suspending polystyrene beads in an aqueous medium and impregnating a blowing agent into the beads in the presence of at least 0.05, but usually not more than 0.75 part per 100 parts of the beads of a lecithin.

3,520,834

## FOAMABLE MOLDING COMPOSITION

Kunio Mizutani, Yokkaichi-shi, Takaaki Ito, Tokyo, and Kenyu Ono, Yokkaichi-shi, Japan, assignors to Mitsubishi Petrochemical Co., Ltd., Tokyo, Japan  
No Drawing. Filed Aug. 18, 1967, Ser. No. 661,516  
Int. Cl. C08f 47/10, 29/12; C08j 1/26

U.S. Cl. 260-2.5

1 Claim

Improving the moldability of a foamable polystyrene resin by incorporating therein a low-density polyethylene resin. The present invention relates to an expandable or foamable composition having an improved moldability and more particularly to a foamable and molding composition in which the extrusion moldability or blowing moldability of a foamable polystyrene resin can be improved by compounding a low-density polyethylene resin into the foamable polystyrene resin.

3,520,835

## POLYURETHANE FOAMS AND THEIR METHOD OF PREPARATION USING STANNOUS SALTS OF ALIPHATIC ACIDS AND BETA-HYDROXY AMINES AS CATALYSTS

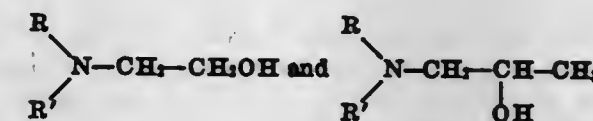
Edwin Fenton Chandley, Hazel Grove, Hugh Wallis Leigh, Grappenhall, Warrington, and Arnold John Lowe, Altrincham, England, assignors to Lankro Chemicals Limited, Eccles, England, a British company  
No Drawing. Filed Mar. 2, 1965, Ser. No. 436,674  
Claims priority, application Great Britain, Mar. 12, 1964, 10,558/64

Int. Cl. C08g 22/46, 22/34

U.S. Cl. 260-2.5

5 Claims

This invention relates to polyurethane foams and to the use of novel catalysts in processes for making flexible polyurethane. The polyurethanes are prepared by reacting a polyfunctional organic isocyanate with water and a polyoxyalkylene compound containing at least two hydroxyl groups. The reaction is carried out in the presence of a foam stabilizing agent and a stannous salt of an aliphatic acid and a tertiary amine of not more than 11 carbon atoms and having from one to two beta-hydroxyl groups. The latter two mentioned compounds act as catalysts for the reaction which is carried out in the absence of other amine catalysts containing two nitrogen atoms in their molecules. The tertiary amine catalysts of the invention preferably possess one of the following chemical formulas



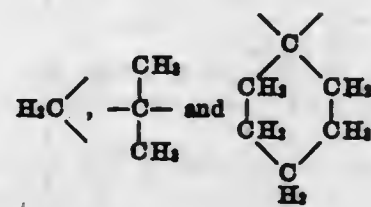
wherein R and R' represent alkyl groups.







wherein  $n=0$  or a whole number between 1 and 20,  $R_1$  represents the radicals



$R_1$  and  $R_2$  represent aliphatic radicals selected from a group consisting of methyl, ethyl, n- and isopropyl, n-, iso-, sec- and tert-butyl, n- and isoamyl, n- and iso-octyl, and n- and isononyl radicals, and (b) as a hardening agent at least one heat-hardening compound selected from a group consisting of acid anhydrides, aromatic polyamines, and borontrifluoride complexes selected from a group consisting of borontrifluoride monoethylamine, borontrifluoride-2,4-dimethylaniline, and borontrifluoride-benzylamine, components (a) and (b) being employed in substantially the proportion of 1 mol. of (b) for each epoxy equivalent of (a).

3,520,849

#### NORMALLY SOLID ORGANIC PHOSPHORUS POLYMER

Edwin J. Vandenberg, Foulk Woods, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 14, 1967, Ser. No. 690,433

Int. Cl. C08g 33/16

U.S. Cl. 260—47

13 Claims

Normally solid phosphorus polymers are obtained by the polymerization of cyclic phosphates or phosphorothionates or the copolymerization of these cyclic phosphorus compounds with an epoxide, aldehyde or cyclized aldehyde, or oxetane. These polymers have high molecular weights, having RSV's of at least 0.09 as measured in dimethylformamide, and many are crystalline. Catalysts for the polymerization are alkylmagnesium compounds or reaction products thereof with a polyreactive compound such as ammonia. These phosphorus compounds are useful as additives for thermoplastic resins as stabilizers, to increase flame resistance, and to improve low temperature properties. They can be hydrolyzed or saponified to yield water-soluble phosphorus polymers useful as thickeners and as protective colloids.

3,520,850

#### PROCESS FOR POLYMERIZING HALOGENATED KETONES WITH FORMALDEHYDE

Kornel D. Kiss, University Heights, Ohio, assignor to Diamond Shamrock Corporation, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Mar. 16, 1964, Ser. No. 352,305

Int. Cl. C08g 3/00

U.S. Cl. 260—64

7 Claims

Useful easily workable and thermally stable copolymer compositions having a high degree of fire retardance are prepared by copolymerizing a mixture of 80 to 99.9 mol percent of formaldehyde and 0.1 to 20 mol percent of a halogenated propanone. Suitable halogenated propanones include hexafluoroacetone, tetrafluoroacetone, hexachloroacetone, tetrachloroacetone, 1,3-dichloro-2-propanone, and tetrafluorodichloroacetone. The copolymerization is conducted under substantially anhydrous conditions in an

inert organic liquid at a temperature in the range of  $-80^\circ\text{C}$ . to  $30^\circ\text{C}$ . for a period of about 1 to 20 hours. Typical catalysts employed in the process are alkali metals alkoxides of alkali metals, and organo metallic compounds.

3,520,851

#### FORMALDEHYDE COPOLYMERIZATION PROCESS

Hugh Harper Gibbs, Crestfield, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 20, 1967, Ser. No. 654,678

Int. Cl. C08g 1/20

U.S. Cl. 260—67

7 Claims

Antimony pentafluoride is employed as a catalyst to copolymerize formaldehyde with styrene oxide and cyclohexene oxide in a hydrocarbon diluent at a temperature of from  $-45$  to  $35^\circ\text{C}$ .

3,520,852

#### PROCESS OF PREPARING POLYIMIDES OF STYRENE-MALEIC ANHYDRIDE POLYMERS

Richard J. Pratt, Flossmoor, and Robert J. Conboy, Rockford, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 19, 1967, Ser. No. 676,608

Int. Cl. C08g 20/20

U.S. Cl. 260—78

14 Claims

Hydroxy imides are prepared from styrene-maleic anhydride polymers by first partially esterifying with a low boiling alcohol of 1 to 5 carbon atoms, thus converting anhydride groups of the polymers to half esters and acid groups, then reacting the half ester polymers with a hydroxy amine at imide-forming temperature thus displacing the low boiling alcohol and forming the hydroxy imides of styrene-maleic anhydride polymers. This process minimizes cross-linkage and avoids concomitant loss of the desirable hydroxy group. This process also can be used to prepare other polyimides of styrene-maleic anhydride polymers from amines, such as from dialkylamino-propyl-amine. Such polyimides prepared by this process usually have a lighter color and contain less free amine than when prepared by direct reaction with the anhydride using excess amine. The products prepared in accordance with this process are suitable for the formulation of coatings, castings and related products.

3,520,853

#### PRODUCTION OF LINEAR POLYESTERS

Hideaki Munakata, Hiroyoshi Kamatani, Akira Uejima, Tetsuo Ukai, and Toshiyuki Mizumoto, Ootsu, Japan, assignors to Toyo Boseki Kabushiki Kaisha, Osaka, Japan

No Drawing. Filed Apr. 30, 1969, Ser. No. 820,614

Claims priority, application Japan, Apr. 30, 1968, 43/29,254

Int. Cl. C08g 17/04, 35/00

U.S. Cl. 260—78.4

8 Claims

The present invention provides a method for the production of polyesters by esterifying benzene dicarboxylic acid with ethylene oxide in a solvent and then subjecting the esterification reaction product to polycondensation without the isolation and purification of the ester, characterized by the fact that the esterification is conducted in the presence of a catalyst selected from the group consisting of primary amines, secondary amines, tertiary amines, their carboxylic acid salts, and quaternary ammonium salts of carboxylic acid salts, and that, prior to the polycondensation, the solvent and unreacted ethylene oxide in the esterification reaction product are thoroughly

removed at a temperature not higher than  $180^\circ\text{C}$ . until the ethylene oxide content is reduced to an amount represented by the following formula:

$$EO \leq \frac{2.3}{ES - 15} \quad (1)$$

wherein EO is mol number of remaining ethylene oxide per mol of the ester and ES (percent) is a degree of esterification of all the carboxylic group.

3,520,854

#### METHOD OF TREATING LIQUID DITHIOLS AND LIQUID DITHIOLS-RUBBER BLENDS WITH ALKANOLAMINES AND METHYL AMINO-ALKYL PHENOLS AND COMPOSITIONS THEREOF

Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 12, 1966, Ser. No. 578,517

Int. Cl. C08c 11/54; C08f 27/06

U.S. Cl. 260—79

10 Claims

A liquid dithiol is converted to a polysulfide polymer which is curable by a novel catalytic curing agent comprising

- (1) a alkanolamine, and
- (2) a methylaminoalkyl phenol,

to yield a polymeric composition which is useful as a sealant, e.g., putty, calking compounds and the like.

3,520,855

#### ACRYLONITRILE COPOLYMERS

Jenő Szita, Cologne-Worringen, and Heinrich Rinkler, Alfred Noga, Herbert Marzolph, and Günther Nischk, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 26, 1968, Ser. No. 700,711

Claims priority, application Germany, Feb. 2, 1967, F 51,419

Int. Cl. C08f 15/22; C07c 69/54, 103/12

U.S. Cl. 260—79.3

12 Claims

The invention relates to fibre-forming acrylonitrile copolymers having high affinity for acid dyes and to a process for their production by copolymerising at least 80% by weight of acrylonitrile together with 0.5 to 20% by weight of an unsaturated copolymerisable N,N-disubstituted oxalamide or a quaternisation product thereof.

3,520,856

#### PROCESS FOR THE PRODUCTION OF POLYMERS FROM CYCLOMONOOLEFINS AND DIENES HAVING A PREDETERMINED MOLECULAR WEIGHT AND THE POLYMERS THEREOF

Gino Dall'Asta, Milan, Italy, assignor to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Dec. 20, 1966, Ser. No. 608,482

Claims priority, application Italy, Dec. 21, 1965, 28,378/65

Int. Cl. C08c 11/54; C08d 11/00; C08f 27/06

U.S. Cl. 260—79.5

12 Claims

Copolymers consisting essentially of polymerized units of cycloolefins and of relatively small amounts of polymerized units of conjugated dienes are disclosed. The copolymers exhibit the crystallinity of polyalkenamers and are obtained by copolymerizing a mixture of cycloolefin and conjugated diene in a molar ratio of 10:1 to 10,000:1, in contact with a catalyst prepared from a tung-

sten salt and an organometallic compound or metal hydride of a Group I to III metal. The relatively small amount of polymerized units of conjugated diene present in the copolymer functions as a regulator of the molecular weight, which can be varied and controlled by varying the amount of the diene available for copolymerization with the monoolefin during the copolymerization reaction.

3,520,857

#### SILVER HALIDE PEPTIZERS

Stewart H. Merrill and Ernest J. Perry, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application Dec. 21, 1964, Ser. No. 420,160, now Patent No. 3,419,397, dated Dec. 31, 1968. Divided and this application July 31, 1968, Ser. No. 766,006

Int. Cl. C08f 7/12, 15/14

U.S. Cl. 260—80.3

3 Claims

Copolymers comprising at least about 40 to 100 mole percent of an acrylyl or methacryl histidine and up to about 60 mole percent of acrylic or methacrylic acid. In one aspect, polymers of this type are good peptizers for silver halide photographic emulsions.

3,520,858

#### POLYMERIZATION PROCESS

Stephen John Bodnar, Beaumont, and Chuck Linwell, McHargue and Larn Carnell Anglin, Jr., Nederland, Tex., assignors to Texas-U.S. Chemical Company, Parsippany, N.J., a corporation of Delaware

No Drawing. Filed Sept. 6, 1967, Ser. No. 665,720

Int. Cl. C08d 3/06; C08f 19/08

U.S. Cl. 260—83.7

12 Claims

A polymerization process for homopolymerizing and copolymerizing diene monomers in solvent solution utilizing an organolithium polymerization catalyst to produce polymeric materials which can be vulcanized to form synthetic rubbery materials.

3,520,859

#### SUSPENSION POLYMERIZATION METHOD FOR PREPARING ELASTOMERIC HYDROCARBON INTERPOLYMERS

Albert E. Schrage, Orange, and Jules E. Schoenberg, Bergenfield, N.J., assignors to Dart Industries Inc., Los Angeles, Calif., a corporation of Delaware

Filed Dec. 9, 1965, Ser. No. 521,236

Int. Cl. C08f 15/40

U.S. Cl. 260—80.78

4 Claims

A process for preparing elastomeric hydrocarbon interpolymers in particle form in a diluent system containing 15 to 99 volume percent of one liquid aliphatic hydrocarbon and at least one other liquid hydrocarbon.

3,520,860

#### PROCESS FOR CLARIFYING DILUTE LATICES

Charles K. Bon, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 5, 1967, Ser. No. 673,135

Int. Cl. C08c 1/08, 1/14, 11/14

U.S. Cl. 260—821

7 Claims

A process for the concentration of polymer particles in a dilute latex and clarifying the latex comprising in sequence the steps of:

- (A) distributing ferric ions preferably as ferric chloride uniformly throughout the dilute latex which is maintained at a pH sufficiently acidic to maintain solubility of the ferric ions, and then
- (B) adding a base such as sodium hydroxide to the mixture to raise the pH above 7 and then
- (C) collecting the polymer particles which settle out.



3,520,861

## COPOLYMERS OF ETHYLENE

John E. Thomson and George E. Waples, Jr., Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 276,085, Apr. 26, 1963. This application Dec. 26, 1968, Ser. No. 787,236

Int. Cl. C08f 15/02

U.S. Cl. 260—88.1 10 Claims  
Homogeneous, compositionally uniform, random copolymers of ethylene and from about 0.1 to about 35 weight percent of acrylic, methacrylic or crotonic acid are made by continuous polymerization in a stirred autoclave under steady state conditions and are particularly characterized by plastic recovery values of less than 100%, usually less than about 50%, controlled by polymerization conditions. Copolymers products are useful in coatings, adhesives and laminations having improved adhesion, printability and glueability relative to polyethylene.

3,520,862

## PROCESS FOR PRODUCING COPOLYMER OF ETHYLENE WITH STYRENE

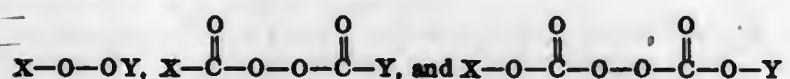
Isoji Taniguchi, Kanji Yoshikawa, and Yoshiharu Tatsugami, Niihama-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan  
No Drawing. Continuation-in-part of application Ser. No. 304,963, Aug. 27, 1963. This application Aug. 21, 1967, Ser. No. 661,801

Claims priority, application Japan, Aug. 27, 1962, 37/36,733

Int. Cl. C08f 15/04

U.S. Cl. 260—88.2 5 Claims

A process for producing a copolymer of ethylene with styrene containing 1 to 25% by weight of styrene units in the molecule, which comprises contacting ethylene with styrene under a pressure not lower than 800 atmospheres at a temperature not lower than 100° C. in the presence of at least one catalyst selected from the compounds having the general formulae:



wherein X is a phenyl or alkyl group and Y is a hydrogen atom or an alkyl group. The copolymer is a clear, transparent solid with excellent impact strength.

3,520,863

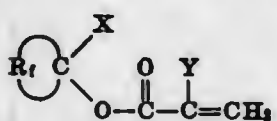
## NOVEL ACRYLIC MONOMERS, POLYMERS AND INTERMEDIATES

Louis Gene Anello, Basking Ridge, and Richard P. Sweeney, Randolph Township, Dover, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed June 24, 1965, Ser. No. 466,831

Int. Cl. C08f 3/64, 3/66

U.S. Cl. 260—89.5 22 Claims

Fluorinated acrylic compounds of the formula



wherein R<sub>1</sub> is a perfluorinated alkylene radical containing at least two carbon atoms, X is a member selected from the group consisting of H and F and Y is a member selected from the group consisting of H and CH<sub>3</sub>, are useful as monomers for the preparation of polymers capable of imparting oleophobic and hydrophobic properties to fabric materials which are coated with the same. Those fluorinated acrylic compounds of the above formula wherein X is H may be prepared by reacting an appropriate 1-hy-

droperfluorocycloalkanol with acrylic acid, methacrylic acid, or equivalent. Those fluorinated acrylic compounds of the above formula wherein X is F may be prepared by reacting acrylyl chloride or methacrylyl chloride with ZF adducts of the corresponding perfluorinated cycloalkanes, wherein Z may be a member selected from the group consisting of K, Cs, Ag and Rb.

3,520,864

## CHLORINATED POLYVINYL FLUORIDE

Robert Bacskai, Berkeley, Calif., assignor to Chevron Research Corporation, San Francisco, Calif., a corporation of Delaware  
No Drawing. Filed Mar. 27, 1967, Ser. No. 625,981

Int. Cl. C08f 3/22, 27/02

U.S. Cl. 260—92.1 5 Claims

Solid chlorinated essentially linear polyvinyl fluoride or solid chlorinated polyvinyl fluoride which is essentially insoluble in solvents below about 100° C. containing about 0.5 to 60 weight percent chlorine. These chlorinated polyvinyl fluorides have lower Vicat softening points than their unchlorinated precursors. They may be used to make molded or extruded objects and surface coatings.

3,520,865

## TREATMENT OF DIENE ELASTOMERS WITH BORON COMPOUNDS

Gottfried Pampus and Nikolaus Schön, Leverkusen, and Josef Witte, Cologne-Stammheim, Germany, assignors to Fabrikken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Continuation of application Ser. No. 531,742, Mar. 4, 1966. This application Jan. 23, 1969, Ser. No. 810,893

Int. Cl. C08d 3/14, 5/02; C08f 27/00

U.S. Cl. 260—92.3 5 Claims

Treatment of diene elastomers with boron-hydrogen compounds to improve cold flow properties without substantial increase in the molecular weight of the elastomer.

3,520,866

## PREPARATION OF COORDINATION CATALYST TYPE POLYPROPYLENE WITHOUT SUBSEQUENT REMOVAL OF CATALYST RESIDUE

Robert Bacskai, Berkeley, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware  
No Drawing. Filed Sept. 26, 1966, Ser. No. 581,712

Int. Cl. C08f 1/90, 3/10

U.S. Cl. 260—93.7 6 Claims

The process of polymerizing polypropylene with a coordination catalyst in the presence of a hydrocarbon solvent is improved by the steps of terminating the polymerization by neutralizing the coordination catalyst with alkali metal alkoxide and removing hydrocarbon solvent and alkanol to leave polypropylene containing neutralized coordination catalyst.

3,520,867

## PROCESS FOR THE POLYMERIZATION OF VINYL CHLORIDE

Sergio Lo Monaco and Corrado Mazzolini, Mestre, and Luigi Patron and Alberto Moretti, Venice, Italy, assignors to Chatillon Societa Anonima Italiana per le Fibre Tessili Artificiali S.p.A., Milan, Italy, a corporation of Italy  
No Drawing. Filed Sept. 28, 1967, Ser. No. 671,223

Int. Cl. C08f 3/30

U.S. Cl. 260—92.8 9 Claims

Process for bulk-polymerizing vinyl chloride at a temperature below 0° C. (preferably from -10° to -70° C.)

in the presence of a catalytic system consisting of: (a) from 0.05% to 3% by weight, referred to the monomeric system, of an organic hydroperoxide of general formula R—O—O—H wherein R is a linear or branched chain alkyl radical, a cycloalkyl radical, an aryl radical or an alkyl-aryl radical (preferably cumene hydroperoxide and tert. butyl-hydroperoxide), (b) up to 0.5% by weight referred to the monomeric system, of sulphur dioxide and in which the molar ratio sulphur dioxide/organic hydroperoxide is comprised between 1:15 and 15:1, and (c) from 0.1% to 10% by weight, referred to the monomeric system, of a saturated aliphatic mono- or dihydroxy alcohol having from 1 to 6 carbon atoms.

3,520,868

## PROCESS FOR CONCENTRATING PROTEIN BY EXTRACTION WITH A SOLVENT

Robert M. Henderson, Dalton, and William F. Habermann, Pittsfield, Mass., assignors to Beloit Corporation, Beloit, Wis., a corporation of Delaware  
Continuation-in-part of application Ser. No. 656,742, July 28, 1967. This application Apr. 14, 1969, Ser. No. 815,980

Int. Cl. A23j 1/04

U.S. Cl. 260—112 7 Claims

This invention relates to a process for removing soluble material from protein containing substances. The process consists of passing a protein material through a series of zones in contact with a solvent which solubilizes or leaches out the soluble portion to yield concentrated protein. The separation process involved in each zone consists of mixing a quantity of solvent obtained from the next succeeding zone with protein containing materials to extract the undesirable soluble materials, separating the solvent from the protein, withdrawing the solvent from that zone and recycling a portion of that solvent back into the zone while also passing the remaining portion of the withdrawn solvent back to the preceding zone.

3,520,869

## 4-NITROBENZENE-AZO-2',5'-DIMETHOXY-ACETOACETANILIDE PIGMENTS

Emil Stocker, Riehen, Switzerland, assignor to J. R. Geigy A.G., Basel, Switzerland  
No Drawing. Filed Mar. 27, 1967, Ser. No. 625,975

Int. Cl. C09b 29/32; C07c 107/04

U.S. Cl. 260—193 8 Claims

4-nitro - benzene - azo - 2',5'-dimethoxy-acetoacetanilide pigments substituted in 2-position by lower alkoxy, fluorine or chlorine and in 4'-position by chlorine or bromine, which are useful, because of their purity of shade and colour strength as well as their light fastness, as colouring component in printing inks and in rayon spinning masses; printing inks and rayon spinning masses containing the aforesaid novel pigments; and prints on substrate materials, as well as rayon coloured therewith.

3,520,870

NAPHTHYL-AZO- $\alpha$ -HYDROXY-NAPHTHOIC ACID PIGMENTS

Frank P. Dombroski, Scotch Plains, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Filed May 24, 1967, Ser. No. 640,820

Int. Cl. C07c 107/08; C09b 11/00

U.S. Cl. 260—195 3 Claims

The present invention relates to the discovery that specific metallic salts of a certain azo compound are de-

fined below, provide improved pigments of desirable and unusual shade of maroon with improved properties as to strength, gloss, transparency, etc. In addition, these pigments afford compositions which are of superior storage stability. These pigments may be formed by usual and conventional coupling and neutralization procedures known in the art.

The pigments of this invention are metal salts of the azo compound obtained by coupling 2-naphthylamine-1-methyl-sulfonic acid with beta-hydroxy-naphthoic acid.

3,520,871

## MIXTURES OF PHENYL-AZO-PHENYL DYE-STUFFS AND PROCESS FOR PREPARING SAME

Dominic A. Zanella, Lock Haven, Pa., assignor to American Aniline Products, Inc., a corporation of Delaware  
No Drawing. Filed Oct. 9, 1967, Ser. No. 673,956

Int. Cl. C07c 107/06; C09b 29/18

U.S. Cl. 260—207 4 Claims

Monazo dyestuffs are prepared by coupling a diazotized arylamine, such as 2,4-dinitro-6-bromoaniline, into a coupling component comprising a complex mixture of diester and mono-esters of a 3-bis(hydroxyalkyl)aminoacetanilide, such as 3-bis(hydroxyethyl)amino-4-ethoxyacetanilide. These dyestuffs produce dyeings on polyester fabrics with excellent substantivity and sublimation fastness and good fastness to light. In addition, they are excellent all-purpose dyes and may be applied by carrier dyeing, pressure dyeing, and thermofixation techniques.

3,520,872

## PROCESS FOR LABELLING PURINE AND PYRIMIDINE CONTAINING COMPOUNDS

William J. Wechter, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware  
No Drawing. Filed Mar. 24, 1967, Ser. No. 625,577

Int. Cl. C07c 51/50

U.S. Cl. 260—211.5 8 Claims

An improved process for labelling specific positions in purine and pyrimidine moieties, e.g., of purine and pyrimidine bases, nucleosides, nucleotides, oligonucleotides, nucleic acids and coenzymes, with deuterium or tritium, which comprises (1) heating these starting compounds in deuterium oxide or tritium oxide solution, without a metallic catalyst, at a selected pH and (2) eliminating easily exchangeable deuterium and tritium atoms by treating with water or a proton-donating solvent while leaving firmly bound deuterium and tritium substituents. The new, specifically labelled products are commercial products used in biological studies of the metabolic fate of the labelled compounds.

3,520,873

## INOSINE 2',3', ACETALS

Max Thiel, Mannheim, and Kurt Stach, Wolfgang Schumann, and Karl Dietmann, Mannheim-Waldhof, and Klaus Hardebeck, Ludwigshafen (Rhine), Germany, assignors to Boehringer Mannheim GmbH, Antagelcht, Mannheim, Germany

No Drawing. Filed Aug. 16, 1967, Ser. No. 660,911

Claims priority, application Germany, Oct. 26, 1966, B 89,570

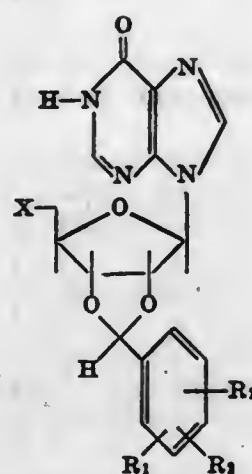
Int. Cl. C07d 51/50

U.S. Cl. 260—211.5 5 Claims

A novel class of inosine acetals is disclosed, the same constituting useful chemotherapeutic agents having circulation stimulating properties.



The inosine acetals of the invention are represented by the following formula:



wherein  $R_1$ ,  $R_2$  and  $R_3$  are each hydrogen, halogen, alkyl, alkoxy, methylenedioxy or trifluoromethyl and X is halogen or hydroxyl.

3,520,874

### PROCESS FOR THE PRODUCTION OF A FINE POROUS FILM

Wataru Ueno and Hideo Kawaguchi, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan  
No Drawing. Filed Oct. 6, 1967, Ser. No. 673,262  
Claims priority, application Japan, Oct. 7, 1966, 41/66,096

Int. Cl. C08b 3/22, 29/10

U.S. Cl. 260—230 7 Claims  
Method for the production of cellulose acetate film having fine pores and improved strength comprising, first, swelling a porous cellulose acetate film with an organic solvent and then hydrolyzing the film.

3,520,875

PROCESS FOR PREPARING N-ALKYL AZIRIDINES  
Theodore L. Ashby and Robert E. Lane, Jr., Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed Aug. 25, 1966, Ser. No. 574,928  
Int. Cl. C07d 23/06, 23/02

U.S. Cl. 260—239 13 Claims  
N-alkyl aziridines are prepared in the reaction between an aziridine and a non-activated olefin in the presence of an alkali metal catalyst or a Grignard reagent at a temperature between about 50° C. and about 200° C. e.g., ethylenimine and ethylene react in the presence of sodium at 130–145° C. to give N-ethylaziridine.

3,520,876

PROCESS FOR THE PREPARATION OF 6-(ALPHA-AMINOACYLAMINO)PENICILLANIC ACIDS  
Harvey E. Alburn, West Chester, Donald E. Clark, Norristown, and Norman H. Grant, Wynnewood, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Nov. 1, 1967, Ser. No. 679,657  
Int. Cl. C07d 99/16

U.S. Cl. 260—239.1 3 Claims  
6-( $\alpha$ -aminoacylamino)penicillanic acids with broad spectrum antibacterial activity are obtained rapidly and in high yield, without the need to isolate them from dilute solutions, by an improved process comprising condensing and precipitating in one step the product from the addition of a mixture of an N-carboxyanhydride of an amino acid with a stoichiometrically-equivalent amount of a

mono-, di- or tri-carboxylic organic acid to a concentrated, e.g., greater than 1%, preferably, 5–40% by weight, aqueous suspension of 6-aminopenicillanic acid.

This invention relates to the preparation of penicillins and more particularly to an improved method for preparing 6-( $\alpha$ -aminoacylamino)penicillanic acids, which, together with their non-toxic salts, show a desirable broad spectrum of anti-bacterial activity.

3,520,877

### 3-CARBONYL AMINO ACETIC ACID ETHYL ESTER SUBSTITUTED BENZODIAZEPINES

Rodney Ian Fryer, North Caldwell, Leo Henryk Sternbach, Upper Montclair, and James Valentine Earley, Cedar Grove, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey  
No Drawing. Filed Oct. 2, 1967, Ser. No. 671,959  
Int. Cl. C07d 53/06

U.S. Cl. 260—239.3 7 Claims  
1,3-dihydro-1,4-benzodiazepin-2-ones having a carbonyl amino acetic acid ester group in the 3-position and a method for their production. These benzodiazepin-2-ones are useful as sedatives, psychosedatives, muscle relaxants and anti-convulsants.

3,520,878

### PREPARATION OF DIAZEPAM

John Brammer Petersen, Haifa, Israel, assignor to W. R. Grace & Co., New York, N.Y., a corporation of New York  
No Drawing. Continuation-in-part of application Ser. No. 579,500, Sept. 15, 1966. This application Oct. 15, 1968, Ser. No. 767,838  
Claims priority, application Denmark, Sept. 17, 1965, 4,783/65  
Int. Cl. C07d 53/06

U.S. Cl. 260—239.3 7 Claims  
In abstract, this invention is directed to a process for preparing diazepam, comprising subjecting 2-(2-azido-N-methylacetamido) - 5 - chlorobenzophenone to reductive cyclization, and recovering the thus formed diazepam, all as recited hereinafter.

3,520,879

### PREPARATION OF 17 $\alpha$ -ACETOXY-6 $\alpha$ -METHYL-PREGN-4-EN-20-ONE

Bjarte Löken, Caguas, Puerto Rico, and I. V. Sollins, Rye, N.Y., assignors to PhytoGen Products, Inc., Mamaronck, N.Y., a corporation of Delaware  
No Drawing. Filed May 23, 1967, Ser. No. 640,483  
Int. Cl. C07c 167/30, 173/00

U.S. Cl. 260—239.55 8 Claims  
A technique is provided for preparation of 17 $\alpha$ -acetoxy-6 $\alpha$ -methylpregn-4-en-20-one from 5 $\alpha$ ,17 $\alpha$ -dihydroxy-20-ethylenedioxy-6 $\beta$ -methylpregnan-3-one which involves dehydration, selective reduction and hydrolysis followed by acetylation.

The 5 $\alpha$ ,17 $\alpha$ -dihydroxy-20-ethylene-dioxy - 6 $\beta$  - methylpregnan-3-one may be prepared by oxidation of 20-ethylene-dioxy-6 $\beta$ -methylpregnan-3 $\alpha$ ,5 $\alpha$ ,17 $\alpha$  - triol in dimethyl formamide with chromium trioxide in sulfuric acid.

3,520,880

### LOWER ALKOXYTETRAHYDROPYRANYL ETHERS OF ANABOLIC STEROIDS

Alexander D. Cross, Mexico City, Mexico, and John A. Edwards, Los Altos, Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama  
No Drawing. Filed May 22, 1968, Ser. No. 731,300  
Int. Cl. C07c 173/00

U.S. Cl. 260—239.55 36 Claims  
The 4' - (lower)alkoxytetrahydropyran - 4' - yl ethers of anabolic steroids have high oral activities.

3,520,881

### LOWER ALKOXYTETRAHYDROPYRANYL ETHERS OF ESTROGENIC STEROIDS

Alexander D. Cross, Mexico City, Mexico, and John A. Edwards, Los Altos, Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama  
No Drawing. Filed May 22, 1968, Ser. No. 731,301  
Int. Cl. C07c 173/00

U.S. Cl. 260—239.55 21 Claims  
The 4' - (lower) alkoxytetrahydropyran - 4' - yl ethers of estrogen steroids have high oral activities.

3,520,882

### 5',6'-DIHYDRO-2H-PYRAN-4'-YL ETHERS OF ESTROGENIC STEROIDS

Alexander D. Cross, Mexico City, Mexico, and John A. Edwards, Los Altos, Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama  
No Drawing. Continuation-in-part of application Ser. No. 731,301, May 22, 1968. This application Oct. 9, 1968, Ser. No. 766,306  
Int. Cl. C07c 173/00

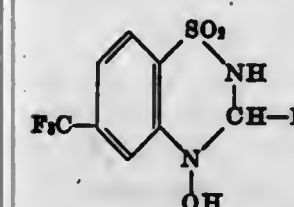
U.S. Cl. 260—239.55 21 Claims  
The 5',6'-dihydro-2H-pyran-4'-yl ethers of estrogen steroids have high oral activities.

3,520,883

### 2,3-DIHYDRO-4H-1,2,4-BENZOTHIADIAZINE-4-OL 1,1-DIOXIDES

Harry L. Yale, New Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Oct. 20, 1967, Ser. No. 676,696  
Int. Cl. C07d 93/32

U.S. Cl. 260—243 4 Claims  
This invention relates to novel 2,3-dihydro-4H-1,2,4-benzothiadiazine-4-ol 1,1-dioxides of the general formula



alkali-metal salts thereof, intermediates therefor and method of synthesis. The benzothiadiazine compounds are useful as anti-microbial agents or blowing agents.

3,520,884

RECOVERY OF CEPHALOSPORIN C<sub>1</sub> COMPOUND USING COMPLEX WITH A THIOCYANATE SALT  
Christopher J. Sharp, Northolt, and Harold A. Crisp, Harrow Weald, England, assignors to Glaxo Laboratories Limited Greenford, Middlesex, England, a British company  
No Drawing. Filed July 31, 1967, Ser. No. 657,008  
Claims priority, application Great Britain, Aug. 10, 1966, 35,857/66  
Int. Cl. C07d 99/24

U.S. Cl. 260—243 14 Claims  
A process for the recovery of an N-(7-acylamidoceph-3-em-3-ylmethyl) pyridinium-4-carboxylate wherein its solution in an aqueous medium containing thiocyanate ions is contacted with a water-soluble salt of a metal of group I-B, II-B, III-B, V-A or VIII of the Periodic Table (long form) to form a moderately-or sparingly-soluble complex with the thiocyanate of the metal and recovering the complex from the aqueous medium. In addition to their function in the process, the complexes, themselves, have antibiotic activity.

3,520,885

### PHENOTHIAZINE SALTS

Oscar Klioze, Richmond, Va., and Kenneth R. Preston, Willowdale, Ontario, Canada, assignors to A. H. Robins Company, Inc., Richmond, Va., a corporation of Virginia  
No Drawing. Continuation of application Ser. No. 557,909, June 16, 1966, which is a continuation-in-part of application Ser. No. 495,328, Oct. 12, 1965. This application Apr. 4, 1968, Ser. No. 718,951  
Int. Cl. C07d 93/14

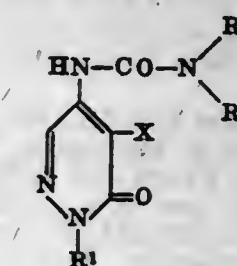
U.S. Cl. 260—243 2 Claims  
Mucic acid salt of N-[2-(4'-methylpiperazinyl-1')-propyl]-3-n-butyryl phenothiazine.

3,520,886

### PYRIDAZONE/UREA DERIVATIVES

Franz Reicheneder, Ludwigshafen (Rhine) and Adolf Fischer, Mutterstadt, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany  
No Drawing. Filed Dec. 9, 1966, Ser. No. 600,406  
Claims priority, application Germany, Jan. 7, 1966, B 85,307  
Int. Cl. C07d 51/04

U.S. Cl. 260—250 2 Claims  
Pyridazones having the formula



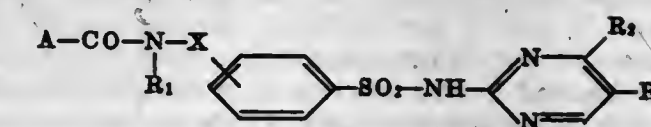
in which  $R^1$  denotes a phenyl or cycloalkyl radical which may be substituted by alkyl or halogen or the trifluoromethyl radical, X denotes chlorine or bromine,  $R^2$  denotes alkyl and  $R^3$  denotes alkyl, alkoxy or alkynyl or each of  $R^2$  and  $R^3$  denotes hydrogen or, in the event that X denotes bromine,  $R^2$  in addition denotes hydrogen and  $R^3$  in addition denotes a phenyl or chlorophenyl radical. The subject pyridazones have been found to have excellent herbicidal activity.

3,520,887

### CERTAIN PYRIMIDINYLBENZENESULFONAMIDES

Ruth Heerdt, Mannheim-Feudenheim, Manfred Hubner, Ludwigshafen (Rhine), Felix Helmut Schmidt, Mannheim-Neustadt, Kurt Stach, Mannheim-Waldhof, and Helmut Weber, Frankfurt am Main, Schwanheim, Germany, assignors to Boehringer Mannheim, GmbH, Antsgeicht, Mannheim, Germany  
No Drawing. Filed Nov. 15, 1967, Ser. No. 683,130  
Claims priority, application Germany, Nov. 29, 1966, B 90,051  
Int. Cl. C07d 51/46

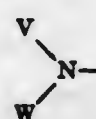
U.S. Cl. 260—256.5 15 Claims  
A novel class of sulfonamides is disclosed, the same constituting antidiabetic agents having marked blood sugar reducing activity. The compounds have the following formula:



wherein A is unsubstituted or substituted alkyl, alkenyl, aryl, aralkyl, aryloxyalkyl, arylmercaptoalkyl, cycloalkyl,



cycloalkenyl, thienyl, furyl, alkoxy, alkenyloxy, aralkoxy, cycloalkoxy or a group having the formula:



wherein V and W are each hydrogen, unsubstituted or substituted alkyl, cycloalkyl, aryl or aralkyl and taken together with the nitrogen atom to which they are attached form an unsubstituted or substituted saturated heterocyclic ring, R<sub>1</sub> is hydrogen, lower alkyl or aralkyl, X is a straight or branched chain hydrocarbon radical containing up to 4 carbon atoms, R<sub>2</sub> is lower alkyl and R<sub>3</sub> is hydrogen, unsubstituted or substituted alkyl, cycloalkyl, aryl, aralkyl, alkoxy, alkoxyalkyl and alkoxyalkoxy, wherein R<sub>2</sub> and R<sub>3</sub> taken together form a ring of 3 to 5 methylene groups which can contain oxygen or sulfur atoms.

Novel compositions containing the aforesaid sulfonamides as active ingredient as well as a method of using such compositions are also disclosed.

3,520,888

## 3,4-DIHYDROPHENAZINE-5,10-DIOXIDES

James David Johnston, Allendale, N.J., assignor to Chas. Pfizer & Co. Inc., New York, N.Y., a corporation of Delaware

No Drawing. Application Dec. 18, 1968, Ser. No. 798,546, which is a division of application Ser. No. 587,420, Oct. 18, 1966, now Patent No. 3,480,713, dated Nov. 25, 1969, which in turn is a continuation-in-part of application Ser. No. 502,602, Oct. 22, 1965. Divided and this application July 10, 1969, Ser. No. 840,846

Int. Cl. C07d 51/80

U.S. Cl. 260—267

9 Claims

A series of 1,2,3,4 - tetrahydro and 3,4 - dihydrophenazine - 5,10 - dioxides and the non-toxic salts thereof useful in controlling chronic respiratory disease in poultry and in promoting growth and improving feed efficiency of animals in general.

3,520,889

## SULFONAMIDE AZIRIDINYL COMPOUNDS

Giuliana C. Tesoro, Dobbs Ferry, N.Y., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

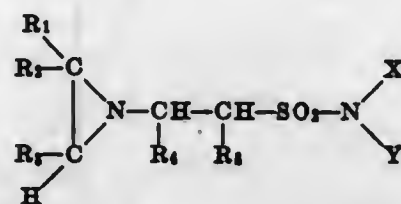
No Drawing. Filed June 1, 1965, Ser. No. 460,480

Int. Cl. C07d 51/72

U.S. Cl. 260—268

3 Claims

Sulfonamide compounds containing one or more aziridinyl groups of the formula:



wherein the R substituents may be hydrogen or lower alkyl and X and Y are hydrogen, organic groups, or taken together form a heterocyclic ring. Such compounds can be prepared by the reaction of a suitable alkylene imine with an unsaturated sulfonamide in the presence of a solvent and at moderate temperatures. The sulfonamide compounds can be used for treating textile materials, as curing agents and for the preparation of polymers.

3,520,890

## DIBENZOCYCLOHEPTATRIENYLPIPERAZINES

Jean Clement Louis Fouche, Bourg-la-Reine, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Mar. 29, 1967, Ser. No. 626,698  
Claims priority, application France, Mar. 29, 1966, 55,495, Patent 1,516,742

The portion of the term of the patent subsequent to June 13, 1984, has been disclaimed  
Int. Cl. C07d 51/66

U.S. Cl. 260—268

4 Claims

The invention provides new substituted 10- or 11-piperazin - 1 - yl-dibenzo[a,d]cycloheptatrienes. These compounds have useful pharmacodynamic activity on the central nervous system, e.g. as neuroleptics.

3,520,891

## PIPERAZINOMETHYL 2,3 DIHYDRO 5 PHENYL 1-BENZOTHIOPINS

Richard J. Mohrbacher, Fort Washington, Pa., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Application Aug. 16, 1968, Ser. No. 753,067, which is a division of application Ser. No. 636,570, Apr. 28, 1967, which in turn is a continuation-in-part of application Ser. No. 462,411, June 8, 1965. Divided and this application May 22, 1969, Ser. No. 842,065

Int. Cl. C07d 51/70

U.S. Cl. 260—268

5 Claims

The compounds are of the class of 2,3-dihydrobenzothiopyrins, useful for their pharmacological properties as hypotensive agents.

3,520,892

## 6-DEOXY-7,8-DIHYDROMORPHINE DERIVATIVES

Stephen I. Sallay, Wynnewood, and Scott J. Childress, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 17, 1967, Ser. No. 623,840

Int. Cl. C07d 43/32

U.S. Cl. 260—285

9 Claims

The compounds of the class of 6-deoxy-7,8-dihydro-6-carbonylmethylenemorphine derivatives, useful as analgesics and antitussives, and the novel preparation thereof.

3,520,893

## 3-(γ-AMINO-β-HYDROXYPROPYL)-4-METHYL-7-ALKOXYCARBONYLALKOXY COUMARINS

Rudi Beyerle, Bruchkobel, Kreis Hanau, Rolf-Eberhard Nitz, Frankfurt am Main-Fechenheim, Heinrich Ritter, Dornigheim, Kreis Hanau, and Hanswill von Brachel, Offenbach am Main, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main-Fechenheim, Germany

No Drawing. Continuation-in-part of application Ser. No. 496,167, Oct. 4, 1965. This application Sept. 3, 1968, Ser. No. 757,098

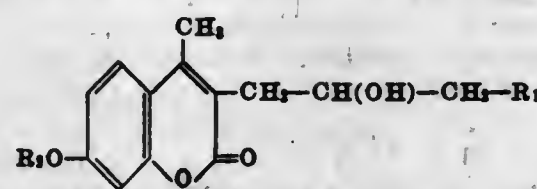
Claims priority, application Germany, Oct. 17, 1964, C 34,135

Int. Cl. C07d 29/20

U.S. Cl. 260—294.3

6 Claims

The present invention relates to therapeutically valuable 3 - (γ - amino - β - hydroxypropyl) - 4 - methyl - 7 - hydroxycoumarin derivatives represented by the structural formula:



wherein R<sub>1</sub> is a member selected from the group consisting of alkylamino radicals having 2-6 carbon atoms, alkoxyalkylamino radicals having 1-4 carbon atoms in the alkoxy and 3-4 carbon atoms in the alkyl group, dialkyl-

amino radicals having 1-4 carbon atoms, allylamino, cyclohexylamino, piperidino, and morpholino; and R<sub>2</sub> is a member selected from the group consisting of alkoxy-carbonylalkyl radicals having 1-3 carbons in the alkyl and 1-6 carbons in the alkoxy group.

3,520,894

## 1-(CYCLOHEX-2'-EN-4'-ONE)-2-PHENYL-1,2,3,4-TETRAHYDRONAPHTHALENE DERIVATIVES

Alexander D. Cross, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Aug. 22, 1966, Ser. No. 573,834

Int. Cl. C07c 49/76

U.S. Cl. 260—294.7

10 Claims

New compounds of the 1,2,3,4-tetrahydronaphthalene class, useful as estrogenic agents, and methods for their preparation. 1-[1'-methoxycyclohexa-2'-5'-dienyl-spiro-4'-(2'')-(4'',4'')-dimethyl-5''-oxo-1'',3''-dioxolane]-2-(p-chlorophenyl)-6-methoxy-1,2,3,4-tetrahydronaphthalene and 1-(cyclohex-2'-en-4'-one)-2-(p-chlorophenylene)-6-(2'-dimethylaminoethoxy)-1,2,3,4-tetrahydronaphthalene are exemplified as illustrative of the class.

3,520,895

## 1-SUBSTITUTED-1,2,3,4-TETRAHYDROBENZOTHIENO[2,3-C]PYRIDINES

John T. Suh, Mequon, Wis., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 621,471, Mar. 8, 1967. This application Feb. 16, 1968, Ser. No. 705,909

Int. Cl. C07d 63/18

U.S. Cl. 260—294.8

6 Claims

The compounds are 1-lower alkyl-1,2,3,4-tetrahydrobenzothieno[2,3-C]pyridines useful as antipsychotic and antihypertensive agents. A compound disclosed is 1-ethyl-1,2,3,4-tetrahydrobenzothieno[2,3-C]pyridine.

3,520,896

## NICOTINATE ESTERS OF CERTAIN DI- AND TRI-HYDROXY ALKANES

Bo Thuresson af Ekenstam, Molndal, and Carl Goran Claesson, Goteborg, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a company of Sweden

No Drawing. Continuation-in-part of application Ser. No. 559,090, June 21, 1966. This application Dec. 23, 1968, Ser. No. 786,365

Int. Cl. C07d 31/36

U.S. Cl. 260—295.5

3 Claims

Nicotinoyl esters of dihydroxyacetone, trimethylolthane and trimethylolpropane were prepared by the reaction of nicotinoyl chloride and the appropriate polyol. The esters are potent vasodilators and are useful in treatment of hypertension. They also lower the cholesterol concentration in blood. However, unlike other nicotinoyl esters, they hydrolyze slowly on absorption thereby preventing a high concentration of nicotinic acid and its undesirable side effects.

3,520,897

## CERTAIN 5-DIALKYLAMINO-1,2,4-DITHIAZOLE-3-ONES AND 3-THIONES AND PREPARATION

James Wellington Clapp, Princeton, Thomas Andrew Lies, Montgomery Township, Somerset County, and Glentworth Lamb, Trenton, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

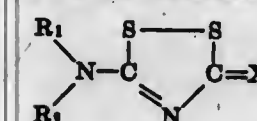
No Drawing. Filed Aug. 7, 1968, Ser. No. 750,757

Int. Cl. C07d 91/04

U.S. Cl. 260—306.7

7 Claims

Novel compounds of the formula:



wherein R<sub>1</sub> and R<sub>2</sub> are lower alkyl radicals of from 1 to 4 carbon atoms and X is sulfur or oxygen are disclosed as is a process for their preparation, and their use to control bacteria and fungi and protect organic materials and agronomic crops, both growing and harvested, from attack by bacteria and fungi.

3,520,898

## 2-TRICHLORO-METHYLBENZOXAZOLES

George Holan, Brighton, Victoria, and Eva Lea Samuel, Bentleigh, Victoria, Australia, assignors to Monsanto Chemicals (Australia) Limited, West Footscray, Victoria, Australia, a company of Australia

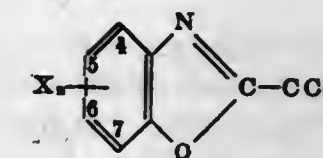
No Drawing. Continuation-in-part of application Ser. No. 514,380, Dec. 16, 1965. This application Aug. 24, 1967, Ser. No. 662,889

Int. Cl. C07d 85/48

U.S. Cl. 260—307

12 Claims

Compound of the formula



where n is an integer from 1 to 2 and X is selected from the group consisting of halogen, nitro, hydroxy, alkyl, alkoxy, phenyl, phenoxy, carboxy, carbalkoxy, haloalkyl, alkoxyalkyl, halophenyl, nitrophenyl, alkylphenyl and alkoxyphenyl wherein each alkyl and alkoxy is of not more than 4 carbon atoms. The compounds exhibit fungicidal and anthelmintic activity.

3,520,899

## PROCESS FOR THE PREPARATION OF NITROIMIDAZOLES

Janos Kollonitsch, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 30, 1966, Ser. No. 605,977

Int. Cl. C07d 49/36

U.S. Cl. 260—309

5 Claims

1-alkyl-5-nitroimidazol-2-ylalkyl carbamates are prepared by reacting the corresponding 1-alkyl-5-nitroimidazol-2-ylalkyl thionocarbamate with a desulfurizing agent. The 1-alkyl-5-nitroimidazol-2-ylalkyl (alkylidene)-carbamates are useful in the treatment of the protozoal parasitic diseases trichomoniasis and enterohepatitis.

3,520,900

## PROCESS FOR PREPARATION OF 1-(2'-HYDROXY-ETHYL)-2-METHYL-5-NITROIMIDAZOLE

Tatjana Fajdiga, Franjo Kajfez, and Vtomir Sunjic, Novo Mesto, Yugoslavia, assignors to Krka Tovarno Zdravil, Novo Mesto, Yugoslavia

No Drawing. Filed May 24, 1967, Ser. No. 640,828

Claims priority, application Yugoslavia, June 20, 1966, 1,151/66

Int. Cl. C07d 49/36

U.S. Cl. 260—309

2 Claims

1-(2'-hydroxyethyl)-2-methyl-5-nitroimidazole is prepared in high yields by hydrolysis of its halide esters in a medium consisting essentially of formamide, water, and formic acid, preferably in a ratio of 100:6:1.







a lower alkyl radical. These compounds have been found to have excellent fungicidal activity.

3,520,913

# PROCESS FOR THE PRODUCTION OF LOWER SATURATED ALIPHATIC NITRILES

Naoya Kominami, Tokyo, Hitoshi Nakajima, Urawa-shi, and Nobuhiro Tamura, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan  
No Drawing. Continuation-in-part of application Ser. No. 519,014, Jan. 6, 1966. This application Dec. 18, 1967, Ser. No. 691,140

Claims priority, application Japan, Jan. 12, 1965, 40/1,178; June 4, 1965, 40/32,670; Oct. 5, 1965, 40/60,502; Oct. 30, 1965, 40/66,321

Int. Cl. C07c 121/04

U.S. Cl. 260—465.3 5 Claims  
The production of lower saturated aliphatic nitriles (i.e. propionitrile, isobutyronitrile or normal butyronitrile) in high selectivity by passing a gas mixture containing a lower olefinic hydrocarbon (i.e. ethylene or propylene) and hydrogen cyanide at a temperature of from 150 to 450° C. over rhodium or a compound of rhodium as catalyst to effect catalytic addition reaction.

3,520,914

# HYDROFORMYLATION OF 2-ALKENENITRILES TO 2-HYDROXYMETHYLLALKANENITRILES

Donald G. Kuper, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 23, 1967, Ser. No. 677,034

Int. Cl. C07c 121/34

U.S. Cl. 260—465.6 6 Claims  
Acrylonitrile and its alkyl-substituted derivatives (2-alkenenitriles) are hydroformylated in a liquid reaction mixture including an acid (such as acetic acid), a non-polar diluent (such as a hydrocarbon), a hydroformylation catalyst (such as Rh<sub>2</sub>O<sub>3</sub>), CO, and H<sub>2</sub> to yield the corresponding 2-hydroxymethylalkanenitriles.

3,520,915

# PROCESS FOR THE DEHYDROGENATION OF LOWER SATURATED ALIPHATIC NITRILES

Naoya Kominami, Tokyo, Kusuo Kawarazaki, Oimura, Saitama-ken, Masazumi Chono, Tokyo, and Hitoshi Nakajima, Urawa-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

Filed Oct. 20, 1966, Ser. No. 588,108

Claims priority, application Japan, Oct. 28, 1965, 40/65,722, 40/65,723; Feb. 22, 1966, 41/10,271

Int. Cl. C07c 121/32

U.S. Cl. 260—465.9 6 Claims  
A process for the preparation of acrylonitrile or methacrylonitrile by catalytic dehydrogenation which comprises contacting propionitrile or isobutyronitrile in the gaseous phase at a temperature between 300° C. and 700° C. with a catalyst which is a stannous oxide-silica complex formed by reacting a stannous halide with silica gel in an organic solvent at a temperature between 30° C. and 350° C., washing the stannous halide-silica reaction product with said organic solvent, hydrolyzing the resulting stannous halide-silica reaction product with an aqueous alkaline solution, removing the alkali substance and subjecting the resulting reaction product to heat treatment at a temperature between 300° C. and 700° C.

3,520,916

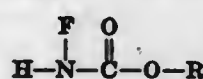
# PROCESS FOR THE PREPARATION OF N-FLUORO CARBAMATES

Vytautas Grakauskas, Arcadia, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

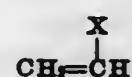
No Drawing. Filed Oct. 14, 1964, Ser. No. 404,209

Int. Cl. C07c 125/06

U.S. Cl. 260—468 11 Claims  
1. The process which comprises reacting an N-fluorocarbamate of the formula:



with an ethylenically unsaturated compound of the formula:



in the presence of an effective amount of an acid catalyst, and recovering the N-substituted-N-fluorocarbamate produced; wherein in the above formulae, R is hydrocarbonyl and X is selected from the group consisting of hydrogen, halogen, lower alkyl, cyano, nitro, lower alkoxy and lower carboalkoxy.

3,520,917

# PROCESS FOR THE PREPARATION OF CRYSTALLINE N-CARBOBENZOXOXY-N<sup>o</sup>-TOSYL-L-ARGININE

Choh Hao Li and Janakiraman Ramchandran, Berkeley, Calif., assignors to The Regents of the University of California

No Drawing. Filed Nov. 12, 1963, Ser. No. 323,137

Int. Cl. C07c 143/84

U.S. Cl. 260—470 2 Claims  
Crystalline arginine derivatives including N<sup>o</sup>-carbobenzoxo-N<sup>o</sup>-tosyl-L-arginine, cyclohexylamine salt of N<sup>o</sup>-carbobenzoxo-N<sup>o</sup>-tosyl-L-arginine, N<sup>o</sup>-t-butylloxycarbonyl-N<sup>o</sup>-tosyl-L-arginine, and the benzyl ester of N<sup>o</sup>-tosyl-L-arginine which are useful in the synthesis of peptides and polypeptides.

3,520,918

p-NITROPHENYL-p'-GUANIDINO BENZOATE HCl  
Theodore Chase, Jr., Center Moriches, and Elliott N. Shaw, Shoreham, N.Y., assignors to the United States Atomic Energy Commission

No Drawing. Filed Mar. 8, 1968, Ser. No. 711,529

Int. Cl. C07c 129/08

U.S. Cl. 260—471 1 Claim  
A novel composition of matter p-nitrophenyl-p'-guanidinobenzoate HCl which is useful as a titrant to determine the concentration of trypsin, thrombin and plasmin activity.

3,520,919

# HOMOCYCLIC COMPOUNDS

Albert Frederick Crowther and Lealie Harold Smith, Macclesfield, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Continuation-in-part of application Ser. No. 323,089, Nov. 12, 1963. This application June 5, 1967, Ser. No. 643,356

Claims priority, application Great Britain, Nov. 23, 1962, 44,357/62

Int. Cl. C07c 93/26

U.S. Cl. 260—477 3 Claims  
The disclosure relates to O-acyl naphthoxypropanolamine derivatives which possess β-adrenergic blocking, anticonvulsant, sedative and tranquillizing activity. Representative of the compounds disclosed is 1-isopropylamino-methyl-2-(1-naphthoxy)ethyl acetate hydrochloride.

3,520,920

# AMINE SALTS OF NOPINIC ACID

Leon Gillo, Brussels, Belgium, assignor to Pharmatic, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 28, 1965, Ser. No. 467,712

Claims priority, application Great Britain, July 6, 1964, 27,788/64

Int. Cl. C07c 91/06

U.S. Cl. 260—501.17 8 Claims

Hydroxy alkyl amino salts of nopinic acid as new compounds useful in pharmaceutical compositions for alleviating ulcer conditions.

3,520,921

# PREPARATION OF CIS-HEXAHYDROPHthalic ACID FROM PHTHALIC ACID

Herbert R. Appell, Pittsford, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Continuation-in-part of application Ser. No. 460,251, June 1, 1965. This application Apr. 5, 1967, Ser. No. 628,732

Int. Cl. C07c 61/08

U.S. Cl. 260—514 4 Claims

An increased rate of reaction and increased yields of cis-hexahydrophthalic acid are produced by hydrogenating phthalic acid in a lower fatty acid, lower alkyl alcohol or lower alkyl ether solvent which contains 0.5 to 4 percent by weight of water in the presence of platinum dioxide as catalyst. The cis-hexahydrophthalic acid is especially useful in the preparation of polyester resins and other resinous compounds.

3,520,922

# PHENOXYPHENYLAMINO ACIDS

Hans A. Wagner, Skokie, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 7, 1967, Ser. No. 665,993

Int. Cl. C07c 101/72

U.S. Cl. 260—519 7 Claims

Preparation of the captioned compounds, such as N-(p-phenoxyphenyl)glycine and N-nitroso-N-(p-phenoxyphenyl)glycine, and their valuable pharmacological properties, including anti-microbial and anti-inflammatory activities, are disclosed.

3,520,923

# CATALYTIC PROCESS FOR PREPARING UNSATURATED ACIDS AND ALDEHYDES

Jamal S. Eden, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 28, 1967, Ser. No. 619,190

Int. Cl. C07c 51/32

U.S. Cl. 260—533 7 Claims

Unsaturated aldehydes and unsaturated acids as acrolein and acrylic acid, and methacrolein and methacrylic acid, are simultaneously prepared by reacting an unsaturated monolefinic hydrocarbon as propylene or isobutylene with oxygen in the presence of a catalyst containing molybdenum, tellurium, oxygen, thorium and phosphorous, at elevated temperatures.

3,520,924

# BIS-THIOSEMICARBAZONES

Erhardt Winkelmann, Kelkheim, Taunus, and Wolf-Helmut Wagner, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 1, 1967, Ser. No. 634,872

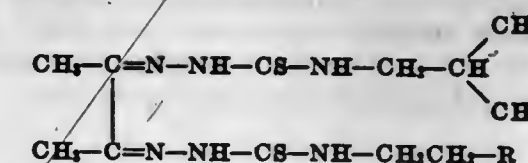
Claims priority, application Germany, May 14, 1966, F 49,209

The portion of the term of the patent subsequent to Nov. 11, 1966, has been disclaimed

Int. Cl. C07c 157/00

U.S. Cl. 260—552 3 Claims

Bis-thiosemicarbazones, active against coccidiosis, having the formula



wherein R is dimethylamino or diethylamino and methods for making these compounds are described.

3,520,925

# ALKOXYMETHYLUREA HERBICIDES

Karl-Heinz Koenig, Ludwigshafen (Rhine), and Adolf Fischer, Mutterstadt, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

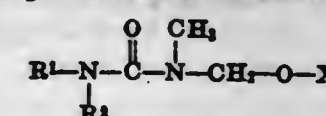
No Drawing. Filed May 31, 1966, Ser. No. 553,681

Claims priority, application Germany, June 12, 1965, 1,542,688

Int. Cl. C07c 127/00

U.S. Cl. 260—553 6 Claims

Herbicide compounds of the formula



wherein R<sup>1</sup> denotes cyclohexyl, phenyl or phenyl substituted by at least one member selected from the group consisting of chlorine and methyl, R<sup>2</sup> denotes hydrogen or methyl and X denotes ethyl or chloroethyl.

3,520,926

# METHYLHYDRAZINOMETHYL-SUBSTITUTED BENZOIC ACID AMIDES

Werner Bollag, Basel, Hugo Gutmann, Reinach, Basel-Land, Balthasar Hegedus, Binningen, Ado Kaiser, Neu-Frenkendorf, Albert Langemann, Binningen, Marcel Muller, Frenkendorf, and Paul Zeller, Allschwil, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 200,059, June 5, 1962. This application Nov. 14, 1966, Ser. No. 593,734

Claims priority, application Switzerland, June 9, 1961, 6,734/61

Int. Cl. C07c 103/22

U.S. Cl. 260—558 8 Claims

Novel benzene-ring substituted (2-methylhydrazino)-methylbenzene compounds and intermediates therefor. The former compounds are useful as cytostatic agents.



3,520,927

**ACYLATED TRICHLOROACETALDEHYDE AMINALS**

Hugo Malz, Leverkusen, Ferdinand Grewe, Burscheid, August Dorken, Wuppertal-Sonnborn, and Helmut Kaspers, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 11, 1967, Ser. No. 652,410  
Claims priority, application Germany, July 14, 1966, F 49,691

Int. Cl. C07c 103/32

U.S. Cl. 260—562

12 Claims

N-(unsubstituted and halogen, alkoxy and/or alkylmercapto substituted -alkyl and -cycloalkyl as well as unsubstituted and halogen, alkyl, alkoxy, alkylmercapto, nitro, dialkyl-amino, cyano and/or aryloxy substituted -phenyl and -naphthyl)-N'-formyl-trichloroacetaldehyde aminals which possess fungicidal properties and which may be produced by reacting the corresponding isocyanates with N-(1-hydroxy-2,2,2-trichloro-ethyl)-formamide.

3,520,928

**HYDROGENATION OF PHENYLPRIMARY AMINES TO CYCLOHEXYL AMINES**

Nicholas P. Greco, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Aug. 25, 1967, Ser. No. 663,235

Int. Cl. C07b 1/00; C07c 85/00

U.S. Cl. 260—563

7 Claims

Alicyclic primary amines are prepared by low pressure hydrogenation of mineral acid salts of aromatic primary amines in aqueous solution, using an acid-resistant catalyst such as a platinum or palladium catalyst. The salt can be preformed or formed in situ by the addition of at least one equivalent of a mineral acid per amine group on the starting aromatic primary amine. The alicyclic primary amines, useful in producing urethanes, are formed by an economical and highly efficient process which substantially eliminates by-product formation and by using an aqueous media for hydrogenation, removes dangers associated with using organic solvents.

3,520,929

**HEXAFLUORO-2-PROPANOL-2-AMINES**

Lester L. Maravetz, Clark Union, and Samuel T. Morneweck, Linden Union, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

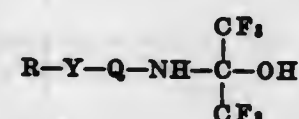
No Drawing. Filed Oct. 19, 1966, Ser. No. 587,659

Int. Cl. C07c 91/06, 91/08, 91/16

U.S. Cl. 260—570.5

15 Claims

Halogenated carbonyl compounds, such as hexafluoroacetone, for example, can be reacted with certain substituted amines to yield compositions of matter which have herbicidal and fungicidal activity said compositions of matter represented by the following structure:



wherein R is selected from the group consisting of hydrogen, C<sub>1</sub> to C<sub>20</sub> alkyl, phenyl and chloro-substituted phenyl; Y is selected from the group consisting of O, S and NR<sub>1</sub>; wherein R<sub>1</sub> is hydrogen or an alkyl containing from 1 to 4 carbon atoms; Q is C<sub>n</sub>H<sub>2n</sub> wherein n equals 2, 3 or 4.

3,520,930

**LOWER ALKOXY-AMINO-BENZYLAMINES**

Robert L. Clark, Woodbridge, and Edward F. Rogers, Middletown, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 31, 1964, Ser. No. 422,536

Int. Cl. C07c 87/28, 93/14; A01n 9/20

U.S. Cl. 260—570.9

4 Claims

Anticoccidial 2-alkoxy-4-nitro(amino, alkylamino or acylamino)-benzylamines and benzyl alcohols are prepared by selective reduction techniques from the corresponding 2-loweralkoxy-4-nitro benzoic acid or 2-loweralkoxy-4-nitro benzonitrile. It is contemplated that dosage units of these active coccidiostats will be administered orally in the prevention and control of coccidiosis in poultry.

3,520,931

**RESOLUTION OF OPTICALLY ACTIVE α-ARYLALKYL AMINES**

Pierre Marie Joseph Ghislain de Radzitzky d'Ostrowick and Jacques Daniel Victor Hanotier, Brussels, Belgium, assignors to Labofina, Soc. An., Brussels, Belgium, a corporation of Belgium

No Drawing. Filed June 26, 1967, Ser. No. 648,959

Claims priority, application Belgium, July 14, 1966, 30,873

Int. Cl. C07c 85/16

U.S. Cl. 260—570.8

8 Claims

Optically-active mixtures of alpha-aryl alkylamine antipodes, in which one of the antipodes predominates, are resolved by forming a Werner complex nickel thiocyanate clathrate of an aromatic compound with all of the racemic amine present in such an unbalanced mixture, leaving the optically-active isomer which was in excess in the original mixture as a separated residue.

3,520,932

**PREPARATION OF 5-AMINO-2,2-DIALKYL-PENTANOLS**

James C. Martin and Paul G. Gott, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 673,985, Oct. 9, 1967. This application Feb. 5, 1968, Ser. No. 702,792

Int. Cl. C07c 85/12

U.S. Cl. 260—584

4 Claims

A process for preparation of 5-amino-2,2-dialkylpentanols by a one-step catalytic hydrogenation of 4-cyano-dialkylbutyraldehydes in the presence of a rhodium catalyst and ammonia. Compounds produced by this process are useful as intermediates for the preparation of highly polymeric, linear poly(ester-amides) which are useful in the production of sheets, films, molded products and as hot melt adhesives.

3,520,933

**PRODUCTION OF AMINES**

Karl Adam and Erich Haarer, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen, Rhineland, Germany

No Drawing. Filed Oct. 23, 1967, Ser. No. 677,066

Claims priority, application Germany, Oct. 28, 1966, 1,543,377

Int. Cl. C07c 85/06

U.S. Cl. 260—585

18 Claims

Production of amines by reaction of alcohols, aldehydes or ketones with ammonia or primary or second-

3,520,937

**PROCESSING OXO REACTION MIXTURES**

Hans Moell and Ernst Eckert, Ludwigshafen (Rhine), Horst Kerber, Mannheim, Max Appl, Ludwigshafen (Rhine), Heinz Hohenschütz, Mannheim, and Helmut Walz, Frankenthal, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Apr. 3, 1967, Ser. No. 627,787

Claims priority, application Germany, Apr. 5, 1966, 1,272,911

Int. Cl. C07c 45/08

U.S. Cl. 260—604

3 Claims

ary amines at a hydrogen partial pressure of 10 to 350 atmospheres, a total pressure of 20 to 400 atmospheres and temperatures of from 80° to 230° C. in the liquid phase in the presence of supported hydrogenation catalysts which contain 5 to 80% by weight of cobalt and/or nickel and/or copper and/or silver (with reference to the whole of the catalyst mixture), 0.1 to 10% by weight of chromium and/or manganese (with reference to the metal content of the whole catalyst mixture) and 0.1 to 15% by weight of a pyroacid or polyacid (with reference to the reduced catalyst). Terminal aliphatic diamines or M-xylylene diamine are used for the production of polyamides.

3,520,934

**HYDROGENATION OF CINNAMALDEHYDE**

Morris Dunkel and Daniel J. Eckhardt, Paramus, and Alfred Stern, Englewood, N.J., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 15, 1968, Ser. No. 744,629

Int. Cl. C07c 47/48

U.S. Cl. 260—599

7 Claims

Hydrogenation of cinnamaldehyde and derivatives thereof under substantially anhydrous conditions utilizing a palladium-alumina catalyst and a potassium salt of a weak acid.

3,520,935

**HYDROGENATION OF CINNAMIC ALDEHYDE**

Joseph T. Arrigo, Mount Prospect, Nils J. Christensen, Palestine, Richard L. Chrysler, Hinsdale, and Allen K. Sparks, Des Plaines, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 1, 1969, Ser. No. 821,091

Int. Cl. C07c 47/48

U.S. Cl. 260—599

9 Claims

A continuous process for the selective hydrogenation of cinnamic aldehyde compounds to the corresponding dihydrocinnamic aldehyde compounds by hydrogenation in contact with a catalyst composite of palladium and alkali metal component catalyst.

3,520,936

**CONDENSATION OF CARBONYL COMPOUNDS IN PRESENCE OF AN ORGANIC HETEROCYCLIC COMPOUND HAVING AT LEAST ONE SIX-MEMBERED RING CONTAINING THREE CONJUGATED DOUBLE BONDS AND CONTAINING BORON AS A HETERO ATOM**

Robert D. Offenbauer, Pennington, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Dec. 14, 1966, Ser. No. 601,807

Int. Cl. C07c 45/00

U.S. Cl. 260—601

1 Claim

1. Method of reacting an alkanal with the same or different alkanal to form a condensation product and water, said alkanals containing from one to twenty-two carbon atoms and one of said alkanals having from 2 to 3 alpha hydrogen atoms connected to a carbon atom alpha to the carbonyl group, which comprises carrying out said reaction in the presence of a condensation catalyst comprising 10-hydroxy-10,9-boroxarophenanthrene, said condensation product being an unsaturated alkanal of higher molecular weight than either of said alkanal reactants.

3,520,939

**PROCESS FOR PREPARING PHOSPHINE OXIDES**

James P. Brennan, Bloomington, Ind., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

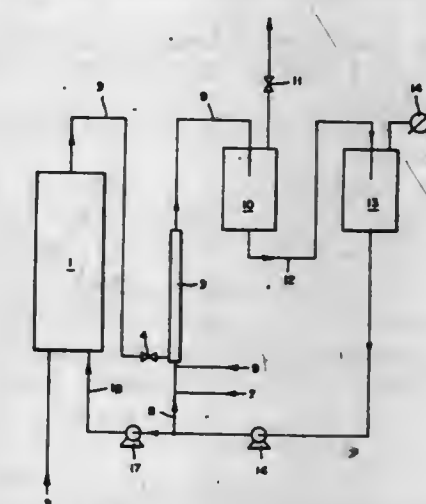
No Drawing. Continuation-in-part of application Ser. No. 457,177, May 19, 1965. This application Apr. 18, 1968, Ser. No. 722,159

Int. Cl. C07f 9/02

U.S. Cl. 260—606.5

19 Claims

The present invention relates to and covers processes for preparing tertiary phosphine oxides by the alkaline hy-



A process for processing oxo reaction mixtures which contain aldehydes and cobalt by treatment with an oxidizing agent in an aqueous medium at elevated temperature immediately after the production of the oxo reaction mixture.



drolysis of a quaternary phosphonium salt. More specifically, such salt having the formula  $RR'R''P^+X^-$ , like triethyl dodecyl phosphonium chloride is reacted with a base having the formula  $ROM$ , like sodium methoxide, at an elevated temperature and in a substantially non-aqueous system to form a phosphine oxide having the formula  $RR'R''PO$ , like diethyldodecyl phosphine oxide.

### 3,520,940 PROCESS FOR PREPARING LITHIUM POLYHYDRIC ALKOXIDES

William Novis Smith, Jr., Exton, Pa., assignor to Foot Mineral Company, Exton, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 616,799, Feb. 17, 1967. This application Dec. 16, 1968, Ser. No. 784,257

Int. Cl. C07c 31/30, 35/02; C08g 17/06

U.S. Cl. 260-617 21 Claims  
A lithium alkoxide of a monohydric alkyl alcohol containing from 2 to 8 carbon atoms is reacted with from about 0.5 to about 1 mole of a polyhydric alcohol in a liquid monohydric alkyl alcohol containing from 2 to 8 carbon atoms or hydrocarbon reaction medium to form the corresponding lithium polyhydric alkoxide as a precipitate which is recovered from the reaction mixture.

### 3,520,941 BICYCLOBUTANES AND PREPARATION THEREOF

Mahmoud R. Rifi, Kendall Park, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 21, 1965, Ser. No. 515,452  
Int. Cl. C07c 23/00, 23/06

U.S. Cl. 260-648 1 Claim  
1,3-substituted bicyclobutanes, which can be processed to useful polymers, prepared by the dehalogenation of cyclic 1,3-dihaloalkanes by electrochemical means.

3,520,942  
TRIFLUORO-BICYCLOBUTENES  
Heinz G. Vlebe, Linkebeck, Belgium, assignor to Union Carbide Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 406,908, Oct. 27, 1964. This application Nov. 7, 1968, Ser. No. 774,164

Int. Cl. C07c 25/04

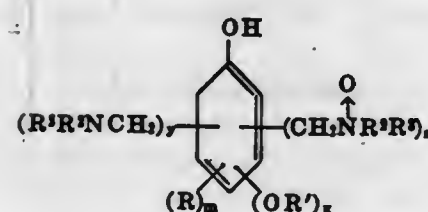
U.S. Cl. 260-648 2 Claims  
Fluoroacetylenes are disclosed. They are useful in the preparation of aminoacetylenes of known utility, and in the preparation of trimers which can be used as liquid hydrocarbon solvents.

### 3,520,943 INHIBITING POPCORN POLYMER FORMATION WITH HYDROXY BENZENE TERTIARY AMINE OXIDE COMPOUND

Harry Elmer Albert, Lafayette Hill, Pa., assignor to Pennwalt Corporation, a corporation of Pennsylvania

No Drawing. Filed May 13, 1968, Ser. No. 728,771  
Int. Cl. C07c 7/18

U.S. Cl. 260-666.5 10 Claims  
Popcorn polymer formation in processes for preparing synthetic rubber is inhibited by contacting the monomers with a hydroxy benzene tertiary amine oxide of the structure



where R is an alkyl radical or chlorine, fluorine, bromine or  $\text{NO}_2$ ; m is 0 or 1; R' is hydrogen, an alkyl radical, or a benzyl radical; x is 0 or 1; R<sup>2</sup> and R<sup>3</sup> are alkyl radicals,  $\beta$ -hydroxyalkyl radicals, or oxydiethylene when R<sup>2</sup> and R<sup>3</sup> together form a single radical; n is 1 or 2; and y is 0 or 1.

### 3,520,944 SEPARATION PROCESS FOR AROMATIC ALKYLATION AND OLEFINIC OLIGOMERIZATION

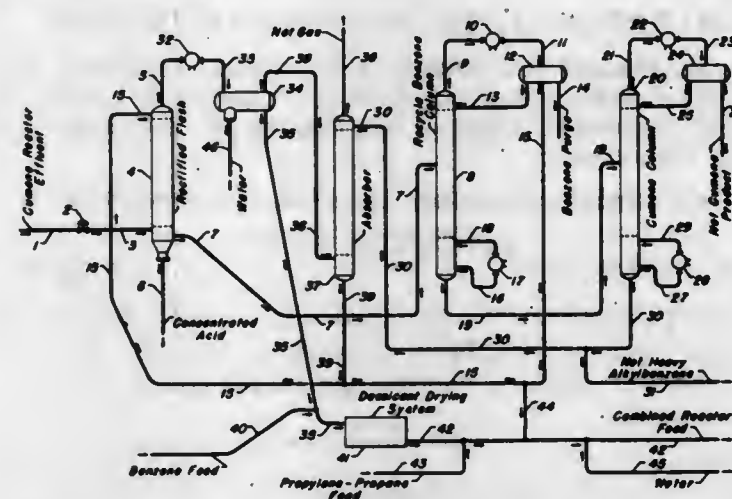
Dennis J. Ward, Lombard, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,733

Int. Cl. C07c 3/54, 3/12

U.S. Cl. 260-671

14 Claims



Separation process for a reaction zone effluent containing at least four components, such as an aromatic alkylation reaction zone effluent. The effluent is passed into a rectified flash column having associated therewith a partial condensing zone and an absorption zone, as well as a subsequent fractionation zone. The effluent is thereby separated into unreactive diluent, alkylatable aromatic compound, alkylated aromatic product, and heavy alkylated aromatic byproduct. The process is equally effective in the separation of the effluent from an oligomerization reaction zone. Specific application of the process is in the synthesis of ethylbenzene, cumene, heptene, propylene-trimer, and propylene-tetramer.

### 3,520,945 PROCESS FOR CATALYST HYDRATION CONTROL

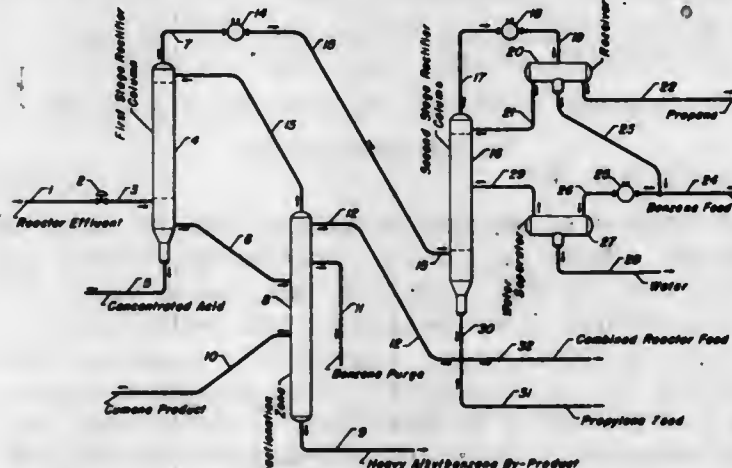
Richard R. De Graff, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Sept. 25, 1968, Ser. No. 762,473

Int. Cl. C07c 3/54, 3/12

U.S. Cl. 260-671

19 Claims



Process for controlling the moisture content of the feed to a reaction zone in a manner sufficient to maintain

the state of hydration of a catalyst contained therein at a predetermined level. At least a part of the reactor feed is passed into a saturation zone in admixture with water, and the resulting saturated feed is passed to a distillation zone. The distillation zone provides a bottoms fraction comprising the part of reactor feed containing water in an amount sufficient to control the state of hydration of the catalyst, and an overhead fraction containing excess water for return to the saturation zone. The process is particularly applicable to the control of catalyst hydration in aromatic alkylation and olefinic oligomerization processing, and typical application is in the synthesis of ethylbenzene, cumene, heptene, propylene-trimer, and propylene-tetramer.

### 3,520,946

#### RECOVERY OF AROMATICS WITH IMPROVED XYLENE PURITY

Donald B. Broughton, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

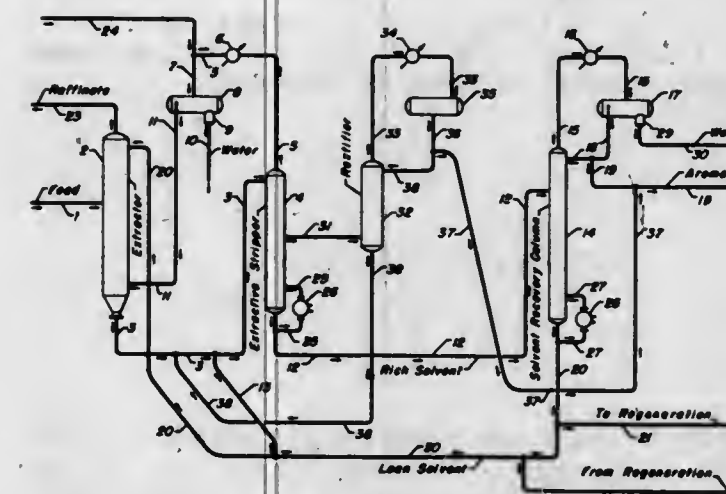
Filed Sept. 11, 1967, Ser. No. 666,731

Int. Cl. C07c 7/10

U.S. Cl. 260-674

14 Claims

A technique to be integrated into a process designed to recover aromatic hydrocarbons from a mixture thereof with non-aromatic hydrocarbons via extraction. A light aromatic-rich intermediate stream is withdrawn from the extractive stripper and rectified. The tray temperatures in the extractive stripper are thereby more readily maintained at a desired elevated level, and the C<sub>8</sub> and C<sub>9</sub> non-aromatics are more easily stripped from the aromatic-containing solvent. The invention is adaptable to other sol-



vent-extraction processes wherein polar hydrocarbons are separated from non-polar hydrocarbons.

### 3,520,947

#### OLEFIN SEPARATION

George C. Blytas, Kensington, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Aug. 19, 1968, Ser. No. 753,482

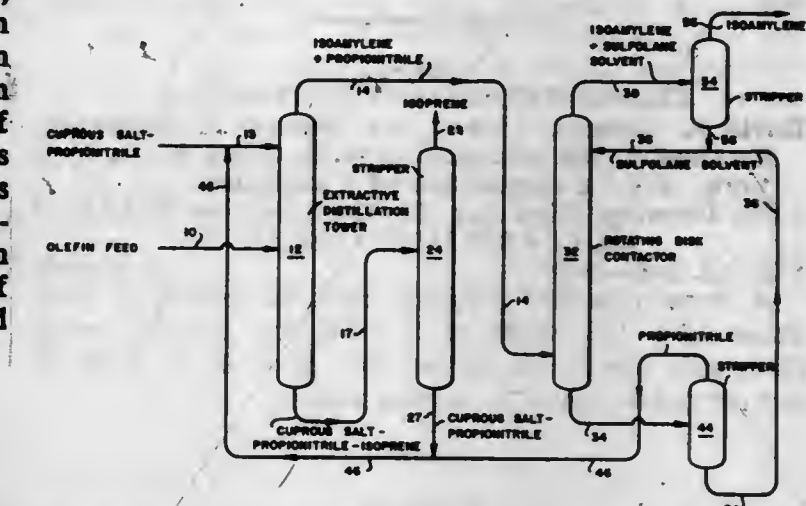
Int. Cl. B01d 3/40; C07c 7/00, 11/00

U.S. Cl. 260-681.5

4 Claims

A process of separating isoprene from isoamylenes by selectively contacting a mixture of isoprene and isoamylenes with a cuprous salt in propionitrile to separate an

isoprene-containing propionitrile phase and an isoamylene-containing propionitrile phase and subsequently separat-



ing the isoamylenes from the isoamylene-containing propionitrile phase by extraction with a sulfolane solvent.

### 3,520,948

#### LAMINATING RESINS OF MIXTURES OF SILOXANE

James Calhoun Cuthill, Ardrossan, Scotland, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 27, 1967, Ser. No. 678,539  
Claims priority, application Great Britain, Oct. 31, 1966, 48,702/66

Int. Cl. C08g 47/04

U.S. Cl. 260-825

11 Claims

Laminating resins providing laminates of improved physical properties are provided. The laminating resins are mixtures of siloxanes wherein the component (A) is a silane of the formula  $R_nSiY_{4-n}$  where Y is a hydroxy or alkoxy and n is 1 or 2 and at least one silane of the formula:  $R_mSiZ_{4-m}$  where Z is alkoxy or acyloxy and m is 0, 1 or 2 and R and R' are hydrocarbyl or substitute hydrocarbyl with a reaction product of a disilanol and a silane of the formula  $R_sSiQ_{4-s}$  where R is a monovalent hydrocarbyl, halogen or hydrogen and Q is  $OR^6$  or  $NR^6$ , and R<sup>6</sup> and R<sup>6</sup> are monovalent hydrocarbyl and s is 0 or 1.

### 3,520,949

#### HYDROPHILIC POLYMERS, ARTICLES AND METHODS OF MAKING SAME

Thomas H. Shepherd and Francis E. Gould, Princeton, N.J., assignors to National Patent Development Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 26, 1966, Ser. No. 567,856  
Int. Cl. C08f 15/16, 47/10; C08g 41/04

U.S. Cl. 260-857

2 Claims

The invention relates to the preparation of a hydrophilic cross-linked polymer which comprises admixing a water soluble polymerizable hydroxyalkyl monoester of a mono-olefinic monocarboxylic acid and a polymerizable diester of a mono-olefinic monocarboxylic acid in the presence of a linear polyamide.

### 3,520,950

#### POLYESTERS OF METAL PHTHALOCYANINE- OCTACARBOXYLIC ACID

David E. Kramm, Laurel, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Dec. 29, 1966, Ser. No. 605,546

Int. Cl. C08f 21/02

U.S. Cl. 260-868

7 Claims

A prepolymer A is prepared by reacting a glycol with less than an equivalent amount of a difunctional organic acid. Prepolymer A is then reacted with an octa-carboxylated metal phthalocyanine to give a prepolymer B.



The prepolymer B is reacted with a liquid vinyl compound in the presence of a peroxide to give a final polymer.

3,520,951

## FLAME RETARDANT POLYESTERS

David E. Kramm, Laurel, and Thomas R. Steadman, Kensington, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut  
No Drawing. Filed Aug. 25, 1967, Ser. No. 663,246  
Int. Cl. C08f 21/02; C08g 17/12

U.S. Cl. 260—869 5 Claims  
A flame retardant polyester resin containing at least about 10% by weight of chlorine, the chlorine being chemically bonded to the polymer chain in the form of the pentachlorophenoxy acetate radical.

3,520,952

## RESISTANCE OF BLOCK COPOLYMERS HAVING A NONELASTIC BLOCK AND AN ELASTIC BLOCK TO DEGRADATION IN PHYSICAL PROPERTIES

Arthur C. Hecker, Forest Hills, and Charles Abramoff, Brooklyn, N.Y., assignors to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 610,003, Jan. 18, 1967. This application July 17, 1967, Ser. No. 653,637

The portion of the term of the patent subsequent to Oct. 14, 1986, has been disclaimed  
Int. Cl. C08f 29/12, 45/62

U.S. Cl. 260—878 15 Claims  
Elastomeric block copolymers having an enhanced resistance to heat deterioration are provided by incorporating therein stabilizing combinations of alkyl polyphosphate salts and polyhydric polycyclic phenols.

3,520,953

## VINYL CHLORIDE RESIN COMPOSITION

Katsumi Sugimoto, Tokyo, and Shiro Tanaka and Hiroya Fujita, Yokohama-shi, Japan, assignors to The Japanese Geon Co., Ltd., Tokyo, Japan  
No Drawing. Filed Aug. 11, 1967, Ser. No. 659,858  
Claims priority, application Japan, Aug. 11, 1966, 41/52,309

Int. Cl. C08f 29/24

U.S. Cl. 260—890 2 Claims  
An intimate blend of (A) 100 parts by weight of a mixture of (1) from 90% to 50% by weight of a vinyl chloride resin and (2) from 10% to 50% by weight of a copolymer of from 5% to 40% by weight of styrene, from 5% to 20% by weight of acrylonitrile, from 30% to 80% by weight of methyl methacrylate and from 10% to 45% by weight of  $\alpha$ -methylstyrene and (B) from 0 to 30 parts by weight of at least one impact strength enhancing agent selected from the group consisting of butadiene-containing polymers, chlorinated polyethylene and chlorosulfonated polyethylene.

3,520,954

## PRODUCTION OF VULCANIZABLE RUBBER-CONTAINING MIXTURES

Harald Blumel and Wilhelm Schanzer, Marl, Germany, assignors to Chemische Werke Huls A.G., Marl, Germany  
No Drawing. Continuation of application Ser. No. 457,815, May 21, 1965. This application Jan. 29, 1968, Ser. No. 701,469  
Claims priority, application Germany, May 22, 1964, 1,261,311

Int. Cl. C08d 9/04, 13/02, 1/09

U.S. Cl. 260—894 7 Claims  
Vulcanized products of cold rubber and polybutadiene, such products having improved resistance to crack growth

by virtue of the cold rubber and polybutadiene being blended as latices before being compounded and vulcanized.

3,520,955

## POLYETHYLENE-LIKE POLYMER WITH BACKBONE TRANS-UNSATURATION AND METHOD OF PREPARING BY CRACKING ETHYLENE-VINYL ACETATE

Ronald E. Gilbert, Shawnee Mission and Bert H. Clappitt, Overland Park, Kans., and Harry D. Anson, Sewickley, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware  
No Drawing. Filed Aug. 26, 1968, Ser. No. 755,449

Int. Cl. C08f 29/12, 37/18, 41/12

U.S. Cl. 260—897 5 Claims  
Ethylene-vinyl acetate copolymers may be thermally cracked at the vinyl acetate position in the polymer chain. Acetic acid is removed leaving predominately trans carbon to carbon unsaturation along the polymer backbone. In order to achieve the results above, the reaction must be carried out in an inert atmosphere. The cracked polymer is blended in minor proportions with polyethylene to yield compositions with improved transparency, particularly in the form of extruded polyethylene film.

3,520,956

## ARYLOXY AND ARYL MERCAPTO - N-METHOXY-ETHYLACETAMIDOMONOTHIO AND DITHIO PHOSPHATES AND PHOSPHONATES

Llewellyn W. Fancher, Orinda, and Reed A. Gray, Saratoga, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 463,322, June 11, 1965. This application Oct. 20, 1967, Ser. No. 676,698

Int. Cl. C07f 9/16, 9/30; A01n 9/36

U.S. Cl. 260—944 9 Claims  
Compounds corresponding to the formula



in which X and Y are, independently, oxygen or sulfur, Ar is phenyl, nuclear chlorinated-phenyl, or naphthyl groups, the chlorination is from 1 to 5 chlorine atoms, inclusive, R is lower alkyl or lower alkoxy and R<sup>1</sup> is lower alkyl. The naphthyl nuclei are bonded through either the  $\alpha$  or  $\beta$  nuclear carbon atom. The above compounds are effective herbicides, particularly for the control of grasses and broadleaf plants with both pre-emergence and post-emergence activity. Representative compounds are: 2,4-dichlorophenoxy-N-methoxyethylacetamido-O,O-dimethylphosphorodithioate, 2,4,5-trichlorophenoxy-N-methoxyethylacetamido-O,O-diethylphosphorodithioate, phenoxy-N-methoxyethylacetamido-O,O-di-isopropylphosphorodithioate, p-chlorophenoxy-N-methoxyethylacetamido-O,O-diethylphosphorodithioate, p-chlorophenylmercapto-N-methoxyethylacetamido-O,O-diethylphosphorodithioate,  $\beta$ -naphthylmercapto-N-methoxyethylacetamido-O,O-diethylphosphorodithioate, 2,4-dichlorophenoxy-N-methoxyethylacetamido-O-ethyl-O-n-propylphosphorodithioate, and 2,4-dichlorophenoxy-N-methoxyethylacetamido-O-i-propylethylphosphonodithioate.

3,520,957

## O-(4-NITROPHENYL)-O-ALKYL-N-ALKYLAMIDOPHOSPHATES

Karl Lutz, Basel, Switzerland, assignor to Sandoz Ltd., Basel, Switzerland, a corporation of Switzerland  
No Drawing. Filed Nov. 17, 1966, Ser. No. 595,016  
Claims priority, application Switzerland, Nov. 23, 1965, 16,099/65

Int. Cl. C07f 9/08; A01n 9/36

U.S. Cl. 260—954 1 Claim  
The invention discloses O-(p-nitrophenyl)-O-alkyl-N-alkylamidophosphates useful for combatting pests.

3,520,958

## METHOD FOR PREPARING AN OXIDIC FISSILE MATERIAL CONTAINING A METAL BORIDE AS BURNABLE POISON

Geert Versteeg, Petten, Albertus J. G. Engel, Helloo, and Fokko W. Hamburg, Petten, Netherlands, assignors to Reactor Centrum Nederland Development of Nuclear Science for Peaceful Purposes, The Hague, Netherlands, an Institut of the Netherlands  
No Drawing. Filed Oct. 5, 1967, Ser. No. 673,023

Int. Cl. G21c 21/00

U.S. Cl. 264—5 6 Claims  
A method of preparing sintered uranium dioxide or plutonium dioxide in admixture with a metal boride as a burnable poison or resonance absorber. A mixture of the granular oxide and the granular metal boride is pressed and then reduced in an atmosphere containing CO to remove some of the excess oxygen which would attack the boride during the subsequent sintering step.

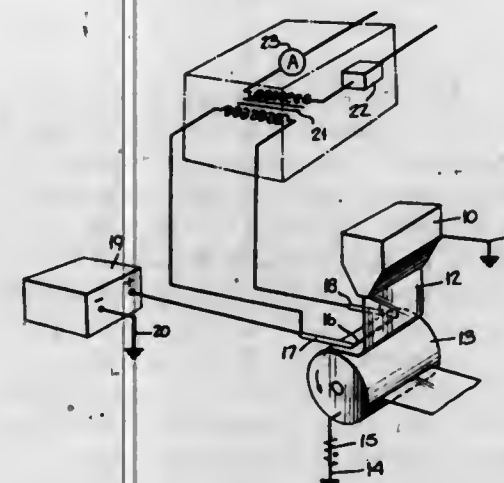
3,520,959

## PROCESS FOR ELECTROSTATICALLY PINNING EXTRUDED THERMOPLASTIC FILM

Joseph B. Busby, Greenville, S.C., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware  
Filed Mar. 5, 1968, Ser. No. 710,453

Int. Cl. B29d 7/22; H05b 7/00

U.S. Cl. 264—22 10 Claims



In a process wherein a plastic film, e.g., polyethylene terephthalate, is transported on a moving surface, e.g., while being longitudinally or transversely stretched or while being extruded onto a moving quenching surface, and firmly held to this surface by means of an electrostatic charge resulting from a pinning electrode in close proximity to but out of contact with the film, and wherein the plastic generates condensable vapors which collect on the pinning electrode and shorten its useful life, the useful life of the electrode is increased by heating it above the condensation temperature of these vapors.

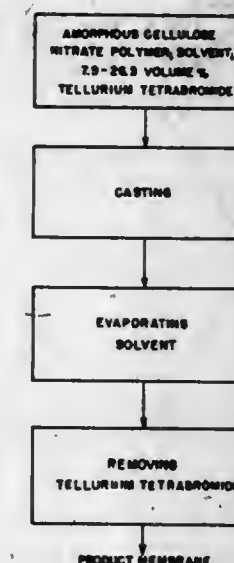
3,520,960

## METHOD OF MAKING MICROPHOROUS CELLULOSE NITRATE FILMS

Allan S. Douglas, Woburn, Mass., assignor, by direct and mesne assignments, of one-half to Massachusetts Institute of Technology, Cambridge, Mass., and one-half to the United States of America as represented by the Secretary of the Interior  
Filed Mar. 22, 1967, Ser. No. 625,907

Int. Cl. B29d 27/04; C08b 5/02; C01b 7/10; 19/00

U.S. Cl. 264—49 8 Claims



Microporous films, or membranes, can be produced by casting solutions of amorphous glassy polymers which contain from about 7.5 volume percent to about 26.5 volume percent tellurium tetrabromide, drying the film and then washing out the tetrabromide. When the polymer is a partially nitrated form of cellulose nitrate, the film is useful in separating potable water from sea water by reverse osmosis.

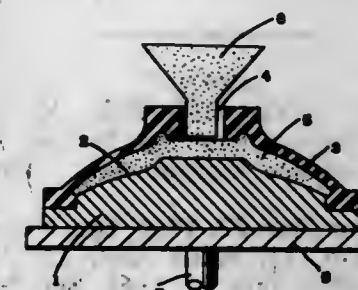
3,520,961

## METHOD FOR MANUFACTURING CERAMIC ARTICLES

Mitsuru Suda and Hiroshi Nagase, Fujisawa-shi, Japan, assignors to Yuku Industry Co., Ltd., Kanagawa-ken, Japan  
Filed May 12, 1967, Ser. No. 637,989

Int. Cl. B28b 1/08; B29c 5/04

U.S. Cl. 264—71 8 Claims



A method of manufacturing ceramic articles, such as tableware. A charge of substantially dry powder is introduced into a mold cavity defined between a substantially rigid mold member and a flexible mold member, and then one of these mold members is urged toward the other to compress the charge in the cavity between the mold members so as to give to the charge a predetermined configuration. Thereafter, the charge is removed from the mold and fired. In this mold, the flexible mold member is in the form of an elastic member capable of resiliently retracting itself from the charge when the molding pressure is released. A restraining means coacts with the flexible elastic mold member to prevent the latter from exerting on



the charge any radial forces so that the elastic mold member will move toward and away from the charge but will not have any tendency to rub along the surface of the charge.

### 3,520,962 METHOD AND APPARATUS FOR THE FORMATION OF DEEP DRAWN BODIES FROM PLASTICS MATERIAL

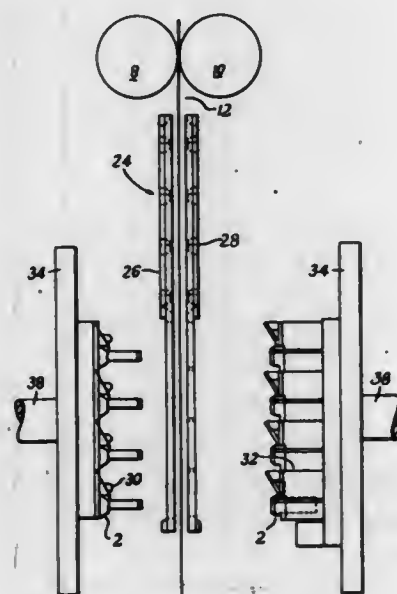
Jack M. Schneider, Furze Hill, Kingswood, England, assignor to Calmec Extrudform Limited, London, England, a British company

Filed Oct. 22, 1965, Ser. No. 502,153

Int. Cl. B29c 17/03, 17/04

U.S. Cl. 264—89

13 Claims



A sheet of plastic initially has selected portions cooled to control the distribution of the sheet plastic material during the subsequent forming steps. After cooling, the plastic sheet is clamped between a first frame component which engages a closed area only at its periphery and a second frame component having an array of apertures. Male tools then displace discrete sections of the clamped area of the sheet through each of the apertures in the second frame component whereby discrete sections of the sheet are moved into engagement with the corresponding male tool. The plastic sections are then transferred to a corresponding female tool so that hollow bodies of substantially uniform thickness are formed.

### 3,520,963 CIGARETTE TIP AND METHOD OF MAKING IT

Frank Allseits, Prospect, and Jay Doblin, Chicago, Ill., assignors to Lorillard Corporation, a corporation of Delaware

Original application Mar. 23, 1966, Ser. No. 536,671, now Patent No. 3,396,733, dated Aug. 13, 1968. Divided and this application July 10, 1968, Ser. No. 767,866

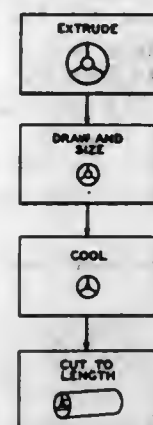
Int. Cl. B29c 17/07, 25/00; B29d 23/04

U.S. Cl. 264—90

2 Claims

A plastic article having, in cross-section, a closed peripheral body and internal ribs or other structure interconnected within the body, is formed by extrusion by initially forming the member as it comes from the die so that the dimensions of the body are substantially larger than the final dimensions and the internal structure is, as initially formed, deformed substantially out of its final shape so that its dimensions are disproportionately greater than the final dimensions, relative to the relationship between the initial and final dimensions of the body. The member is then drawn while it is at a temperature above the setting point of the plastic to increase its length and to reduce the dimensions of the body and of the

internal structure. Differential gas pressure is used to shape and control the final dimensions. Controlled cooling provides the requisite differential cooling rates across the



cross-section of the body so that the final dimensions and shapes are obtained, despite intentional distortion of the internal structure as originally extruded from the dies.

### 3,520,964 METHOD FOR BALANCING PRESSURE APPLIED TO FILM-FORMING MATERIAL IN THE DEPOSITION THEREOF ONTO A CASTING SURFACE

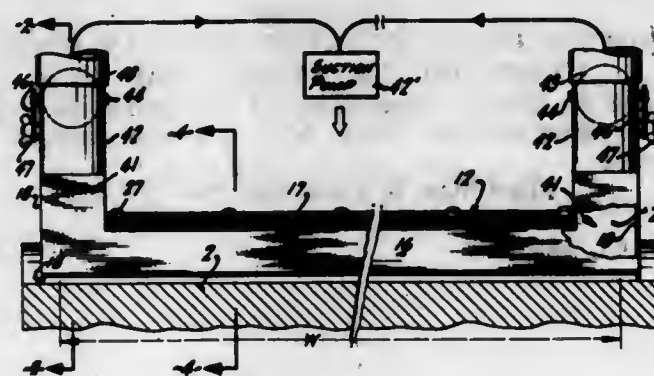
Peter J. Metz, Jr., Castro Valley, Calif., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed July 31, 1967, Ser. No. 657,094

Int. Cl. B29c 17/04; B29d 7/02

U.S. Cl. 264—90

4 Claims



A method for the extrusion of film-forming material from an extrusion device wherein a vacuum is applied to the trailing face of an unsupported section of the film which is continuously deposited onto a continuously moving casting surface. The vacuum applied to the unsupported section is substantially balanced to cause substantially even deposit of the film on the casting surface. The balance is achieved by concentrating application of the vacuum by independent duct openings at the respective ends of the extrusion device so as to withdraw outside air which can enter behind the trailing face of the film adjacent the ends of the film.

### 3,520,965 TREATMENT OF SODIUM BENZOATE

August W. Dege, Ridgewood, N.J., assignor to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed July 9, 1968, Ser. No. 743,280

Int. Cl. B29j 1/00

U.S. Cl. 264—101

5 Claims

A method for treating sodium benzoate to provide a product having a high relative density and excellent solubility characteristics. Sodium benzoate particles containing about 0.1 percent to about 2.0 percent by weight of water are compressed under a pressure in the range of about 800 pounds per square inch to 1000 pounds per

square inch to form a sheet of densified sodium benzoate. The sheet of densified sodium benzoate may be heated under reduced pressure to reduce the water content to less than 0.5 percent by weight. The sheet may also be subdivided into flakes or powder.

### 3,520,966 METHOD FOR THE MANUFACTURE OF TUBES OF PLASTICS MATERIAL

Onorato Soffiantini, Cittiglio, Italy, assignor to Induplas S.p.A., Binaschio, Varese, Italy, an Italian company

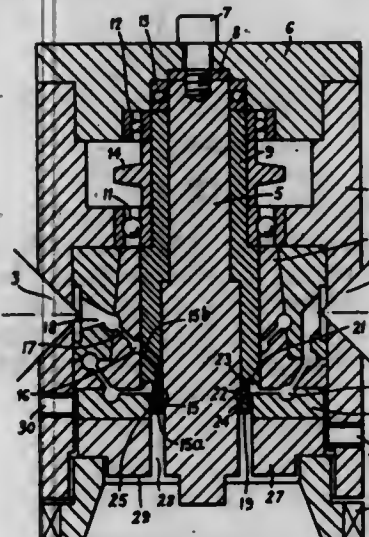
Filed Dec. 20, 1966, Ser. No. 603,241

Claims priority, application Italy, Feb. 5, 1966, 2,583/66

Int. Cl. B29d 23/05; B29f 3/04, 3/10

U.S. Cl. 264—173

1 Claim



A method is provided for producing multilayer tubing wherein two coaxial tubes from softer plastic material are extruded while simultaneously extruding a helical reinforcement therebetween through a rotating nozzle.

### 3,520,967 METHOD FOR MAKING THIN CONCRETE PANELS

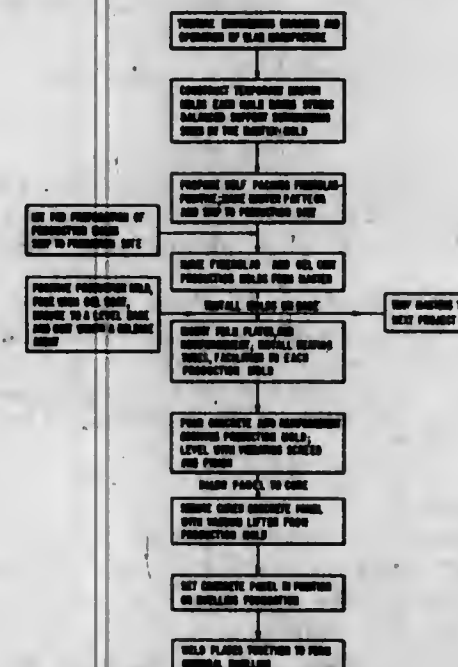
George J. Kreier, Jr., 1524 Cambridge St., Philadelphia, Pa. 19130

Original application Oct. 31, 1966, Ser. No. 590,580, now Patent No. 3,479,786, dated Nov. 25, 1969. Divided and this application May 27, 1968, Ser. No. 739,588

Int. Cl. B28b 7/06, 7/10, 7/22

U.S. Cl. 264—227

3 Claims



A method of constructing large, thin, concrete panels having level edges wherein the panels are formed in a

flexible fiberglass resin-impregnated production mold having vertical drain slits and a plurality of raised portions in a planar surface of the mold which creates a waffle pattern in the panels. The mold is adapted to be flexed to a convex configuration to permit the panels to be removed without the need for dismantling the molding means. A prototype is used to form a master pattern and the production mold is made from the prototype.

### 3,520,968 METHOD OF MANUFACTURING SELF-STRESSED CONCRETE PIPE

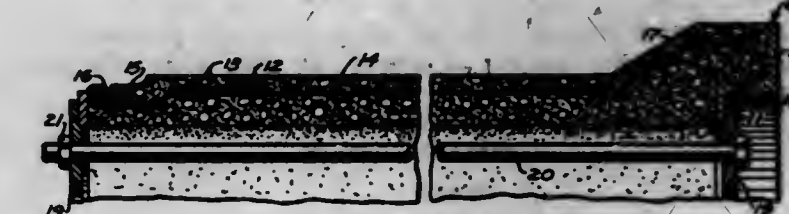
Max S. Kreston, Redlands, Calif., assignor to Stressed Pipe Research, Ltd., Littleton, Colo., a limited partnership of Texas

Filed Aug. 31, 1967, Ser. No. 664,701

Int. Cl. B28b 9/04

U.S. Cl. 264—228

3 Claims



A method of manufacturing concrete pipe comprising expansible concrete and internally, constraining reinforcing in which the pipe is initially cast in a conventional manner within a form; then, prior to the major growth period of the concrete, the form is removed and a longitudinal constraint is applied externally of the concrete to supplement the longitudinal, internal constraint afforded by the reinforcing; then, after the growth cycle is substantially completed, the external constraint is removed.

### 3,520,969 METHOD OF MAKING A BOWLING PIN

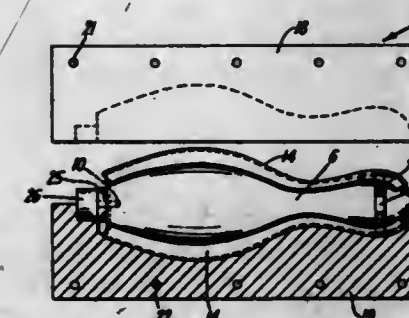
Richard A. Smith, Cornwall-on-the-Hudson, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Continuation-in-part of application Ser. No. 534,946, Jan. 21, 1966, this application Aug. 1, 1966, Ser. No. 569,371

Int. Cl. B29d 3/00; B32b 31/06

U.S. Cl. 264—262

6 Claims



A method for making a plastic encased bowling pin having a core and a plastic cladding substantially completely covering the core. A pre-shaped core is centered along with a partially cured preformed plastic material in a mold. Pressure is applied to the mold enclosing the core and preformed plastic material until the preformed material flows and forms an integral enclosing layer on the core. The material is then cured. A preferred plastic material for the enclosing layer is polyurethane.



3,520,970

**SOLID ORAL DRUG MEDICAMENT COATED FOR RAPID OR GRADUAL RELEASE WITH COPOLYMERS OF POLYMERIZABLE QUATERNARY AMMONIUM MONOMERS AND WATER-INSOLUBLE HOMOPOLYMER-FORMING MONOMERS**

Klaus Lehmann, Darmstadt, Gerhard Markert, Upper Ramstadt-Eiche, and Gerhart W. E. Rothgang, Darmstadt, Germany, assignors to Rohm & Haas G.m.b.H., Darmstadt, Germany  
No Drawing. Filed Aug. 2, 1967, Ser. No. 657,763  
Claims priority, application Germany, Aug. 12, 1966, R 43,904

Int. Cl. A61k 27/12

U.S. Cl. 424-25 5 Claims

Coated orally ingestible medicament, method of coating, and products for coating a medicament with a copolymer of (I) a monomer forming a water-insoluble homopolymer (e.g. alkyl acrylates and methacrylates), and (II) a polymerizable quaternary ammonium compound (e.g. alkylated aminoesters and aminoamides of acrylic and methacrylic acids). Coatings may be prepared having widely different solubilities and permeabilities, but all dissolve independently of their physiological pH environment.

3,520,971

**BATH CAPSULE**

Stanley Benford, Troy, Mich., assignor to R. P. Scherer Corporation, a corporation of Michigan  
No Drawing. Filed Dec. 5, 1966, Ser. No. 598,898  
Int. Cl. A61k 9/04; B01f 13/02; B44d 5/06

U.S. Cl. 424-37 2 Claims

A bath capsule containing a bath oil, such as mink oil, and having an outer shell made of a gelatin capsule formulation which includes a finely divided titanium oxide coated mica as a pigment.

3,520,972

**FELINE VIRUS VACCINES OBTAINED BY PROPAGATION AND SERIAL PASSAGE ATTENUATION OF VIRULENT FELINE VIRUSES IN DIPLOID FELINE EMBRYO TISSUE CELL SERIAL PASSAGE SUBCULTURE STRAINS**

Sidney Edwin Smith, Kevin Joseph O'Reilly, and John Pryde, London, England, assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York

No Drawing. Filed Feb. 14, 1967, Ser. No. 615,922  
Claims priority, application Great Britain, Feb. 18, 1966, 7,258/66; Sept. 8, 1966, 40,225/66

Int. Cl. C12k 1/06, 7/00, 9/00

U.S. Cl. 424-89 6 Claims

A method for producing a non-contaminated attenuated strains until the virus loses its infectivity but still retains virulent strain of the virus in cultures of embryonic cell strains until the virus loses its infectivity but still retains its immunogenicity.

3,520,973

**PROCESS FOR CONTROLLING INSECTS, NEMATODES AND MITES USING VALINOMYCIN**

Ernest Leonard Patterson, Pearl River, N.Y., and Donald Perry Wright, Jr., Hopewell Township, Mercer County, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 21, 1966, Ser. No. 595,619  
Int. Cl. A61k 2/00; A01n 9/00, 17/00

U.S. Cl. 424-177 3 Claims

A process for controlling insects, nematodes and mites which comprises exposing said organisms to a composition containing an effective amount of valinomycin, not less than about 0.001%, and an inert carrier, whereby on contact a substantial number of the organisms are killed.

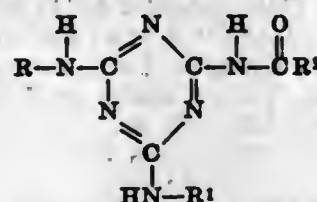
3,520,974

**INSECT CHEMOSTERILANTS**

Philip C. Hamm, Glendale, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed Sept. 6, 1966, Ser. No. 577,134  
Int. Cl. A01n 9/22, 9/24, 17/4

U.S. Cl. 424-249 1 Claim

Insect chemosterilant compositions containing an acetylmelamine of the formula



wherein R and R<sup>1</sup> are selected from the group consisting of hydrogen and



and R<sup>2</sup> is alkyl of not more than 4 carbon atoms.

3,520,975

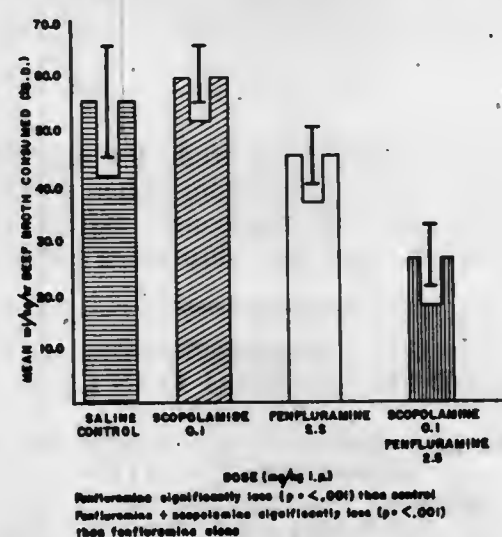
**ANOREXIGENIC COMPOSITIONS COMPRISING FENFLURAMINE AND SCOPOLAMINE**

Reevis Stancil Alphin and John Paul Da Vanzo, Richmond, Va., assignors to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia  
Filed Nov. 27, 1967, Ser. No. 685,985

Int. Cl. A61k 27/00

U.S. Cl. 424-265

4 Claims



Novel anorexigenic compositions comprising fenfluramine [N-ethyl-1-(m-trifluoromethylphenyl)-isopropylamine], d-amphetamine and scopolamine are described. The anorexigenic properties of fenfluramine and d-amphetamine are potentiated by scopolamine.

3,520,976

**S-THIOCYANOMETHYL COMPOUNDS OF 2-MERCAPTOBENZOTHAZOLES, 2-MERCAPTOBENZOXAZOLES, AND 2-MERCAPTOBENZIMIDAZOLES**

Stanley J. Buckman, John D. Pera, and Fred W. Rath, Memphis, Tenn., assignors to Buckman Laboratories, Inc., Memphis, Tenn., a corporation of Tennessee  
No Drawing. Continuation-in-part of application Ser. No. 552,693, May 25, 1966. This application Dec. 24, 1968, Ser. No. 786,752

Int. Cl. A01n 9/22, 9/28

U.S. Cl. 424-270

11 Claims

S-thiocyanomethyl compounds of 2-mercaptobenzothiazoles, 2-mercaptobenzoxazoles, and 2-mercaptobenzimidazoles prepared by reacting a metal salt of 2-mercaptobenzothiazole, 2-mercaptobenzoxazole, 2-mercaptobenzimidazole or substituted compounds thereof with chloromethyl thiocyanate in an alcoholic solution are useful in controlling the growth of fungi and sulfate-reducing bacteria.

## ELECTRICAL

3,520,977

**ARC PLASMA HEATING DEVICE**

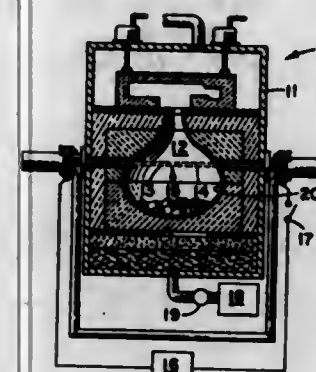
Donald H. Petersen, Dallas, and Warren C. Schwemer, Arlington, Tex., assignors to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware

Filed Dec. 23, 1968, Ser. No. 786,140

Int. Cl. H05b 7/18

U.S. Cl. 13-1

12 Claims



An electric furnace adapted to be heated with a gaseous plasma, and including within the furnace a quantity of low work function material which promotes the establishment and sustenance of the gaseous plasma, said quantity being on the order of about one milligram per square centimeter of furnace area.

3,520,978

**CONTROL CIRCUIT FOR AUTOMATIC POSITIONING OF PAIRS OF ELECTRODES IN SMELTING FURNACES**

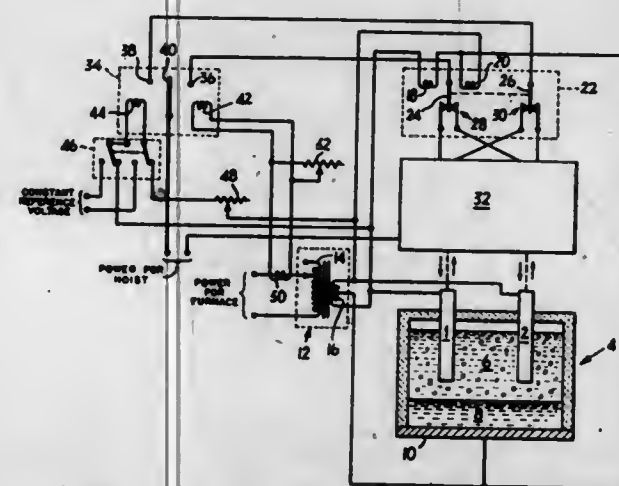
Elvind Christian Kröger Svendsen, Oslo, Norway, assignor to Elektrokemisk A/S, a corporation of Norway  
Filed Feb. 5, 1969, Ser. No. 796,769

Claims priority, application Norway, Feb. 10, 1968, 522/68

Int. Cl. H05b 7/12

U.S. Cl. 13-13

5 Claims



A control circuit which will adjust the position of pairs of series-connected electrodes or of either one of the electrodes in each pair, including a first differential relay for controlling the direction of movement of the electrodes and a second differential relay which determines whether the position of both electrodes or of a single electrode of the pair is to be adjusted.

3,520,979

**ELECTRODE CIRCUIT FOR HEX ELECTRIC FURNACE**

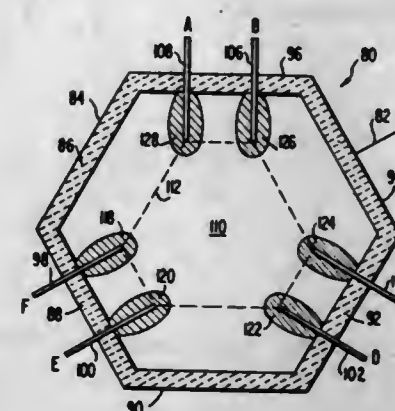
Frederick Scarfe, Benfleet, England, and Harvey Larry Penberthy, Seattle, Wash.; said Scarfe assignor to Pen-electro Limited, Eastwood Leigh-on-Sea, Essex, England

Filed Feb. 26, 1968, Ser. No. 708,150

Int. Cl. C03b 5/02; H05b 17/06

U.S. Cl. 13-18

11 Claims



Disclosed is a heating electrode assembly and power supply connection for glass furnaces which gives more uniform current flow through the glass bath and in particular avoids preferential current flow around the periphery of the furnace. The electrodes are placed side by side in pairs so that their tips form the points of a triply truncated triangle. They are connected in staggered fashion across the isolated secondary coils of a three-phase transformer.

3,520,980

**CRUCIBLE FOR HEAT TREATMENT OF CONDUCTIVE MATERIALS**

Henley Frank Sterling, Ware, Wilbert Ridd George, Harlow, Essex, and Denis William John Hazelden, Stortford, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 27, 1968, Ser. No. 755,632

Claims priority, application Great Britain, Sept. 14, 1967, 41,989/67

Int. Cl. H05b 5/00, 5/12

U.S. Cl. 13-27

6 Claims



A crucible for heat treatment of conductive materials is provided by a plurality of vertical tubes spaced closely together to form a wall and having inwardly extending portions to form a bottom. The tubes also provide a passage for cooling fluid therethrough.



### 3,520,981 APPARATUS FOR CLASSROOM PHYSICS EXPERIMENTS

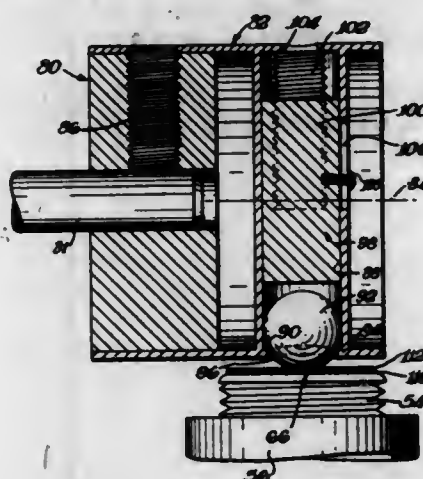
Robert F. Chambers, 504 Beverly Road,  
Newark, Del. 19711

Filed June 7, 1968, Ser. No. 735,259

Int. Cl. G09b 23/06; G01d 15/02

U.S. Cl. 35-19

6 Claims



Marker for recording displacement of moving object at regular intervals of time comprises housing having longitudinal axis about which housing rotates when connected to source of constant rotary power. Passageway in housing extends inwardly from open end at housing exterior toward longitudinal axis of housing. Mass moves within passageway and stops limit movement of mass between marking position in which mass extends beyond housing exterior and non-marking positions in which mass is spaced inwardly from marking position. Movable mass strikes post slightly spaced from housing exterior once for each revolution of housing to mark tape drawn between housing and post upon each impact of mass against post.

Other apparatus determines weight components of mass on inclined plane which components act perpendicular and parallel to incline of plane.

Experimental derrick comprises apparatus for determining horizontal and vertical components of reaction force hinge pin assembly of derrick exerts on derrick boom.

### 3,520,982 METHOD AND A DEVICE FOR GENERATING AN EQUAL-TEMPERED TONE SCALE IN MUSICAL INSTRUMENTS

Karl G. Malmfors, Viggbyholm, Sweden, assignor, by  
mesne assignments, to U.S. Philips Corporation, New  
York, N.Y., a corporation of Delaware

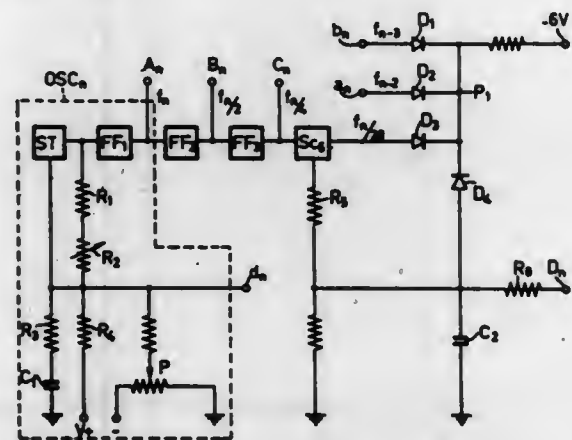
Filed June 29, 1967, Ser. No. 649,984

Claims priority, application Sweden, June 30, 1966,  
8,937/66

Int. Cl. H03b 3/04; G10h 5/06

U.S. Cl. 84-1.01

10 Claims



An electronic musical instrument employing precise tone control by use of a number of voltage controlled

oscillators. All but the lowest frequency oscillator employ automatic frequency control and consist of a Schmitt trigger with an RC feedback. Each of the frequency controlled stages derive their control from two other oscillators in accordance with a pre-set relationship.

### 3,520,983 DEVICE FOR COMPOSING AND PLAYING MUSICAL MOTIFS

Eliana D'Agata, 497 Via Flaminia Vecchia,  
Rome, Italy

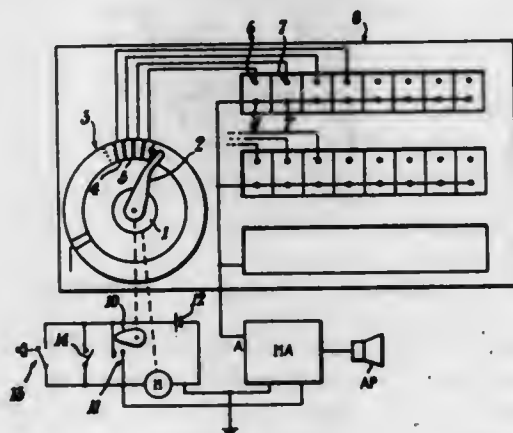
Filed Dec. 19, 1966, Ser. No. 602,817

Claims priority, application Italy, Jan. 8, 1966,  
406/66

Int. Cl. G10f 1/00; G10h 3/04

U.S. Cl. 84-1.03

9 Claims



A panel is provided with terminals to which can be applied notes with which are associated electrical components which are connected by a sequencing switch to an oscillator to control the frequency of the latter.

### 3,520,984 KEYBOARD ACTUATED RHYTHM ACCOMPANIMENT

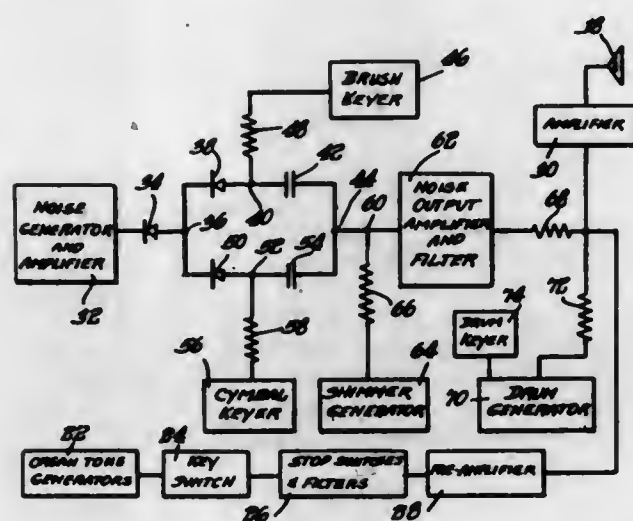
William V. Machanian, North Tonawanda, N.Y., assignor  
to The Wurlitzer Company, Chicago, Ill., a corpora-  
tion of Ohio

Filed May 18, 1967, Ser. No. 639,518

Int. Cl. G10h 1/00, 1/02

U.S. Cl. 84-1.24

9 Claims



Electronic circuits forming a part of an electronic organ for producing percussive tones such as drums, blocks, brushes, cymbals and the like, concurrently with the musical or melody notes and keyed by the keys of the manuals and by the pedals.

### 3,520,985 BULKHEAD TEST LEAD ENTRY

Frank Lewis John Jarvis, Gravesend, England, assignor  
to International Standard Electric Corporation, New  
York, N.Y., a corporation of Delaware

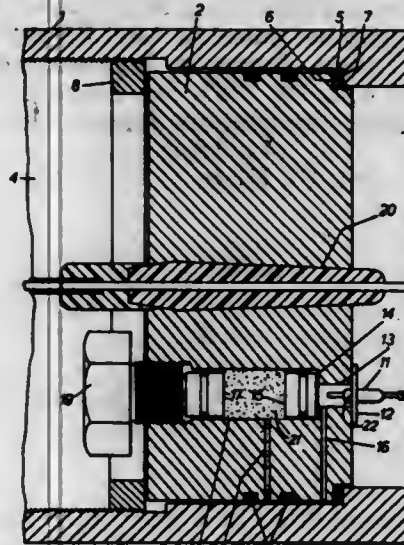
Filed May 10, 1968, Ser. No. 728,240

Claims priority, application Great Britain, May 11, 1967,  
21,944/67

Int. Cl. H02g 15/14

U.S. Cl. 174-18

9 Claims



A temporary test lead is provided in an existing channel through the bulkhead of electrical equalizer equipment for submarine cables. The opening is sealed after the lead is removed.

### 3,520,986 NO-STRIP EXPLOSION CONNECTOR

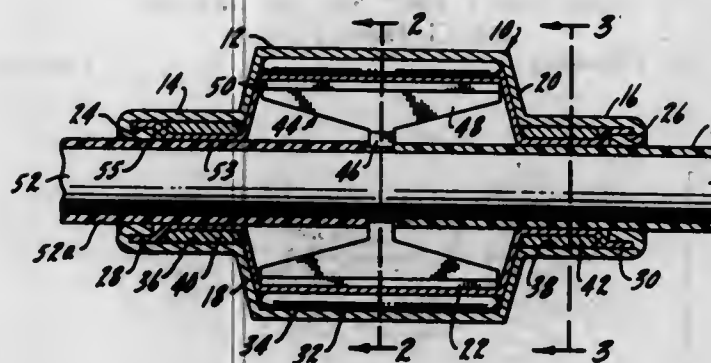
Donald E. Krup, Elgin, Ill., assignor to Ideal Industries,  
Inc., Sycamore, Ill., a corporation of Delaware

Filed Dec. 24, 1968, Ser. No. 786,640

Int. Cl. H02g 15/08

U.S. Cl. 174-84

15 Claims



A no-strip explosive connector having spaced inner and outer shells and an explosive charge or charges between the shells. Detonation of the explosive is effective to drive electrical conductors, positioned within the inner shell, through the insulation of the wires positioned within the connector and into intimate electrical contact with the wires in the connector to thus form an electrical bridge between the wires. In addition, there is at least one clamping electrical charge so positioned as to be simultaneously detonated to effect a clamp between the connector and the wires positioned within it.

### 3,520,987 HIGH CAPACITY BUS BAR

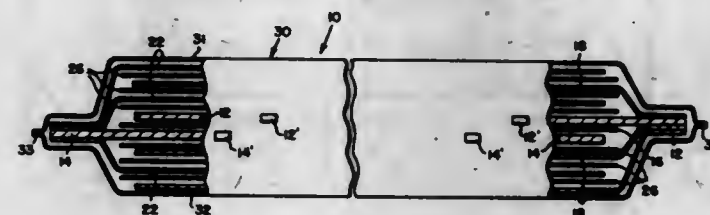
David W. Ohlrich, Rochester, N.Y., assignor to Eldre  
Components, Inc., Rochester, N.Y., a corporation of  
New York

Filed Aug. 5, 1968, Ser. No. 750,200

Int. Cl. H01b 7/08

U.S. Cl. 174-117

5 Claims



Two primary conductors for voltage and ground, respectively, are laminated and bonded in an envelope with a plurality of thin foil secondary conductors. Some secondary conductors are connected at one end to one end of the positive primary conductor. Alternate secondary conductors are connected to the opposite end of the negative primary conductor. The other ends of both sets of secondary conductors are free. Thus, the conductors are interleaved. Thin layers of high dielectric constant insulation are provided between adjacent conductors. The primary conductors are thicker than the secondary conductors.

### 3,520,988 CABLE SUPPORT

Ralph H. Ballock, Sr., Lake Road H20,  
Lampe, Mo. 65681

Filed July 10, 1968, Ser. No. 743,784

Int. Cl. H01b 7/28; A44b 21/00; B65d 85/02

U.S. Cl. 174-135

2 Claims



A device for supporting a length of electric cable or cord and for temporarily reducing the overall length thereof whereby tangled excess lengths are eliminated. The device includes a hollow tube having an extension at each end that has laterally extending teeth for engaging the cord.

### 3,520,989 PRESSURE CONTAINMENT ELECTRICAL PENETRATION ASSEMBLY

Forrest E. Funk and Michael Kudlick, San Jose, and  
Robert G. Matthews and John B. Young, Jr., Los  
Gatos, Calif., assignors to General Electric Company,  
a corporation of New York

Filed July 25, 1967, Ser. No. 655,950

Int. Cl. H01b 17/26; H05k 5/00

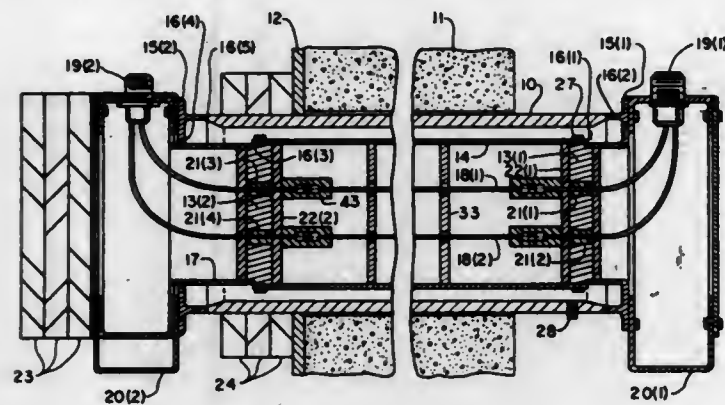
U.S. Cl. 174-151

6 Claims

This describes an assembly for passing electrical conductors through the wall of a pressure and vapor containment vessel, for example, as used to house a nuclear reactor. Penetration nozzles or tubes are placed through the walls of the vessel when the containment vessel is constructed. The assembly of the invention is insertable in such a nozzle and comprises a pair of spaced headers through which the electrical conductors are passed and to



which they are vapor and pressure sealed. Flanges are welded between each of the headers and the penetration



nozzle to complete the vapor and pressure sealed installation.

3,520,990

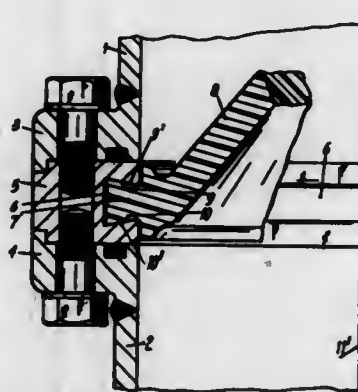
### INSULATORS AND METHODS FOR MANUFACTURING SUCH INSULATORS

Rintje Boersma, Harmelen, Netherlands, assignor to N.V. "COQ," a company of the Netherlands  
Filed Apr. 7, 1969, Ser. No. 813,879  
Claims priority, application Netherlands, Apr. 16, 1968, 6805321

Int. Cl. H01b 17/16

U.S. Cl. 174-163

4 Claims



An insulator having a flange formed on the insulator body and a mounting ring, said insulator flange fitting tightly in an annular groove of said ring, all flanks of said insulator flange and all adjacent corresponding flanks of the groove of said ring extending in surfaces of revolution, of which the generating lines are straight lines, which intersect in the same point of the common axis of the flange and the mounting ring.

3,520,991

### COLOR TELEVISION RECEIVER TINT AND CHROMA CONTROL NETWORK

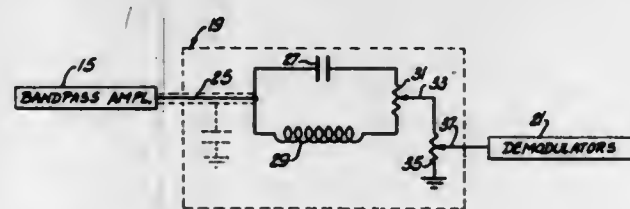
Dong W. Rhee, Williamsville, and Karol Siwko, Batavia, N.Y., assignors to Sylvania Electric Products, Inc., a corporation of Delaware

Filed Oct. 26, 1967, Ser. No. 678,347

Int. Cl. H04n 9/12

U.S. Cl. 178-5.4

8 Claims



In a color television receiver a single conductor shielded cable is utilized to provide convenient location for the

viewer of both a tint and a chroma control. The tint and chroma control network includes the single conductor shielded cable coupling the controls to a signal source with the tint control employing a parallel connected inductor and capacitor each having one terminal interconnected by an alterable resistor having an adjustable arm.

3,520,992

### LEVEL INDICATOR SYSTEM FOR COMPOSITE VIDEO SIGNALS

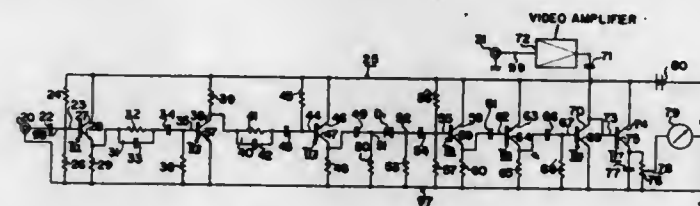
Katsuyuki Iwai, Fujio Sato, and Motonori Fukatsu, Tokyo, Japan, assignors to Akai Electric Company Limited, Tokyo, Japan, a Japanese corporation  
Filed Apr. 19, 1967, Ser. No. 631,924

Claims priority, application Japan, Apr. 21, 1966, 41/25,451

Int. Cl. H04n 5/76, 7/02

U.S. Cl. 178-6

4 Claims



A level indicator fitted in a video tape recorder for the visual indication of composite video signal fed to said recorder, said indicator being provided with a separator for the contained sync signal, a differentiating circuit for processing the thus separated sync pulse series, a shaper for obtaining a control signal pulse series from said differentiated pulse series, a phase inverter adapted for processing said control signal pulse series, clamping means for clamping said composite signal with its black level to zero potential by means of the inverted control pulse series, a detector for detecting the amplitude of the contained sync pulse series in the composite signal, and a visual indicator for the display of the thus detected amplitude.

3,520,993

### SYNCHRONIZING SERVOSYSTEM WITH MEMORY MEANS

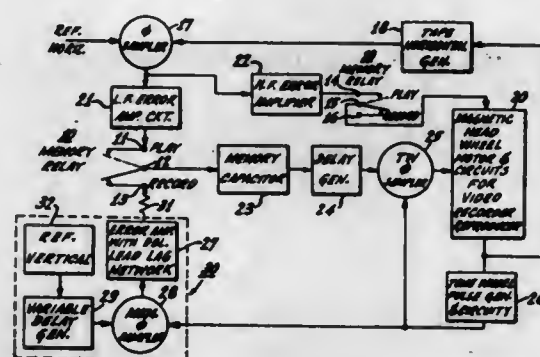
George V. Jacoby, Bala-Cynwyd, Pa., and John C. Kmiec, Runnemede, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed June 7, 1967, Ser. No. 644,330

Int. Cl. H04n 5/78

U.S. Cl. 178-6.6

6 Claims



There is disclosed a servosystem for a video recorder-reproducer. The servosystem comprises a loop including a memory capacitor and an error amplifier with suitable lead-lag networks to be used with the headwheel servo commonly employed in such recorders-reproducers. The loop is switched in during animation or editing of the record medium to form a feedback loop around the headwheel servo to control the headwheel motor's velocity.

The additional loop serves to minimize timing errors in the operation of the headwheel motor introduced by multiple splicing during animation or editing and, in general, errors introduced by the completing of short length splices in the record medium.

3,520,994

### COMBINATION RASTER AND CALLIGRAPHIC SCANNING TECHNIQUES FOR AIRCRAFT DISPLAYS

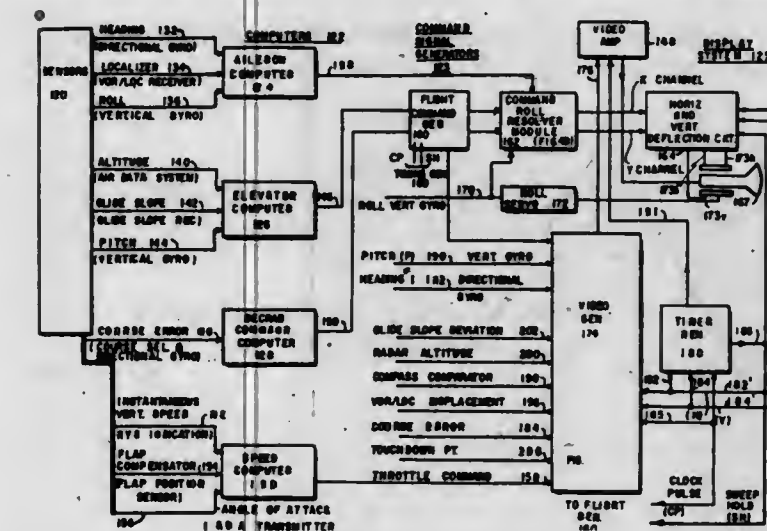
Charles L. McAfee, San Jose, Charles K. Snyder, Cupertino, and Paul C. Congleton, Menlo Park, Calif., assignors to Kaiser Aerospace and Electronics Corporation, Oakland, Calif., a corporation of Nevada

Filed Jan. 12, 1967, Ser. No. 608,848

Int. Cl. H04n 3/16

U.S. Cl. 178-6.8

20 Claims



Electronic generator circuits for providing aircraft attitude and command symbols on integrated display by raster and calligraphic techniques with independent movement for at least one symbol.

3,520,995

### IMAGE ORTHICON TUBES

Chester L. Hefflin, Schwenksville, and Arthur H. Mengel, Laureldale, Pa. (both % Teltron, Inc., Box 131, Boyertown, Pa. 19512)

Filed Sept. 15, 1967, Ser. No. 668,087

Int. Cl. H04n 5/34

U.S. Cl. 178-7.2

5 Claims U.S. Cl. 179-15

9 Claims

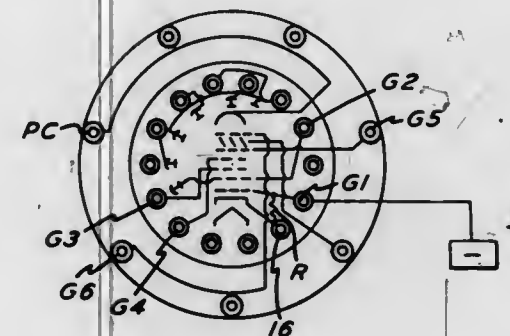


Image orthicon television tubes having circuitry which provides automatic compensation for changes in the current strength of the scanning beam to a constant value thereby reducing noise levels and improving tube performance. The circuitry involves a departure from prior circuitry and includes removing the cathode from ground potential and connecting it through a resistor to the electron emission cathode grid control voltage whereby the target will be bombarded evenly with no oversaturation throughout low to high light level operation.

### 3,520,996 APPARATUS FOR INSERTING A SIGNAL PORTION INTO A SIGNAL

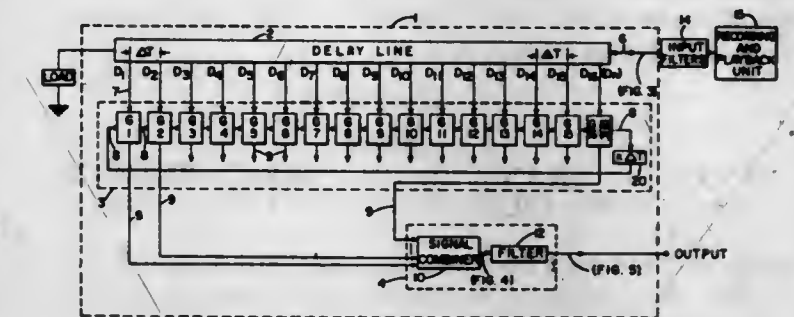
Wilson P. Boothroyd, Carlisle, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 15, 1967, Ser. No. 638,314

Int. Cl. H04b 1/00

U.S. Cl. 179-1

11 Claims



Audio expansion system utilizing apparatus operable to periodically and repetitively insert discrete signal portions into a continuous stream of audio information sensed from an original recording played back at a speed decelerated from the original recording speed. The audio information, having a level of pitch lower than the level of pitch of the original recording, is applied to a multi-tapped delay line and sampled at each tap. Because of the manner of sampling and the delay provided by the delay line, the level of the pitch of the audio information applied to the delay line is raised to the level of the pitch of the original recording, and a plurality of discrete signal portions are periodically and repetitively inserted into the audio information, thereby permitting an increase in the normal playback time of the original recording.

3,520,997

### TIME DIVISION SIGNAL SYSTEM FOR INSERTING AND REMOVING SIGNALS

Masao Kawashima and Shigehiko Hinoshita, Yokohama-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

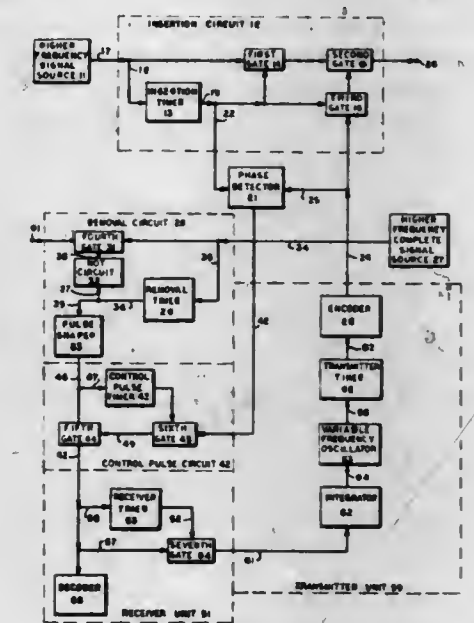
Filed Apr. 13, 1966, Ser. No. 542,385

Claims priority, application Japan, Apr. 20, 1965, 40/23,339

Int. Cl. H04j 3/08

5 Claims U.S. Cl. 179-15

9 Claims



A phase detector distant from a source of lower frequency signals compares the phase of lower frequency signals



with the phase of the predetermined spaces of the higher frequency signals and provides an output control signal indicative of the difference in phase between the lower frequency signals and the predetermined spaces of the higher frequency signals. The control signal from the phase detector is transferred to the lower frequency signal source via a first transmission line to control the phase of the lower frequency signals to reduce the difference in phase between the lower frequency signals and the predetermined spaces of the higher frequency signals. The combined higher and lower frequency signals are supplied to a second transmission line.

3,520,998

### RESONANT TRANSFER OF ENERGY BETWEEN BANDPASS FILTERS OF UNEQUAL BANDWIDTH

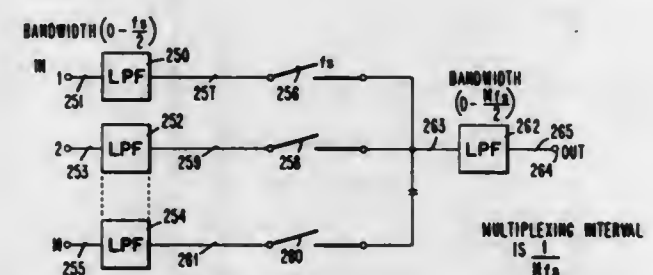
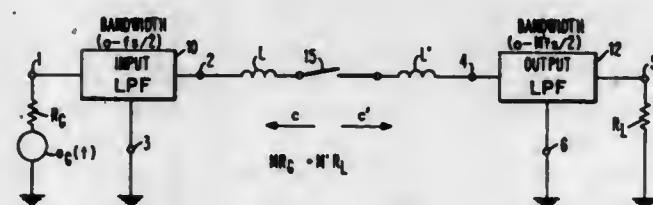
Paul M. Thrasher, Bethesda, and Richard J. Ward, Rockville, Md., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 1, 1966, Ser. No. 591,316

Int. Cl. H04j 3/00

U.S. Cl. 179-15

20 Claims



A circuit for accomplishing an essentially lossless resonant transfer of energy from a first bandpass filter to a second bandpass filter wherein the filters are of unequal bandwidth; and a multichannel switching system including a first plurality of bandpass filters, a second plurality of bandpass filters, and a switch means interconnecting one of said first plurality of bandpass filters to one of said second plurality of bandpass filters for effectuating an essentially lossless resonant transfer of energy wherein the first bandpass filter and a corresponding second bandpass filter each have different bandwidths.

3,520,999

**DIGITAL SPEECH DETECTION SYSTEM**  
Carl J. May, Jr., Holmdel, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Mar. 27, 1967, Ser. No. 626,055

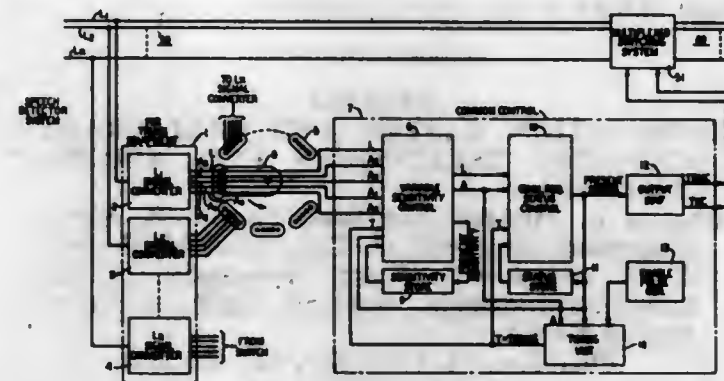
Int. Cl. H04j 5/00

U.S. Cl. 179-15

24 Claims

A common time-shared speech detector is disclosed in which digital status and timing information for a plurality of speech lines are stored in circulating delay loops and processed in time sequence with common digital circuitry. Variable sensitivity is achieved by varying digital reference values for the lines which are also stored in circulating delay loops. Operate time, delay before hangover and hangover are timed by multiplexed digital timing signals and varied in response to the line activity

signals to better accommodate talkers with different speech intensities. The output comprises time-slotted requests



for connection or disconnection which can be used in a time assignment speech interpolation system.

3,521,000

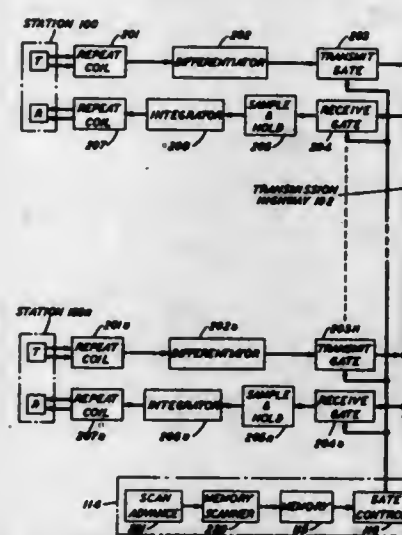
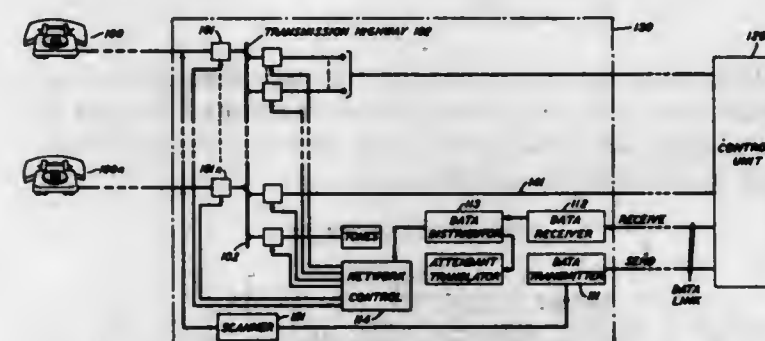
**MULTIPLEX SIGNAL TRANSFER CIRCUIT**  
Herbert S. Feder, Matawan, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed May 22, 1967, Ser. No. 640,224

Int. Cl. H04j 3/00

U.S. Cl. 179-15

15 Claims



A time division multiplex signal transfer circuit for a communication system is disclosed in which signals are differentiated and the resultant slope is sampled for transmission between stations in communication. The sample is integrated at the receiving station to provide a line segment approximation of the original signal. Sampling is at a variable rate determined by the bandwidth of the

signal to be transmitted and/or by variations in the signal being transmitted.

3,521,001

### MALICIOUS CALL HOLDING AND TRACING CIRCUIT

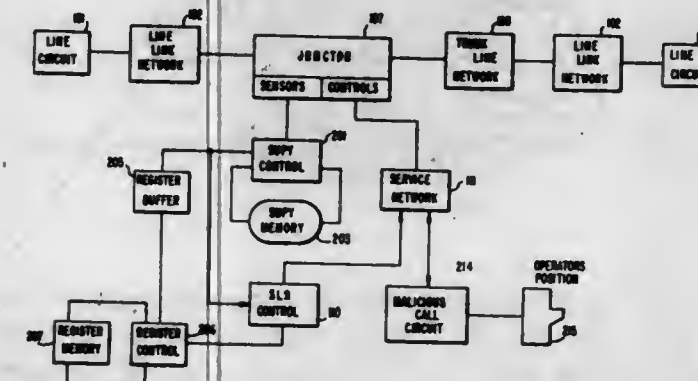
James G. Pearce and William W. Pharis, Rochester, N.Y., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Aug. 5, 1966, Ser. No. 570,551

Int. Cl. H04m 3/22

U.S. Cl. 179-18

13 Claims



Malicious call circuit responsive to a flashing condition from a called line circuit having a proper class of service after a call has been completed thereto from a calling line circuit for automatically connecting a holding circuit to the calling line circuit connection to prevent release thereof and applying a tracing tone through the network to the calling line circuit to facilitate the tracing thereof.

3,521,002

### PATHFINDING SYSTEM

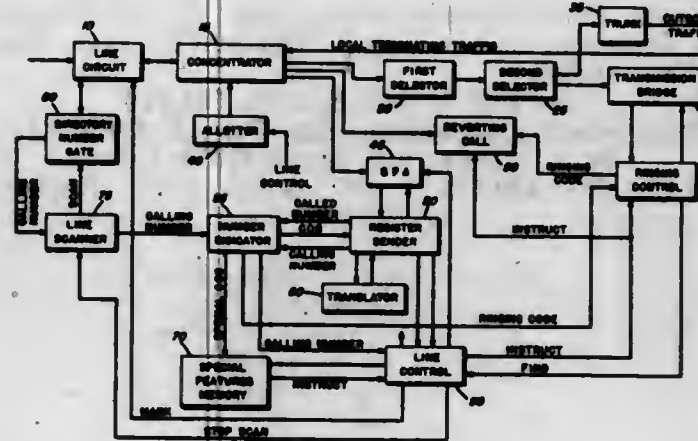
James G. Pearce, Liverpool, England, assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Oct. 12, 1966, Ser. No. 586,125

Int. Cl. H04q 3/18

U.S. Cl. 179-18

10 Claims



In connection with a concentrator system including primary, secondary and tertiary stages a hunting circuit connected to the outputs of the tertiary stage for testing each output in turn along a unique path to a marked input, including binary storage devices connectable to respective tertiary stage outputs and switchable upon detection of a free path to the marked input and selection means for selecting a path through the concentrator system in accordance with the detected state of said binary storage devices.

3,521,004

**SELF-STEERING SWITCHING SYSTEM**  
Eric Bierman, Toronto, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed July 5, 1968, Ser. No. 748,111

Int. Cl. H04q 3/42

U.S. Cl. 179-18

5 Claims

The preferred embodiment of this invention is a multi-stage switching network using, for example, crossbar switches as the switching elements. A path through the

**3,521,003**  
**AUTOMATIC INTERCEPTION AND TRANSFER OF CALLS**  
Bert Olof Torsten Anderson, Bandhagen, Sven Gustav Ingemar Klander, Stuvsta, and Per-Olof Olsson, Hagersten, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

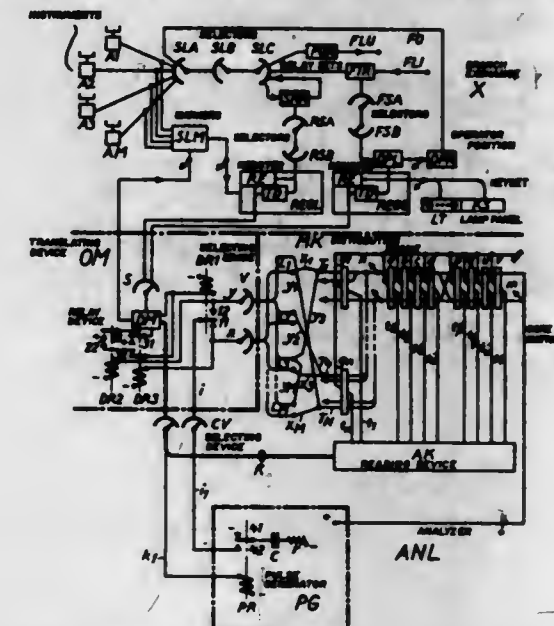
Filed Nov. 23, 1966, Ser. No. 596,685

Claims priority, application Sweden, Dec. 8, 1965, 15,875/65

Int. Cl. H04m 3/54

U.S. Cl. 179-18

2 Claims

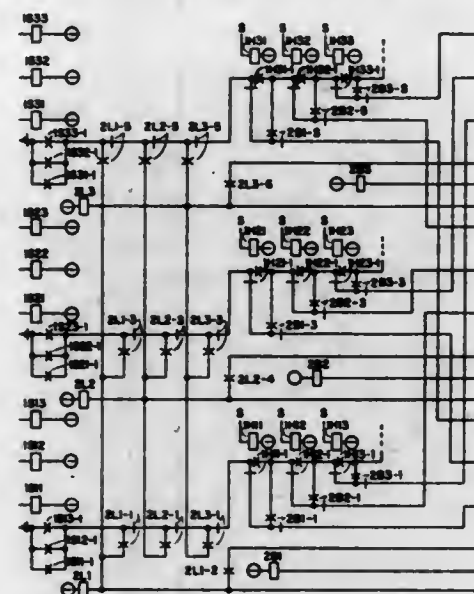


In an automatic telephone exchange provision is made for automatically switching unanswered calls to another number. The originally called number is registered and used by a translator and an analyzer to obtain the exchange catalog number of the called number by interrogating a magnetic core matrix. The exchange catalog number is then used to connect the calling subscriber line to the called subscriber line. If the called subscriber line does not answer in a given time, time delay control means causes the analyzer to produce another exchange catalog number which is used to establish a connection between the calling subscriber line and a different subscriber line.

The present invention refers to automatic telephone systems and has for an object the connection of a call destined for a subscriber's instrument automatically to another subscriber's instrument or to an operator such as a common secretary for a number of persons or for a department within a business enterprise if the call is not answered in a given time. Often a proprietor of a business wishes to get his calls connected either to his shop or to his private telephone depending on where he is. The invention has a more specific object to solve problems of that kind in such telephone systems which contain selectors, line circuit relay sets or registering means, and in which a line circuit relay set used during the call is connected to one of the registering means which receives and registers the number of the called subscriber's instrument and determines data for the setting up of a connection between the line circuit relay set and the called subscriber's instrument by means of the selectors.



network is established on a self-steering basis by marking both ends of the network. A preference circuit selects idle links between stages on a priority basis through the off-normal contacts of the hold magnets in the crossbar switches. A busy indicating relay is provided to prevent selection of an idle link to a switching element all of whose links to a subsequent stage are busy. Once an idle link has been selected, and the associated select magnet



operated, the select magnet is locked up by an auxiliary lock relay. This avoids release of the chosen link in the event that a previously busy hold magnet of higher priority becomes idle. Once an idle path has been found through all stages of the network, a marking potential at the terminating end of the network operates the hold magnets for the chosen select magnets to close a crosspoint in each stage.

3,521,005

## MULTIFREQUENCY SIGNAL GENERATOR

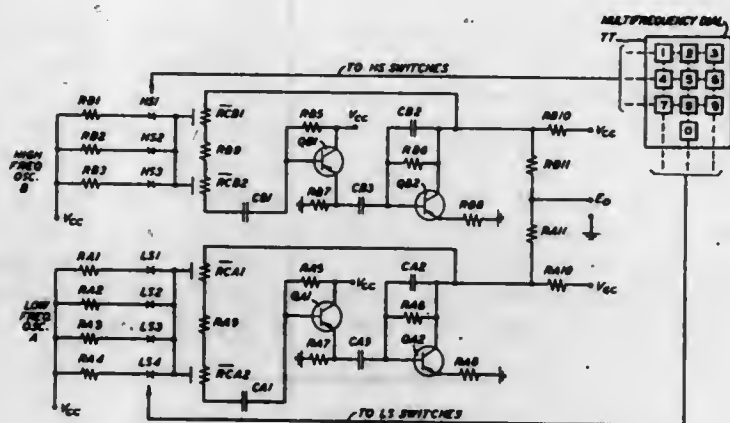
Robert J. Dow, Amesbury, Mass., and Ralph W. Wyndrum, Jr., New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Sept. 1, 1966, Ser. No. 576,642

Int. Cl. H04m 1/26; H03b 5/20; H03h 7/10

U.S. Cl. 179-90

4 Claims



A two-port, three-terminal notch filter network is formed from a pair of distributed parameter  $RC$  elements interconnected by a resistive element. A variable resistive element is connected between the capacitive terminals of the  $RC$  elements and a reference potential. The network is employed in the feedback circuit of a multifrequency signal oscillator.

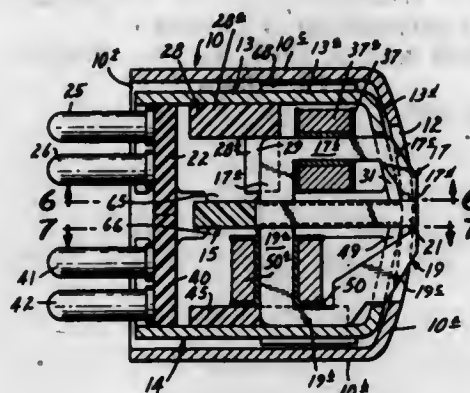
3,521,006  
MULTICHANNEL COMBINATION ERASE AND RECORD-REPRODUCE MAGNETIC TRANSDUCER  
Paul S. Michael, Minneapolis, Minn., assignor to The Nortronics Company, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed May 23, 1968, Ser. No. 731,395

Int. Cl. G11b 5/26, 5/28

U.S. Cl. 179-100.2

9 Claims



A dual track magnetic transducer for alternatively erasing and recording or playing back signals on a multi-track magnetic tape. A first group of generally U-shaped core pieces are mounted in a first core holder and a second group of generally U-shaped core pieces are mounted in a second core holder. The two core holders are mounted in a housing with the core pieces arranged in oppositely disposed pairs so that the core tips face each other and extend into openings in the tape engaging face of the housing. A generally flat center leg core holder is mounted between the first and second core holders and carries a group of center leg core pieces, one of which is positioned between each oppositely disposed pair of U-shaped core pieces. An erase coil is mounted on a side leg portion of each core piece in the first group and a recording/playback coil is mounted on a base leg portion of each core piece in the second group. Erase and recording gaps are provided between the core tips of the U-shaped core pieces and the top portion of the center leg core piece.

3,521,007

## HAND-HELD APPARATUS FOR RECORDING AND REPRODUCING ELECTROMAGNETIC IMPULSES PRINTED ON PAPER AND PRINTED BOOK

Zardosht Sabri Laghale, Ahwaz, Iran (% Development & Resources Corporation, 1 Whitehall St., New York, N.Y. 10004)

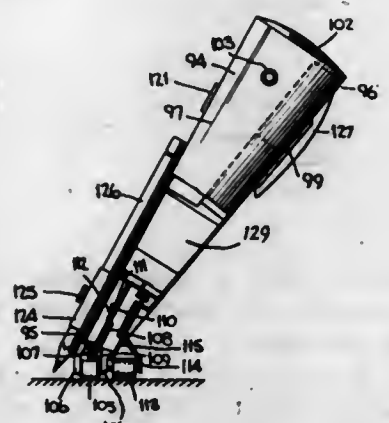
Filed July 5, 1966, Ser. No. 562,810

Claims priority, application Iran, Oct. 13, 1965, 5,851

Int. Cl. G11b 5/56, 21/14; G09b 5/04

U.S. Cl. 179-100.2

5 Claims



Self-contained hand-held apparatus for recording and transcribing audio information in the form of electromagnetic impulses on lined portions of a printed sheet

comprising a housing in the shape of a fountain pen or the like containing magnetic head means having a recording-pickup portion with a traversing width at least about forty times the width of the magnetized line over which it is adapted to traverse, and further including amplifier means coupled with said head means for amplifying the electrical signals from the head, speaker-microphone means connected to the output of the amplifier means and audio transformer means interconnectable with the speaker-microphone means and the amplifier means for converting audio signals into electromagnetic impulses on the printed sheet.

3,521,008

## TELEPHONE INSTRUMENT

John F. Tyson, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

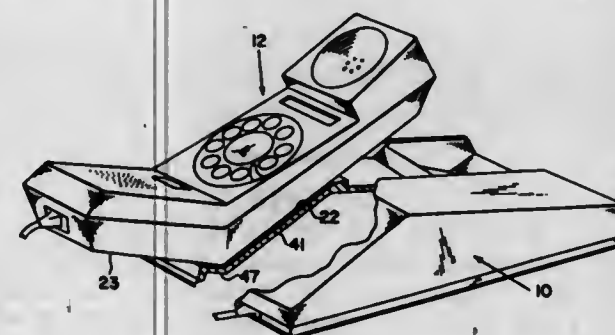
Filed Mar. 31, 1967, Ser. No. 627,372

Claims priority, application Canada, Oct. 31, 1966, 974,468

Int. Cl. H04m 1/02

U.S. Cl. 179-100

10 Claims



A telephone instrument for use as a wall or table instrument without modification to the structure of the base or the handset. The base is formed with a socket having surfaces shaped for receiving and retaining an angulated handset in any one of three positions:

- a fully housed normal position in which the switch hook is actuated—this position is the same for a table instrument (FIG. 7) as for a wall instrument (FIGS. 11 and 12);
- a second hanging position in which the switch hook is not actuated (FIGS. 13 and 14); and
- a third position for table use in which the handset is in a reversed position (FIG. 15), and the switch hook is not actuated.

3,521,009

## MAGNETIC TAPE GUIDE MEANS FOR CARTRIDGE PLAYER

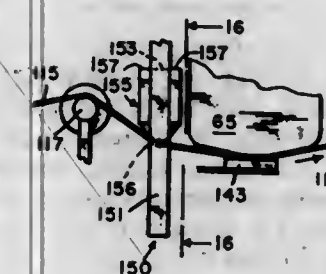
Samuel H. Auld, Newport Beach, Calif., assignor to Lear Jet Industries, Inc., Wichita, Kans., a corporation of Delaware

Original application Apr. 5, 1966, Ser. No. 540,289, now Patent No. 3,478,973, dated Nov. 18, 1969. Divided and this application Dec. 5, 1966, Ser. No. 599,156

Int. Cl. G11b 15/43, 15/66, 21/08

U.S. Cl. 179-100.2

4 Claims



The magnetic tape is self-contained in a cartridge, in endless array. Upon insertion in the player, the tape en-

gages the transducer head as well as an adjacent tape stiffening member. The member is narrow and made of self-lubricating material. It has a protruding rounded surface section that presses against the tape while in play, directly imparting stiffness and stability to the tape as it passes across the transducer head. The member is mounted with the tape height guide, insuring precise scanning by the head of selected record-tracks on the tape.

3,521,010

## ULTRAMINIATURE TAPE RECORDER WITH COMPONENTS DETACHABLE FROM THE MAIN BODY

Masaaki Sato, Tokyo, Japan, assignor to Olympus Optical Co., Ltd., Tokyo, Japan, a Japanese corporate body

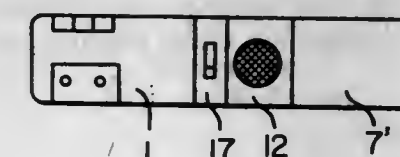
Continuation-in-part of application Ser. No. 604,822, Dec. 27, 1966. This application Feb. 5, 1969, Ser. No. 796,858

Claims priority, application Japan, Dec. 28, 1965, 41/80,562; Mar. 14, 1966, 41/15,494; Feb. 13, 1968, 43/9,814

Int. Cl. G11b 1/00, 5/00

U.S. Cl. 179-100.2

12 Claims



An ultraminiature tape recorder in which components other than the tape driving mechanism, amplifier and sound recording and reproducing heads are contained in separate casings each having the same cross-sectional configuration transverse to at least one axis thereof as the cross-sectional configuration transverse to one axis of the main body. The further components can thus be attached to the main body in various permutations and combinations so as to provide an electric source, a speaker, a level meter and the like when desired.

During a sound reproducing operation, while the electrical connection is established between the main body containing the tape driving mechanism, amplifier and sound recording and reproducing heads and the casing containing the speaker when the latter casing is attached to the main body, the electrical connection is automatically switched to connect the microphone jack of the main body to the output of the main body during the reproducing operation when the speaker casing is eliminated, thereby permitting the sound reproduction to be effected without the speaker casing by connecting a magnetic microphone or the like.

3,521,011

## SIMPLE DISC-RECORDING AND TRANSCRIPTION APPARATUS

Tatsuro Nishitani, Tokyo, Japan, assignor to Tomy Kogyo Co., Ltd., Tokyo, Japan

Filed Feb. 20, 1968, Ser. No. 706,889

Claims priority, application Japan, Sept. 21, 1967, 42/60,688

Int. Cl. G11b 3/06, 3/34

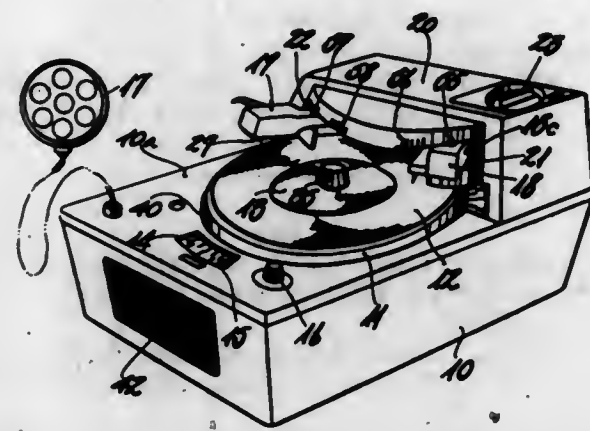
U.S. Cl. 179-100.4

4 Claims

A simple disc-recording and transcription apparatus so arranged as to permit its user to form a sound groove on a recording sheet of the type for use as a voice mail or a toy record and to playback the same both with a simple procedure. The apparatus includes a recorder head



arm consisting of a double-arm structure and a playback pickup arm consisting of a single tone arm, and is adapted biased outwardly and alternate oppositely inclined inward positions upon depression of the pushbutton for shift-



to produce the sound groove by the so-called "press-forming method."

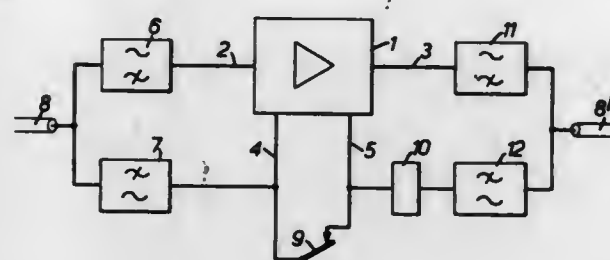
3,521,012

**REPEATER WITH POWER SEPARATION FILTERS**  
Geoffrey James Crank, New Barnet, England, assignor to Her Majesty's Postmaster General, London, England  
Filed June 10, 1968, Ser. No. 735,857  
Claims priority, application Great Britain, June 12, 1967, 26,989/67

Int. Cl. H04b 3/44

U.S. Cl. 179-170

9 Claims



A repeater is disclosed which comprises a signal-frequency path including the input to output path of an amplifier, a D.C. path in parallel with the signal frequency path and including the D.C. feed paths through the amplifier, a relay winding included in series with the D.C. path, and a break contact of the relay shunting the D.C. feed paths of the amplifier. When D.C. power is supplied to the repeater, the relay is energized to open its contact and thereby remove the shunt from the amplifier D.C. feed paths.

3,521,013

**PUSHBUTTON SWITCH MECHANISM INCLUDING A ROCKER CONTACT AND AN ACTUATOR**  
Bruno Baumanis, River Forest, Ill., assignor to Molex Products Company, Downers Grove, Ill., a corporation of Illinois

Filed Mar. 21, 1968, Ser. No. 714,993

Int. Cl. H01h 13/28

U.S. Cl. 200-67

7 Claims

A pushbutton switch mechanism including housing means enclosing a rocker contact and an actuator operably interposed between the pushbutton and the rocker contact for effecting alternate and opposite partial rotation of the rocker contact upon depression of the pushbutton for engagement of the rocker contact alternately with one of a pair of spaced contact elements; and wherein the actuator for the rocker contact includes a blade mounted in substantially floating but controlled contact with the pushbutton for bodily movement without bending between a neutral position when the pushbutton is

ing the rocker contact between the alternate positions of partial rotation thereof.

3,521,014

**ELECTRICAL SWITCH MEANS**

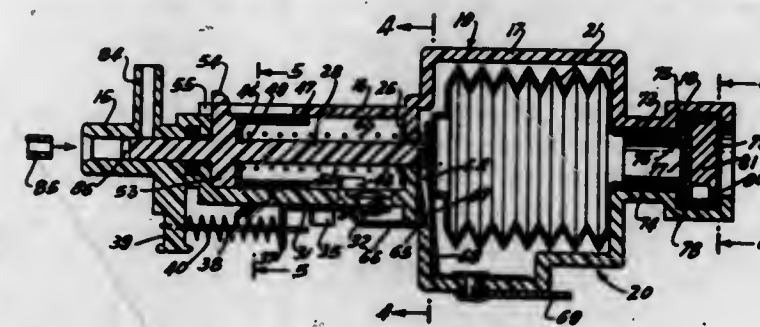
Joseph L. Bonanno, South Orange, Sidney Tepper, Millburn, and Hyman Boydman, Springfield, N.J., assignors to De Luxe Topper Corporation, a corporation of Delaware

Filed Apr. 26, 1968, Ser. No. 724,401

Int. Cl. F25d 21/00; H01h 35/40

U.S. Cl. 200-83

10 Claims



Device includes single-pole double-throw switch including two stationary contacts and one movable contact, the latter carrying two abutments. Actuator, pivotable about, and movable longitudinally with, a push rod engages one or the other abutment to swing movable contact from engagement with one of the stationary contacts to engagement with the other. Additional movable and stationary contacts provided, and resilient member, such as a bellows, normally keeps additional contacts engaged. Push rod compresses bellows to separate additional contacts, and restricted opening in bellows causes time delay before additional contacts engage again.

3,521,015

**KEY SWITCH WITH AXIALLY MISALIGNED SHUTTLE BRIDGING MEMBER**

Harold A. Wooldridge, Richmond, and Kenneth H. Steward, San Lorenzo, Calif., assignors to The Singer Company, a corporation of New Jersey

Filed May 13, 1968, Ser. No. 728,678

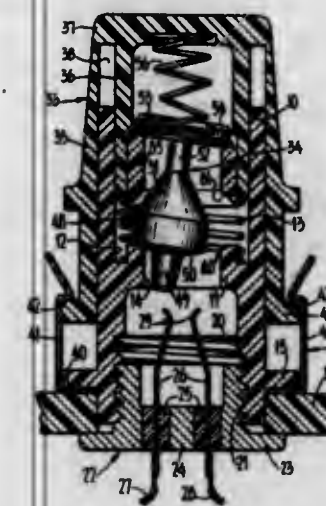
Int. Cl. H01h 13/52, 15/18

U.S. Cl. 200-159

4 Claims

A keyboard key module adaptable for use in any keyboard configuration on electronic or electrical devices. Upon depression of a key, a relatively light pressure is re-

quired to effect operation of a spring-actuated shuttle. The distorting the frame whereby the electrical contacts are normally axially misaligned shuttle is snappedly cammed moved by means actuated by distortion of the frame.



into axial alignment to bridge two spring contacts and complete a circuit.

3,521,016

**STATIONARY CONTACT HAVING SEALING GASKET SUPPORT STRUCTURE**

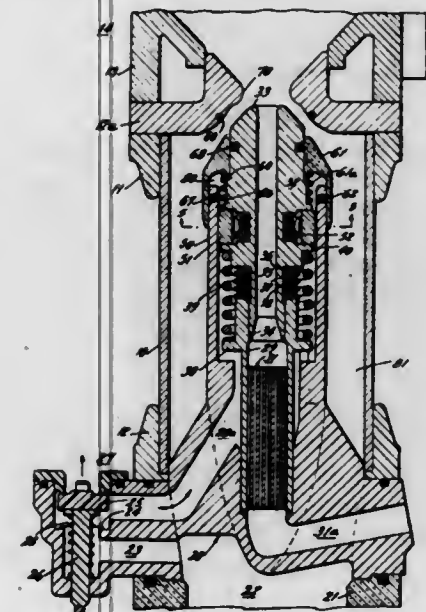
James R. McCloud, Burbank, Calif., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Dec. 29, 1966, Ser. No. 605,795

Int. Cl. H01h 33/83

U.S. Cl. 200-148

3 Claims



The stationary contact of a gas blast circuit breaker contains a discharge orifice having a blast valve seal ring therein. The blast valve seal ring is held in position by an insulation clamp which has an interior surface which is continuous with the interior surface of the conductive material of the stationary contact, with the seal ring extending above this interior surface.

3,521,017

**ELECTRICAL SWITCH MECHANISM**  
Peter Oullano, Carlton, New South Wales, Australia, assignor to International Telephone and Telegraph Corporation, a corporation of Delaware

Filed May 22, 1968, Ser. No. 731,177

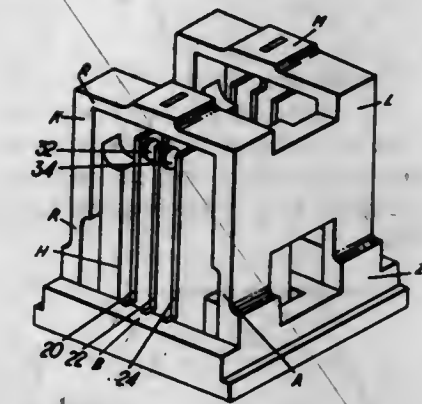
Claims priority, application Australia, May 25, 1967, 22,323

Int. Cl. H01h 9/02

U.S. Cl. 200-168

11 Claims

The switch mechanism comprises a flexible frame with a substantially inflexible base portion in which are mounted electrical contact members. Means are provided for



There are no mechanical bearings and the switch may be designed to operate bistably or monostably.

3,521,018

**TEMPERATURE SENSOR**

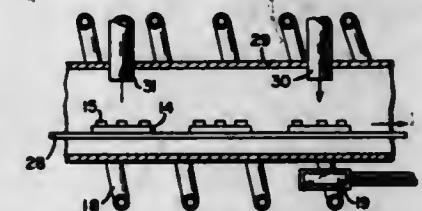
Frank E. Boerger and William H. White, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 26, 1968, Ser. No. 762,756

Int. Cl. H05b 5/00, 5/04

U.S. Cl. 219-10.49

7 Claims



The temperature of a susceptor within a chamber, which is heated by an RF heating coil, is determined through disposing a secondary susceptor exterior of the chamber and within the field of the RF heating coil.

3,521,019

**MICROWAVE HEATING CAVITY WITH A VENETIAN BLIND MODE STIRRER**

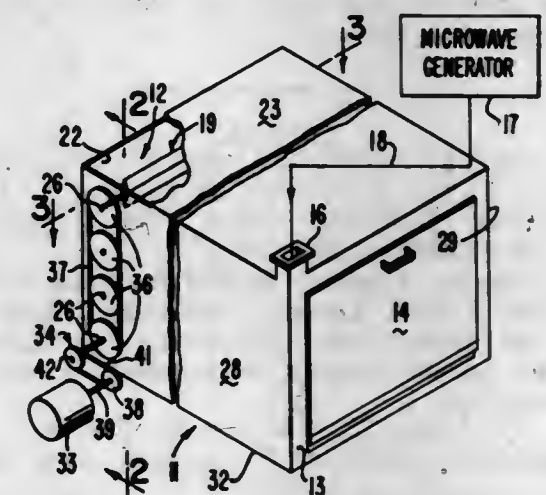
Jerome R. White, San Carlos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Feb. 19, 1968, Ser. No. 706,482

Int. Cl. H05b 9/06

U.S. Cl. 219-10.55

13 Claims



A multimode rectangular cavity is excited by a microwave generator coupled by a waveguide feed to one side



of the cavity. A plurality of conductive slats, each about one half wavelength wide, are rotatably mounted in front of a wall of the cavity opposite the side of the cavity at which the waveguide feed is located. The slats are mounted parallel spaced apart in a plane so that the closest possible approach between adjacent slats is less than one quarter wavelength. The slats are spaced from the wall which they front so that the closest possible approach between the wall and slats is less than one quarter wavelength. A drive motor is coupled by a transmission to synchronously rotate the slats.

3,521,020

## METHOD OF BUTT WELDING TUBES

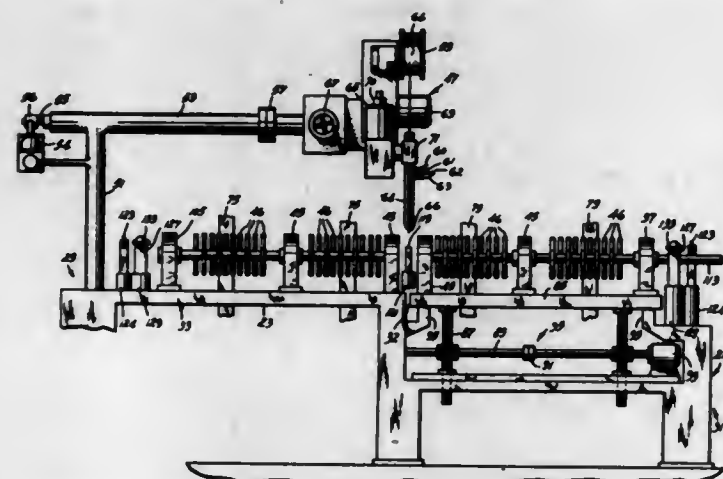
John B. Fielder and Norman D. Freeman, Dansville, and De Myri M. Harter, Wayland, N.Y., assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York

Filed June 21, 1967, Ser. No. 647,740

Int. Cl. B23k 9/02

U.S. Cl. 219—60

16 Claims



Abutting tubes are mounted on rotatable rollers horizontally aligned on the surface of a worktable. A welding head assembly is mounted over the tubes. The tubes are rotated by rollers mounted on the worktable. During the rotation of the tubes, the abutting joint between the tubes is welded by the welding head. An electrical circuit provides an automatic sequence to the operation. The first pass is usually a spray arc. The workpiece is given a fast-roll start for a smooth weld start. The last weld pass or passes might be short circuit metallic transfer welds. After the first pass, a surge is used to remove any irregularity caused by the weld start. After the surge, additional spray passes may be used. Then the short circuit welds may be applied. At the conclusion of the weld, the welding power and shielding gas are retained operative after the roll and wire feed are stopped to assure a clean wire burn-off.

3,521,021

## ELECTRO-EROSION MACHINE INCLUDING SEPARATELY CONTROLLABLE ELECTRODE SUPPORT MOUNTING MEANS AND FEEDING MEANS

Werner Ullmann, Locarno, Rudolf Inelchen, Effretikon, and Fritz Lutolf, Losone, Switzerland, assignors to A.G. fur Industrielle Elektronik Agie Losone B. Locarno, Losone-Locarno, Switzerland, a corporation of Switzerland

Filed Aug. 22, 1966, Ser. No. 574,028

Claims priority, application Switzerland, Aug. 20, 1965, 11,753/65

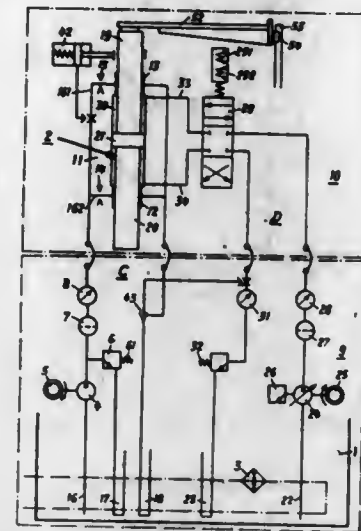
Int. Cl. B23p 1/08, 1/04

U.S. Cl. 219—69

1 Claim

An electro-erosion machine including a cylinder means, piston means within the cylinder means and including

oppositely directed projecting rod portions, one of which constitutes an electrode support, controllable means for establishing a fluid film bearing surface at axially spaced locations of said rod portions and separate and independently controllable means for supplying and exhausting pressure fluid to and from the cylinder means on opposite sides of the piston and including electromag-



netically operated valve means and a control circuit for said valve means operable to actuate said valve means to impart axial movement to said piston means and thus said electrode support to effect at least one of a manually controlled electrode feed movement, an automatically regulated feed movement, and a feed movement including imparting vibratory movement to the electrode.

3,521,022

## UNDERWATER ARC WELDING PROCESS

Sadao Sato, Tokyo, Japan, assignor to Kakumaru Industry Company Limited, Tokyo, Japan

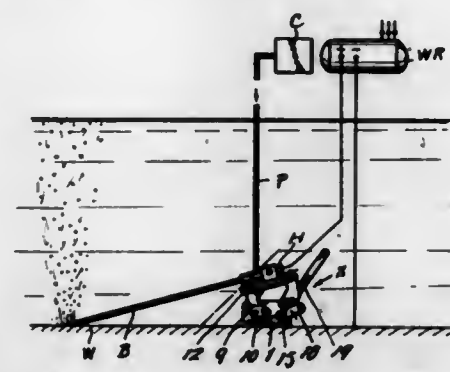
Filed Jan. 18, 1968, Ser. No. 698,778

Claims priority, application Japan, June 14, 1967, 42/37,530; June 30, 1967, 42/55,823

Int. Cl. B23k 9/16, 35/38

U.S. Cl. 219—72

3 Claims



An underwater arc welding process in which a composite consumable welding rod is held in a holder and a workpiece disposed in the water is arc-welded while compressed air or gas is being forced through and out of a gas passage in the composite welding rod.

3,521,023

## PLASMA TORCH

William J. Dahlman, Sylmar, and Lee F. Budds, Canoga Park, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed July 3, 1968, Ser. No. 742,311

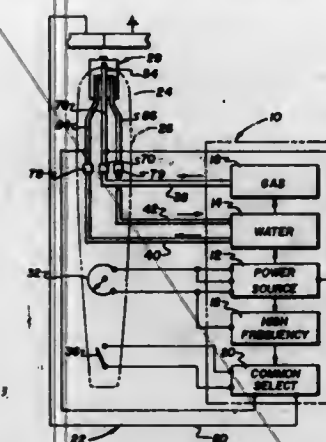
Int. Cl. B23k 9/16

U.S. Cl. 219—75

5 Claims

A miniature plasma torch having fingertip controls and switch means in the torch handle to control the arc cur-

rent and to operate said torch in either a transferred or non-transferred mode to perform a variety of welding, cutting and soldering operations at the working site as



opposed to the conventional method of controlling the torch at a remote location distant from the workpiece site.

3,521,024

## WELDING GUN

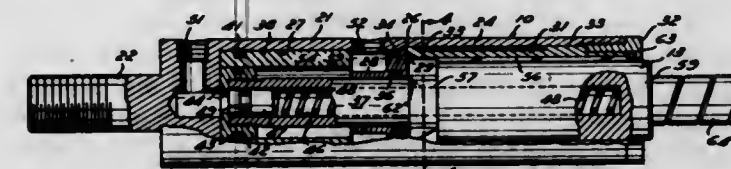
Donald E. Roach, Port Huron, Mich., assignor, by mesne assignments, to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed June 9, 1967, Ser. No. 644,927

Int. Cl. B23k 11/10

U.S. Cl. 219—89

13 Claims



A hydraulic welding electrode actuator provided with a hydraulic accumulator within the actuator piston. The accumulator provides substantially instantaneous "follow-up" extension of the actuator when the material of the workpieces being welded softens and starts to flow. A relatively long, low rate, compression spring is provided in the accumulator so that relatively long follow-up stroke is provided at a relatively constant force level. A guide sleeve, mounted in the cylinder, is provided with curved, axially extending, peripherally spaced bearing surfaces to laterally support the piston. Intermediate recesses in the sleeve between the curved bearing surfaces receive mating projections on the piston to prevent relative rotation between the piston and cylinder while permitting axial motion therebetween.

3,521,025

## METHOD FOR WELDING

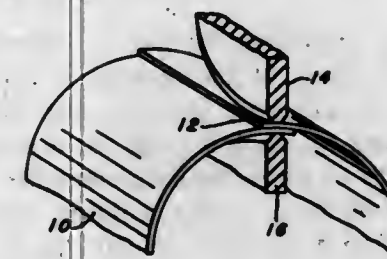
Kenneth E. Opal, Oakmont, Pa., assignor to Power Control Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 10, 1968, Ser. No. 766,533

Int. Cl. B23k 11/06, 11/10, 11/24

U.S. Cl. 219—117

8 Claims



A method for welding, particularly resistance seam welding, wherein the voltage applied across the weld com-

prises a steady-state direct current voltage having superimposed thereon an alternating current voltage or a chopped direct current voltage. This provides a true diffusion weld, results in a substantially uniform grain structure across the weld, and enables extremely high welding speeds.

3,521,026

## MULTIPLE WELDING ELECTRODE

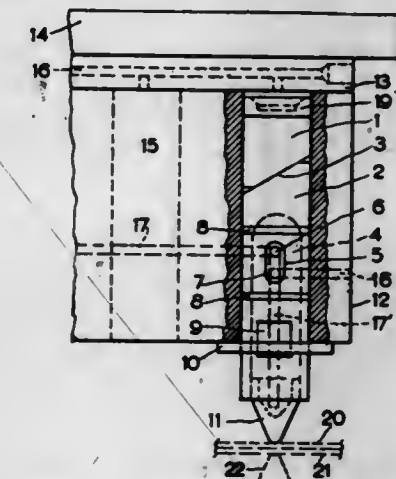
Donald Joseph Beneteau, R.R. 2, Amherstburg, Ontario, Canada

Filed Oct. 25, 1968, Ser. No. 770,637

Int. Cl. B23k 9/29

U.S. Cl. 219—119

2 Claims



In resistance multiple spot welding where several electrodes are slidably contained in a single electrically conductive block, an electrode which is divided into two parts on an inclined plane. When pressure is applied to the electrode during a welding operation the two parts slide upon each other along the inclined plane causing jamming between the electrode and the block thereby insuring good contact for the passage of an electric current.

3,521,027

## CONTROLLED ARC WELDING

James C. Needham and Edward C. Partington, Abington Hall, Cambridge, England, assignors to The Welding Institute, a body corporate of Great Britain

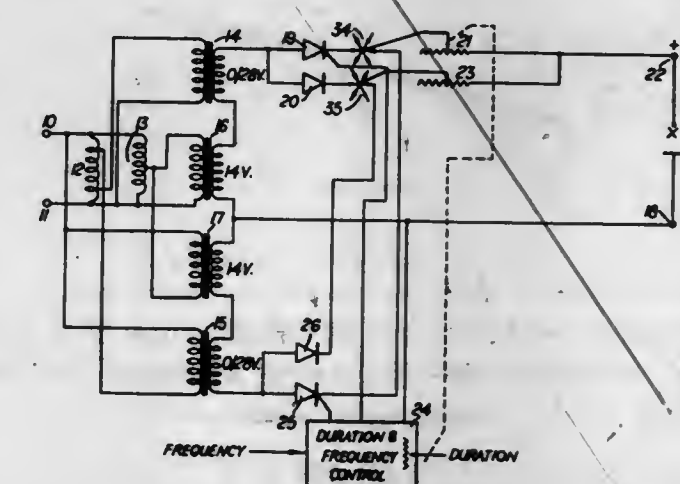
Filed Mar. 27, 1967, Ser. No. 626,106

Claims priority, application Great Britain, Mar. 29, 1966, 13,903/66

Int. Cl. B23k 9/10

U.S. Cl. 219—131

6 Claims



A spray transfer welding system is disclosed in which a consumable electrode carries pulses superimposed on background current. Pulse amplitude and duration are adjusted together to obtain different degrees of penetration of the workpiece.



**3,521,028**  
**ELECTRODE FOR WELDING COPPER AND COPPER ALLOYS**  
 Jan Wegrzyn, Ul. M Strzody 14a/14, Gliwice, Poland  
 Filed Sept. 13, 1967, Ser. No. 667,403  
 Claims priority, application Poland, Sept. 15, 1966, P 116,478  
 Int. Cl. B23k 35/22

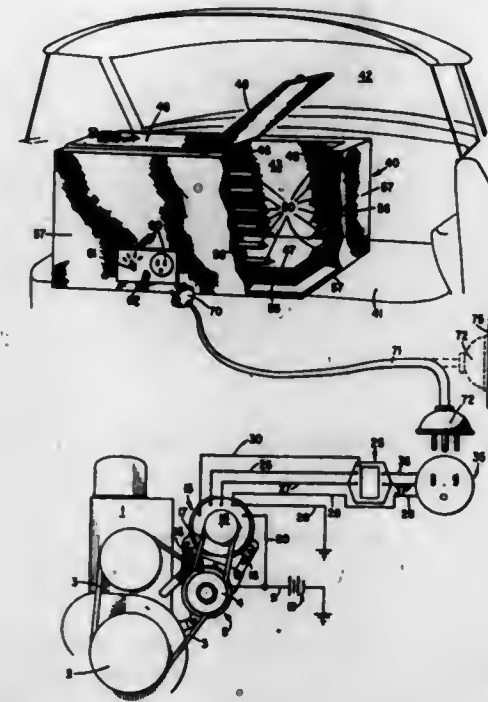
U.S. Cl. 219—146

1 Claim



A welding electrode consisting of a core of copper or copper alloy and a covering on the core consisting of 5-20% of zirconium silicate, up to 90% of lithium, sodium, potassium or aluminum compounds, such as fluorides or fluorosilicates and up to 30% of aluminum or magnesium or the like.

rounded by electrical heating cable. The cable comprises a resistance wire surrounded by insulation and metallic shielding. The warming unit comprises an electrical gen-

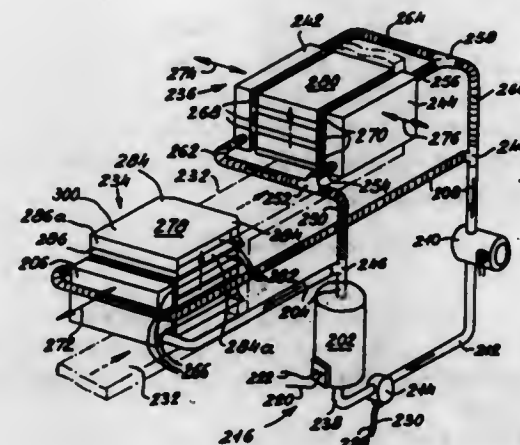


erating unit which is mechanically and electrically connected to the power source of a transporting vehicle.

**3,521,031**  
**HEAT SEALING APPARATUS**  
 Guenter Wahle, Hamburg-Bramfeld, Germany, assignor to Hauni-Werke Koerber & Co. KG., Hamburg-Bergedorf, Germany  
 Filed Sept. 21, 1966, Ser. No. 580,958  
 Claims priority, application Great Britain, Nov. 22, 1965, 49,486/65  
 Int. Cl. H05b 1/00

U.S. Cl. 219—243

3 Claims



A heat sealing apparatus for use in cigarette packing machines to seal sheets of thermoplastic material which form envelopes of cigarette packs comprises a system of conduits defining an endless path for a supply of fluid and containing one or more welding elements which withdraw heat from the fluid during welding, and a regulating device including a variable delivery pump which circulates the fluid and a heat exchanger which heats the circulating fluid. The rate of circulation and the heating action are such that the amount of heat flowing through the welding element or elements per unit of time is a

**3,521,030**  
**MOBILE OVEN UNIT**  
 Jerry D. Maahs, 6956 N. Rockledge Ave., Milwaukee, Wis. 53209  
 Filed Feb. 25, 1966, Ser. No. 530,165  
 Int. Cl. B011 1/02

U.S. Cl. 219—202

5 Claims

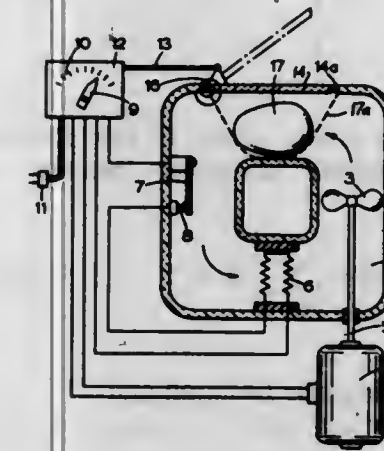
A portable perishable oven for a mobile warming unit having walls forming a perishable compartment sur-

multiple of the amount of heat which is withdrawn by the welding elements.

**3,521,032**  
**APPARATUS FOR COOKING FOOD**  
 Valentin Heuss, Hunscherstrasse 5, Utikon, Waldegg-Zurich, Switzerland  
 Continuation-in-part of application Ser. No. 433,126, Feb. 16, 1965. This application June 7, 1967, Ser. No. 657,444  
 Int. Cl. F27d 11/02

U.S. Cl. 219—400

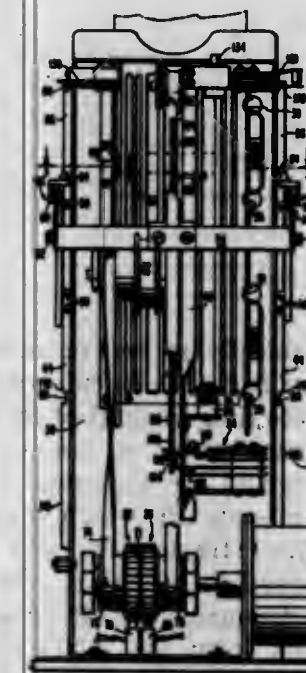
11 Claims



The apparatus has a housing in which the food is placed. Air is driven around a closed circuit within the housing by a fan while it is heated by an electric heater. At the end of a manually set period the heater is deenergized and the housing is opened. The fan motor is thereafter energized for a further period.

**3,521,033**  
**RECORD CARD READER**  
 Gordon H. May, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
 Filed July 27, 1966, Ser. No. 568,216  
 Int. Cl. F16d 21/02; G06k 7/04; H01h 42/08  
 U.S. Cl. 235—61.11

7 Claims



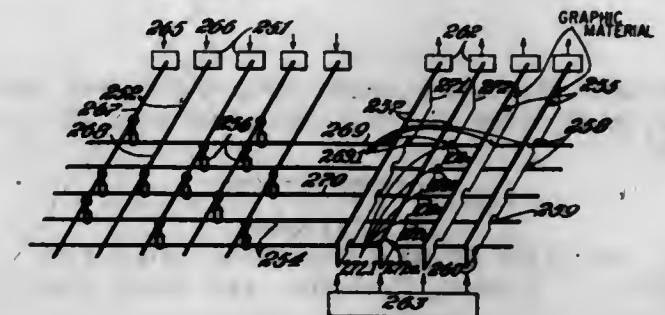
Manual insertion of a record card initiates the automatically performed cycle of feeding the card to a registering

position; sensing the data columns, edge notch data and column emitter signals; ejecting the record card and turning off the record card drive mechanism. A first drive means is utilized to feed the record cards to the registering position and a second drive means is used to move a sensing carriage across the stationary card to sense the data and to restore the sensing carriage in a non-data-sensing position as the card is being ejected.

**3,521,034**  
**BATTERY CONTROLLED MACHINE**  
 Calvin N. Mooers, 13 Bowdoin St., Cambridge, Mass. 02138  
 Continuation-in-part of application Ser. No. 392,444, Nov. 16, 1953, which is a continuation-in-part of application Ser. No. 774,628, Sept. 17, 1947. This application Sept. 13, 1965, Ser. No. 486,964  
 Int. Cl. G06k 19/00

U.S. Cl. 235—61.6

19 Claims



Control apparatus is described in which output indications are determined by a control battery in response to combinations of a plurality of input actuations. The control battery is a plurality of congruent matrices of a medium, the matrices defining sets of congruent sites on the medium, and there are marks or spaces at sites of each matrix. There is a mark sensing means for each set of congruent sites of the battery, groups of mark sensing means are actuated by unidirectional linkages from each input actuation channel, and a typical mark sensing means is linked to more than one input channel. Each matrix of the battery has marks at the sites for each pattern of its matrix group of controlling patterns of marks, with pairs of controlling patterns of a matrix sometimes determining a mark at the same site of a matrix; the majority of matrices have more than one controlling pattern with the number of marks in a matrix varying for the matrices in the battery. The number of marks for each set of congruent matrix sites across the battery is close to the average for all the sets and is significantly different from zero. The output of the control apparatus indicates which matrices have marks in at least every site of an actuated mark sensing means.

**3,521,035**  
**RELEASE MECHANISMS**  
 Bengt Ison Trehn, Stockholm, and Sten Alfred Westman, Stocksund, Sweden, assignors to Metlor AB, Stockholm, Sweden  
 Filed Nov. 25, 1966, Ser. No. 596,872  
 Claims priority, application Sweden, Nov. 29, 1965, 15,362  
 Int. Cl. G06k 5/00; H04q 1/00

U.S. Cl. 235—61.7

3 Claims

A mechanism for releasing an operating cycle and in which the release is bound to a particular person comprises a sensing device for a card punched in accordance with a code identifying the person. A manually operated selecting device correlated to the sensing device functions to effect a release of the cycle only when manually operated switches in the selecting device determined by the









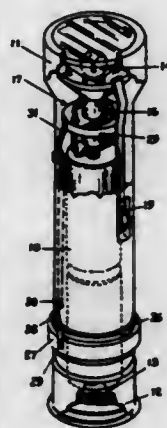


of light in various locations in the jewelry and in accordance with the parameters of the circuit selected. The lights comprise gas-filled bulbs such as neon tubes, separate ones of which include flasher units such as resistance capacitance circuits. The flashers with the bulbs are encased in simulated "gems" which are spaced apart in some desired orientation and connected in parallel to the power supply. Such connection, in a preferred form of the invention, comprises a printed circuit having a flexible insulated base which is adapted to conform to the contour of the wearer, to suit and/or dress design, and so forth.

**3,521,050**  
**RECHARGEABLE FLASHLIGHT**  
Jack L. Shagena, Jr., 1406 Saratoga Drive,  
Bel Air, Md. 21014  
Filed May 20, 1968, Ser. No. 730,259  
Int. Cl. F21H 7/00

U.S. Cl. 240—10.66

8 Claims



A rechargeable flashlight having a built in rectifier and voltage regulator with electrical terminals accessible from the exterior of the flashlight and a holder or support for the flashlight with electrical terminals to connect with those of the flashlight and adapted to connect with a source of electricity for charging the battery of the flashlight when the latter is placed in the holder.

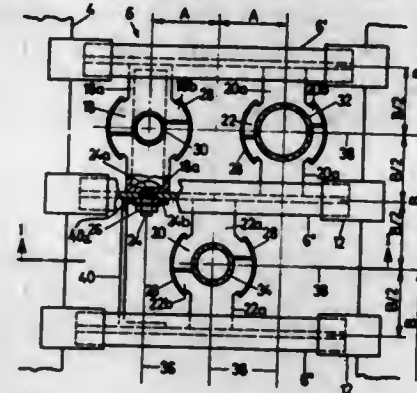
**3,521,051**  
**INSTALLATION DEVICE, ESPECIALLY FOR MOUNTING RISING OR ASCENDING CONDUITS OR THE LIKE**  
Eugen Wulschleger, Bleichmattstrasse 15, Aarau, Switzerland, and Hans Tanner, Breitenstrasse 128, Schaffhausen, Switzerland  
Filed Dec. 18, 1967, Ser. No. 691,616  
Claims priority, application Switzerland, Dec. 23, 1966, 18,490/66  
Int. Cl. F16I 5/00

U.S. Cl. 248—56

10 Claims

An installation device, especially for so-called rising or ascending conduits in order to mount such conduits at a predetermined spacing from one another in an opening provided at the brickwork or the like. This installation or mounting device incorporates a plurality of first type of structural elements extending substantially in parallelism with respect to one another and including means for supporting such first type of structural elements at the brickwork. Further, positioning means are provided for each of said first type structural elements and which are substantially uniformly distributed throughout the length of each associated first type of structural element. Additionally, a plurality of second type of structural elements is provided which defines conduit clamp means for en-

gaging with an associated tubular conduit, and each of such conduit clamp means includes end portions engaging with two respective structural elements of the first type. The respective conduit axis defined by said conduit clamp

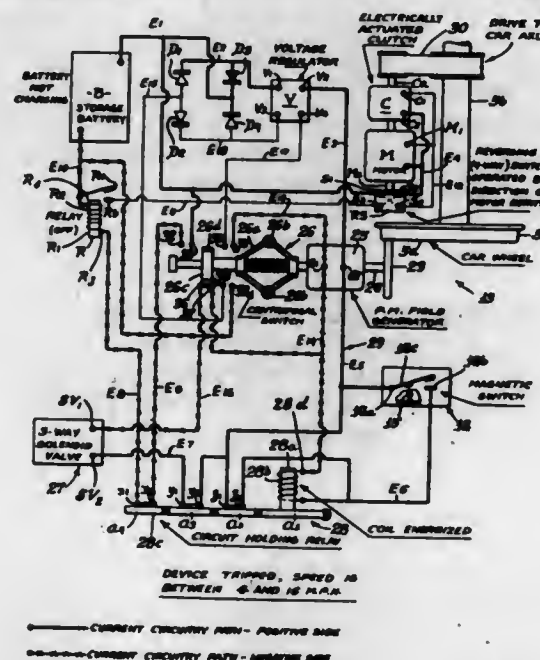


means containing, independently of the diameter of the conduits to be mounted, predetermined points of intersection of an imaginary grid system consisting of grid lines extending substantially perpendicular to one another.

**3,521,052**  
**VEHICLE SPEED CONTROL DEVICE**  
William H. Peterson, Homewood, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware  
Filed Dec. 29, 1967, Ser. No. 694,705  
Int. Cl. B61I 3/02

U.S. Cl. 246—182

31 Claims



An apparatus for controlling the coupling speed of a railroad car within the ladder track of a classification yard including a generator driven solenoid air valve to brake the car if it exceeds a maximum permissible coupling speed and a battery operated wheel driving motor to accelerate the car if it is moving too slow for coupling. The car carried speed control system is activated by a ground mounted trip.

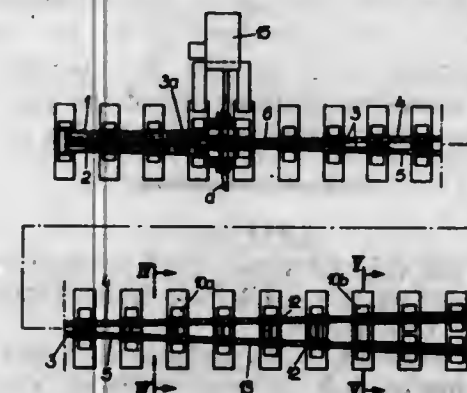
**3,521,053**  
**CROSSING FROGS FOR RAILS OF RAILROAD TRACK AND THE LIKE**  
Ernst von Hayn, Butzbach, Upper Hess, and Wilhelm Munch, Minden, Westphalia, Germany, assignors to Pintsch Bamag Aktiengesellschaft, Butzbach, Upper Hess, Germany  
Filed June 10, 1968, Ser. No. 735,909  
Int. Cl. E01b 7/10

U.S. Cl. 246—468

9 Claims

A crossing frog having two point rails with a movable portion adapted to be placed by a linkage, selectively against one or the other fixed wing rails. The ends of

the point rails which merge together at the movable portion are fixedly welded to one another so that the movable portion of the frog forms a unitized assembly in which relative internal sliding movement is prevented.



able portion of the frog forms a unitized assembly in which relative internal sliding movement is prevented.

**3,521,054**  
**ANALYTICAL PHOTOIONIZATION MASS SPECTROMETER WITH AN ARGON GAS FILTER BETWEEN THE LIGHT SOURCE AND MONOCHROMETER**

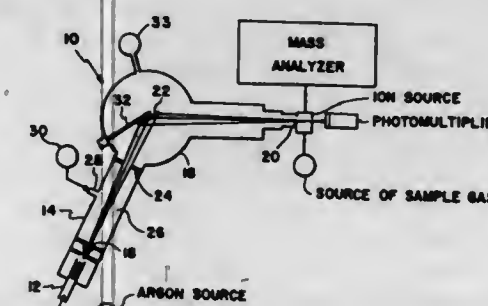
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Walter P. Poschenrieder, Burlington, James A. R. Samson, Waltham, and Peter Warneck, Bedford, Mass.

Filed Feb. 29, 1968, Ser. No. 709,398

Int. Cl. B01d 59/44; H01J 39/34

U.S. Cl. 250—41.9

4 Claims



A mass spectrometer of the type utilizing photoionization to produce ions of the sample analyzed, featuring a device for producing an ionizing light beam of any of a range of wavelength values consisting of the combination of a multi-lined spectrum source, an adjustable angle diffraction grating, and a filtering element that removes the portion of the multi-lined spectrum that shows up as second order interference on the selected portion of the first order spectrum, thus insuring discriminatory ionization. A specific embodiment is disclosed that is useful for detection of pollutants in natural air by providing a light beam source that can discriminately ionize pollutants in a mixture with the naturally-occurring masking constituents.

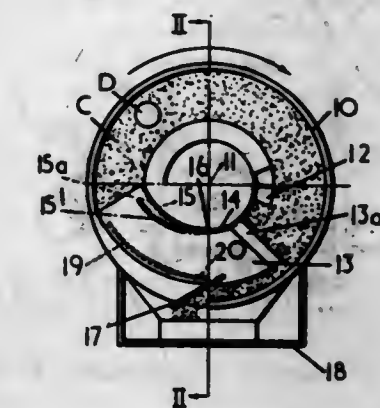
**3,521,055**  
**APPARATUS FOR USE IN DETERMINING THE CHARACTER OF FINELY DIVIDED OR PARTICULATE SOLID MATERIAL**  
Arthur A. Hirst, Ashby-de-la-Zouch, and Kenneth W. Daykin, Mackworth, England, assignors to Coal Industry (Patents) Limited, London, England  
Filed May 15, 1967, Ser. No. 638,280  
Claims priority, application Great Britain, June 10, 1966, 26,013/66; Jan. 17, 1967, 2,470/67  
Int. Cl. G01n 23/12

U.S. Cl. 250—43.5

10 Claims

The apparatus presents solid particulate material to a beam of electro-magnetic radiation to test a characteristic of the material. Material leaving a delivery station is deposited on a rotary table and deflected so as to avoid the delivery station as it moves round on the table, the deflec-

tion of the material displacing previously deposited material towards a position in which the previously deposited material is discharged from the table. The apparatus en-

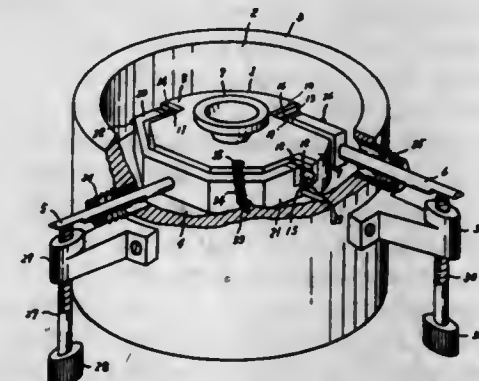


ables results to be obtained for successive samples in serial fashion, results from one sample being for the most part unaffected by the presence of material from a previous sample.

**3,521,056**  
**ADJUSTABLE SPECIMEN STAGE FOR ELECTRON BEAM APPARATUS EMPLOYING ADJUSTING LEVERS ARRANGED TO MINIMIZE BEAM DEFOCUSING RESULTING FROM THERMAL EXPANSION OF STAGE COMPONENTS**  
Shigeru Suzuki, Tokyo, Japan, assignor to Nihon Denshi Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan  
Filed Jan. 29, 1968, Ser. No. 701,305  
Claims priority, application Japan, Feb. 3, 1967, 42/6,953; June 1, 1967, 42/35,030  
Int. Cl. H01J 37/26

U.S. Cl. 250—49.5

8 Claims



An adjustable specimen device for use in electron beam apparatus which has an optical axis and which includes a specimen stage that is movable in a plane perpendicular to the optical axis, the movement being accomplished by levers and spring biasing means that are effective against heat misalignment.

**3,521,057**  
**HUMAN HEAD IMMOBILIZATION UNIT FOR PANORAMIC X-RAY MACHINES**  
Alva F. Morlan, 7245 Wyandotte St., Kansas City, Mo. 64114  
Filed Apr. 23, 1968, Ser. No. 723,531  
Int. Cl. G03b 41/16

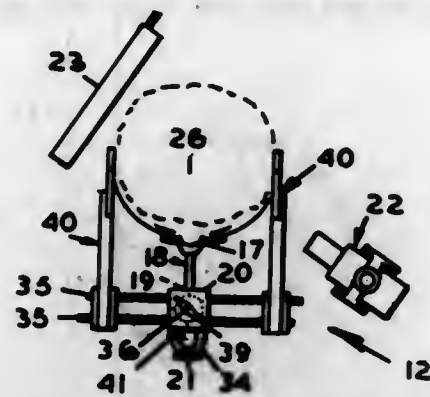
U.S. Cl. 250—50

3 Claims

A pair of toothed racks slidably mounted horizontally through a housing; a pinion engaging the toothed racks to move them in opposite directions; the housing being securable to an X-ray machine below the chin of a person positioned thereon for a panoramic picture film; a pair of arms; each of said arms being secured to one end portion of a respective toothed rack; each of said arms being slidable on the end portion of the opposite respec-



tive toothed rack; said arms being projected horizontally and transversely to said toothed racks and outwardly and



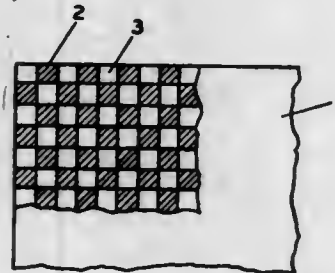
upwardly to clamp against the person's head when said pinion is turned.

### 3,521,058 METHOD OF IMPROVING THE DEFINITION OF DETAIL OF BOTH HARD AND SOFT SUBSTANCE IN RADIOGRAPHS

Georg S. Mittelstaedt, 274 73rd St.,  
Brooklyn, N.Y. 11209  
Filed Sept. 8, 1965, Ser. No. 485,738  
Int. Cl. G03b 41/16

U.S. Cl. 250-65

3 Claims



1. In a radiographic method comprising transmitting penetrating rays from a suitable source through an object to photographic film, the improvement consisting in passing the penetrating rays through a screen with alternate silver-bearing and silverless areas to change the ray image to an analytic intensity pattern, the silverless areas permitting the penetrating rays to pass through easily for primarily defining hard substance on the emulsion directly behind these silverless areas, but the silverbearing areas reducing the intensities of the penetrating rays passing therethrough for primarily defining relatively soft substance on the emulsion directly behind the silverbearing areas, all object areas being defined in the resulting radiograph with definition of detail in hard substance and in relatively soft substance.

### 3,521,059 APPARATUS FOR RADIOGRAPHING PIPES HAVING A FILM MARKER MEANS ASSOCIATED THEREWITH

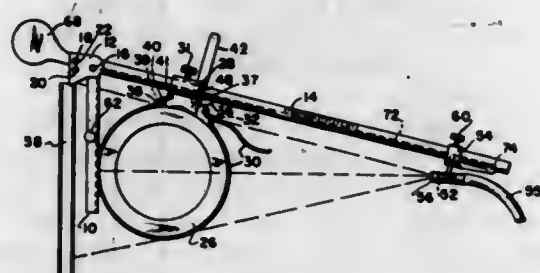
Donald E. Stolle, Aramco, Ras Tanura, Saudi Arabia  
(% Arabian American Oil Co., 505 Park Ave., New York, N.Y. 10022)

Filed Mar. 15, 1967, Ser. No. 623,281

Int. Cl. G03b 41/16

U.S. Cl. 250-65

11 Claims



A portable and accurate radiographic instrument, for radiographing pipes, is described, wherein the radiation

source is adjustable to a predetermined geometric relationship to the film which is tangential to the pipe. A radiation impenetrable marker is interconnected with the radiation source and is projected on the film alongside a pipe circumference scale so that the operator can tell if a proper center-line examination of the pipe has been made. Various other data are also recorded on the film.

### 3,521,060 METHOD FOR DETECTING THE MISROUTING OF TRANSPARENCIES DURING THE PROCESS OF IMAGING THEREON

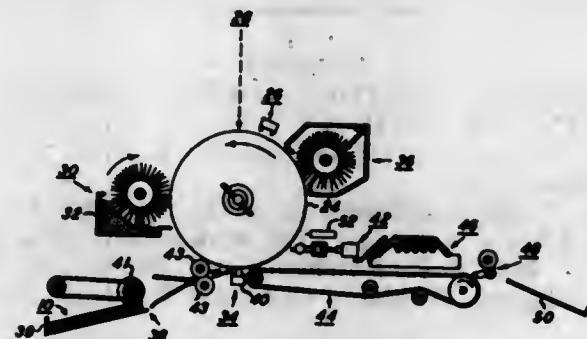
Ira L. Seldin, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Aug. 24, 1967, Ser. No. 662,984

Int. Cl. G03g 5/10, 13/22

U.S. Cl. 250-65

14 Claims



A detection system especially adapted for use in imaging machines, wherein a transparent image receiving member with a transparentizable light reflecting portion is advanced into an imaging machine with the reflective portion in its light reflective condition (a) at least until it encounters at least one light responsive misrouting detection means, or (b) at least until it passes at least one possible misroute with light responsive misrouting detection means disposed operatively along said misroute, whereupon said transparentizable light reflecting portion is transparentized, to provide an imaged transparency substantially completely devoid of any light reflective portions. The system hereof may also be used to detect the position or misrouting of transparencies in a variety of non-imaging environments where transparencies are routed.

### 3,521,061 X-RAY SPOT FILMER WHEREIN THE GRID IS CARRIED BY THE CASSETTE TRAY

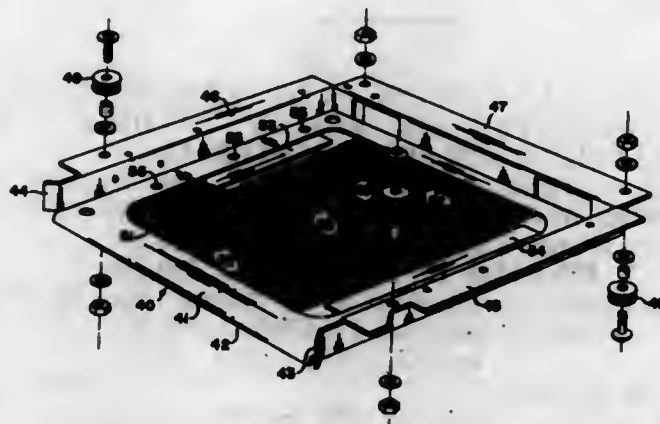
Edward Slagle, South Euclid, Ohio, assignor, by mesne assignments, to Picker Corporation, White Plains, N.Y., a corporation of New York

Filed Oct. 9, 1967, Ser. No. 673,649

Int. Cl. G01n 23/04; G03b 41/16

U.S. Cl. 250-66

5 Claims



X-ray spot filmer for taking medical radiographs which minimizes patient-to-film distance with an X-ray absorbing grid which is carried by a cassette tray so it is fixed

during the radiographing operation and is shifted into position automatically with the X-ray film.

### 3,521,062 MULTIDETECTOR NEUTRON LOGGING TECHNIQUE

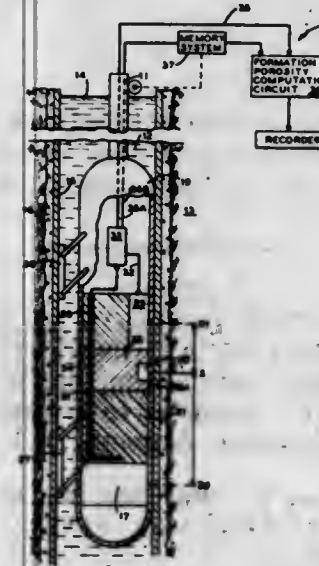
Walter A. Nagel, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

Filed Aug. 28, 1967, Ser. No. 663,596

Int. Cl. G01v 5/00; G01t 3/00

U.S. Cl. 250-83.1

7 Claims



One embodiment of the invention provides a sidewall borehole tool for porosity logging that comprises short-spaced and long-spaced neutron detectors. The detectors straddle a chemical neutron source that is mounted eccentrically within a fast-neutron shield of copper in order to abut the side of the borehole. A neutron moderator, moreover, is interposed between the source and the long-spaced neutron detector in order to improve formation porosity resolution.

### 3,521,063 MULTIPLE GAMMA RADIATION LOGGING TECHNIQUE FOR IDENTIFYING LOW ATOMIC NUMBER MATERIALS

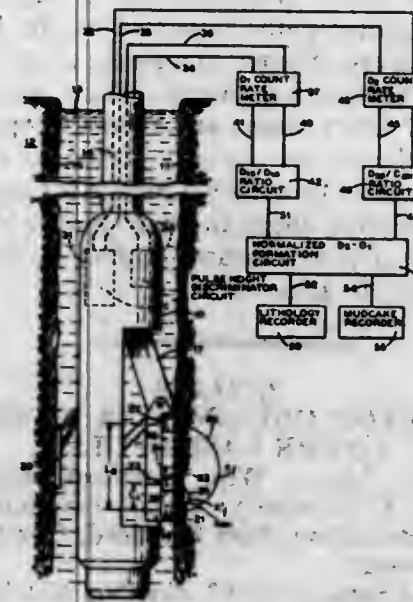
Jay Tittman, Danbury, Conn., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed July 19, 1967, Ser. No. 654,414

Int. Cl. G01v 5/00

U.S. Cl. 250-83.3

4 Claims



A specific embodiment of the invention identifies the chemical composition of an earth formation and compensates for mudcake during well logging. The formation

is irradiated with photons that have energies less than about 1 mev. A low energy gamma radiation detector is positioned close to the gamma radiation source primarily to measure borehole parameters, while a second low energy gamma radiation detector, spaced more distantly from the gamma ray source, measures borehole characteristics and the mineral composition of the formation. The signals from the detectors are normalized and combined to produce an output that identifies formation lithology and effective mudcake thickness.

### 3,521,064 ANALYSIS OF GAMMA RAY ENERGY SPECTRUM FOR CONSTITUENT IDENTIFICATION

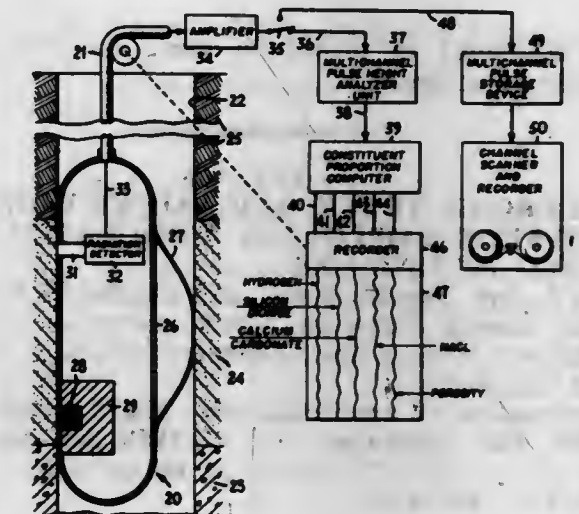
James H. Moran and Jay Tittman, Danbury, Conn., assignors to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Feb. 17, 1967, Ser. No. 616,971

Int. Cl. G01t 1/16

U.S. Cl. 250-83.3

12 Claims



In the particular embodiment of the invention described herein, the neutron capture gamma ray spectrum of an unknown earth formation material is analyzed by matching it with a composite spectrum made up of weighted spectra of known constituent materials. To accomplish this, a multichannel pulse height analyzer separates the spectrum of the unknown material into selected energy bands and supplies information representing the gamma ray intensity in each band to a computer which determines the proportions of known constituents providing the best composite spectrum match with the unknown material spectrum.

### 3,521,065 COMBINATION NEUTRON AND GAMMA RAY LOGGING TECHNIQUE

Stanley Locke, Norwalk, Conn., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

Filed Sept. 5, 1967, Ser. No. 665,575

Int. Cl. G01v 5/00

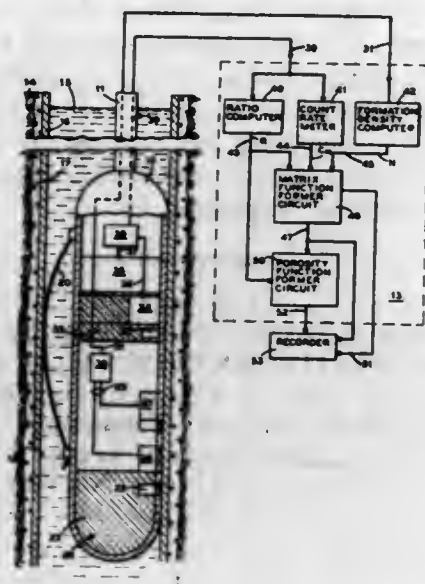
U.S. Cl. 250-83.3

5 Claims

An illustrative embodiment of the invention measures the matrix composition and porosity of a formation traversed by a cased borehole. The thickness of the casing cement also is measured in the embodiment shown. These measurements are acquired through a logging sonde that combines a gamma-gamma "density" tool with a two detector neutron "porosity" tool. For each density tool response in a specific mineral composition, the ratio of the neutron counts registered by the two detectors, as contrasted with the neutron counts observed by either of the neutron detectors taken alone, indicates the cement

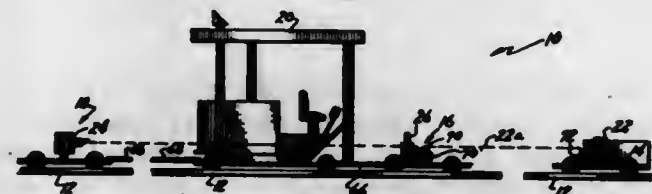


thickness and the formation mineral composition. The mineral composition information and the count ratio then



are combined to provide a more accurate formation porosity measurement.

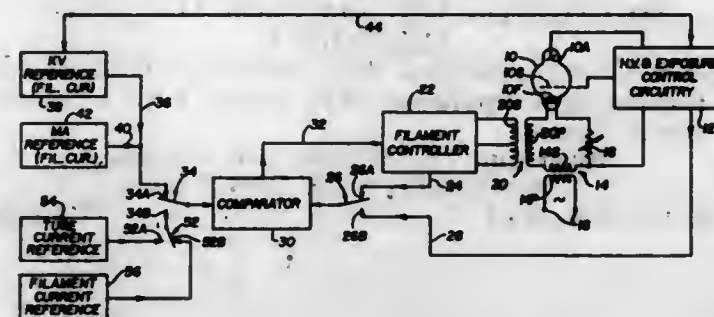
**3,521,066**  
**RAILROAD TRACK ALIGNMENT INDICATING SYSTEM EMPLOYING MODULATED INFRARED TECHNIQUES**  
Ivan L. Joy, Topeka, Kans., and Charles D. Johnson and Ira Sublett, Fairmont, Minn., assignors to Fairmont Railway Motors, Inc., Fairmont, Minn., a corporation of Minnesota  
Continuation of application Ser. No. 534,835, Mar. 16, 1966. This application Feb. 13, 1969, Ser. No. 802,726  
Int. Cl. G01j 1/16; G01p 3/36  
U.S. Cl. 250—83.3 9 Claims



This three-station system for quantitatively indicating the lateral alignment of railroad track comprises a modulated infrared transmitter, a tuned infrared receiver spaced from the transmitter and a shadow mask device positioned therebetween, all being movable along the track. The infrared receiver produces an output signal dependent upon any imbalance in the modulated infrared energy impinging on adjacent selected portions of the receiver, and the resultant output signal, if any, is used to adjust the position of the shadow mask so as to remove the imbalance. The movement of the infrared transmitter along the track is controlled by an independent coded and modulated infrared transmitter-receiver combination.

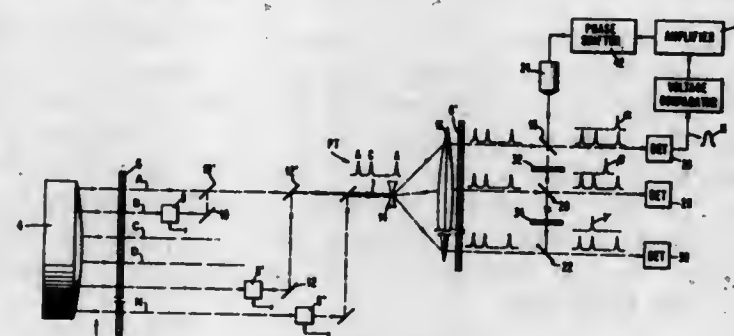
**3,521,067**  
**X-RAY TUBE CURRENT STABILIZATION**  
Walter E. Splain, Solon, Ohio, assignor to Picker Corporation, White Plains, N.Y., a corporation of New York  
Filed Apr. 15, 1968, Ser. No. 721,484  
Int. Cl. H05g 1/34  
U.S. Cl. 250—103 30 Claims  
In an X-ray tube current stabilization system, fluoroscopic stabilization and pre-exposure and actual exposure radiographic stabilization are provided by X-ray tube filament current control. In the pre-exposure mode, filament

current is controlled in accordance with selected tube high voltage and current values utilizing actual filament current feedback. In the exposure mode, filament current is controlled to provide a selected current through the X-ray



tube utilizing actual tube current feedback. During fluoroscopy, filament current is controlled in accordance with a predetermined value utilizing actual filament current feedback.

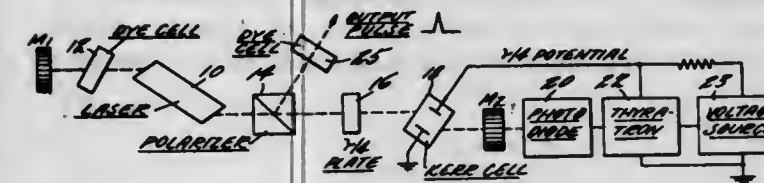
**3,521,068**  
**OPTICAL TIME DIVISION MULTIPLEX COMMUNICATION SYSTEM**  
John A. Armstrong, South Salem, and William V. Smith, Chappaqua, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed June 15, 1967, Ser. No. 646,367  
Int. Cl. H04b 9/00; H04j 3/00  
U.S. Cl. 250—199 5 Claims



This invention comprises a multiplex communication system with particular emphasis on a scheme employing mode locked lasers. A mode locked laser emits in a broad beam a train of ultrashort pulses, each pulse being very short compared to their separation in time, such train being sent through a beam divider so that N trains of short, equally spaced pulses are produced. In the path of each of the N trains is a modulator, a mirror, and a beam splitter, each modulator being controlled by an independent data channel. The optical paths traversed by the N trains, before they are all recombined in a single train, are each of a different and characteristic length. Thus, when combined, the N trains of short pulses are nonoverlapping in space. A detection scheme, particularly suited to the detection of short laser pulses, provides a means for sorting out the pulses and assigning them to their proper data channel at the receiver. By this means, a data transmission rate of  $10^{11}$  bits/sec. is achieved.

**3,521,069**  
**APPARATUS FOR OBTAINING A NARROW HIGH POWER LASER PULSE**  
Anthony J. De Maria, West Hartford, and Albert W. Penney, Jr., Glastonbury, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Filed Sept. 29, 1967, Ser. No. 671,763  
Int. Cl. H04b 9/00  
U.S. Cl. 250—199 16 Claims  
Apparatus for generating a single, high power laser pulse having time durations as short as  $10^{-15}$  seconds or

less in which a fast shutter such as a Kerr cell is inserted in the path of the laser beam, either inside or outside the laser feedback cavity. The laser is simultaneously mode-locked and Q-switched to generate a series of equally spaced pulses. One of the laser pulses is used to trigger the shutter to either open or close it, depending on the configuration, for a time period sufficient to pass

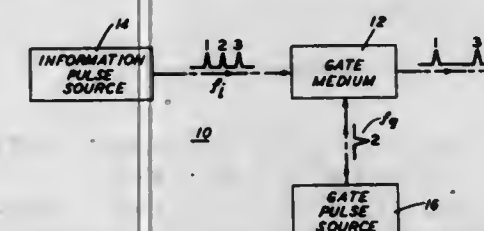


only one of the laser pulses from the output of the apparatus.

A specific embodiment uses a transmission line pulse generator having a spark gap triggered by one of the laser pulses to trigger the shutter.

Another specific embodiment uses an optically triggered Marx-Bank pulser to trigger the optical shutter.

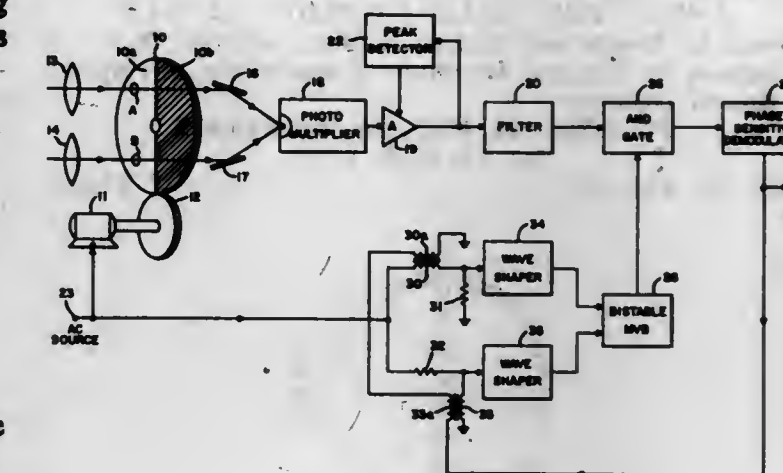
**3,521,070**  
**OPTICAL GATE**  
Michel A. Duguay, Union, and Peter M. Rentzepis, Morris, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York  
Filed Nov. 24, 1967, Ser. No. 685,640  
Int. Cl. H04b 9/00  
U.S. Cl. 250—199 9 Claims



A picosecond light gate absorbs an optical information pulse only when it is coincident with an optical gate pulse. The gate includes a medium in which the gate pulse induces a population inversion resulting in nearly total absorption of the information pulse. In the absence of the gate pulse no population inversion occurs, and the information pulse is nearly totally transmitted through the medium.

**3,521,071**  
**ELECTRO-OPTICAL APPARATUS FOR DEVELOPING AN EFFECT REPRESENTATIVE OF THE ATTITUDE OF THE APPARATUS RELATIVE TO THAT OF A SOURCE OF RADIANT ENERGY**  
Jack B. Speller, New York, N.Y., assignor to Aeroflex Laboratories, Incorporated, Plainview, N.Y., a corporation of Delaware  
Filed Sept. 25, 1967, Ser. No. 670,267  
Int. Cl. G01b 11/27; G01c 1/00  
U.S. Cl. 250—203 7 Claims  
In its simplest form, the disclosure comprises two spaced images of a light source formed on a continuously rotating disc, half transparent and half opaque. The two images are registered upon a photocell which develops a first periodic potential synchronous with the rotation of the disc. A second periodic potential from a separate source of constant amplitude and also synchronous with rotation of the disc is combined with the first periodic

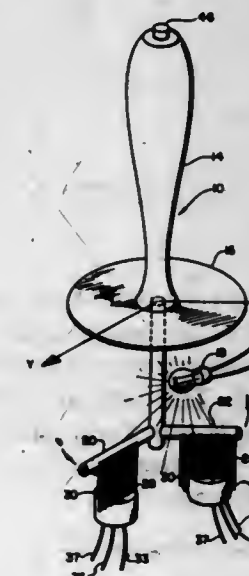
potential in a phase-sensitive demodulator, which develops an output signal representative of the deviation of the



line-of-sight of the apparatus from the line of view to the light source.

**ERRATUM**  
For Class 250—225 see:  
Patent No. 3,521,300

**3,521,072**  
**VARIABLE MASKING OF RADIATION SENSITIVE AREAS ALONG X AND Y AXES BY PIVOTALLY MOUNTED CONTROL SHAFT**  
James W. Wipson, Corona Del Mar, Calif. (659 Vista Bonita, Newport Beach, Calif. 92660); Jairos D. Hall, 156 Riva Alto Canal, Long Beach, Calif. 90803; Richard M. Bickford, 1501 Johnson Place, Fullerton, Calif. 92633; and Stuart B. Wahlberg, Wilbraham, Mass. (Box 2862, Long Beach, Calif. 90801)  
Filed Aug. 21, 1967, Ser. No. 661,909  
Int. Cl. G01d 5/34  
U.S. Cl. 250—231 9 Claims



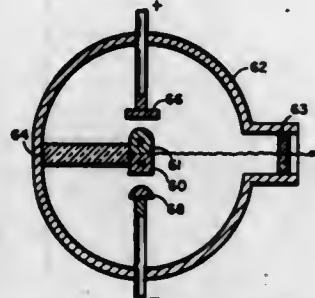
A control apparatus for converting a mechanical movement to an electrical signal. The apparatus includes a pivotally mounted control shaft. A shadow mask member coupled to the control shaft, a light source and a dual photoconductor are appropriately arranged so that movement of the shaft from a normal position causes light to impinge on one of the photoconductive areas of the photoconductor thereby producing an output signal which



may be employed for operating a servomotor or other electrical loads.

**3,521,073**  
**LIGHT EMITTING SEMICONDUCTOR DIODE USING THE FIELD EMISSION EFFECT**  
Ernest G. Brock and Jack E. Taylor, Monroe, N.Y., assignors to General Dynamics Corporation, a corporation of Delaware

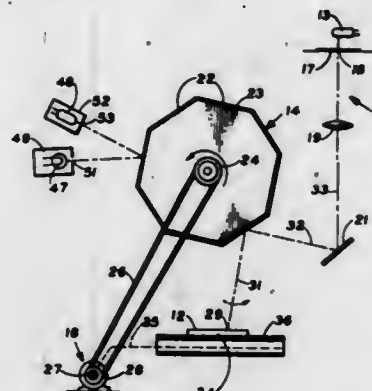
Filed Nov. 26, 1965, Ser. No. 510,022  
Int. Cl. H01s 3/09  
U.S. Cl. 250-217 7 Claims



A semi-conductor junction device is described for use as a light emitting device of incoherent or coherent light (laser action). A pair of electrodes are disposed adjacent to the device, each on opposite sides of the junction. One of the electrodes is spaced from one side of the device to provide a field emission anode and cathode arrangement which, in effect, is a field emission diode.

**3,521,074**  
**DEFECT DETECTOR WITH ROTATING SCANNER**  
Charles W. Frobese, Houston, Tex., assignor to Mandrel Industries, Inc., Houston, Tex., a corporation of Michigan

Filed Apr. 19, 1968, Ser. No. 722,791  
Int. Cl. G01n 71/16  
U.S. Cl. 250-219 14 Claims



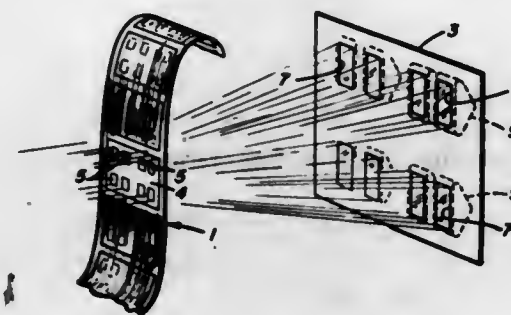
Apparatus is described for detecting blemishes on a surface. A sensor examines an image of an area of the surface which is about equal in area to the area of the smallest blemish to be detected. The imaged area of the surface which the detector sees is swept over the surface by means of a movable reflector positioned in the light path between the surface and the detector.

**3,521,075**  
**METER READING SYSTEM COMPRISING FILMING OF METER DIAL AND SUBSEQUENT ANALYSIS OF THE FILM USING CORRELATION TECHNIQUES**

Andrew F. Bulfer, Columbus, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed June 11, 1968, Ser. No. 736,212  
Int. Cl. G06k 9/00  
U.S. Cl. 250-219 5 Claims

The subject invention provides a method of and apparatus for rapid analysis of data recorded on ordinary

movie camera film. The device is described as an optical correlation receiver for automatic data reduction and obviates manual reduction of such film-recorded data. According to the invention, data from indicator dials such as those composing an instrument bank is continuously registered on movie film. The developed data-bearing film is then projected on a screen having a plurality of windows, each window corresponding in size and location to an image of an indicator dial being projected on the screen. Behind each window is a driven loop of movie film, each frame thereof bearing an image of a single pos-

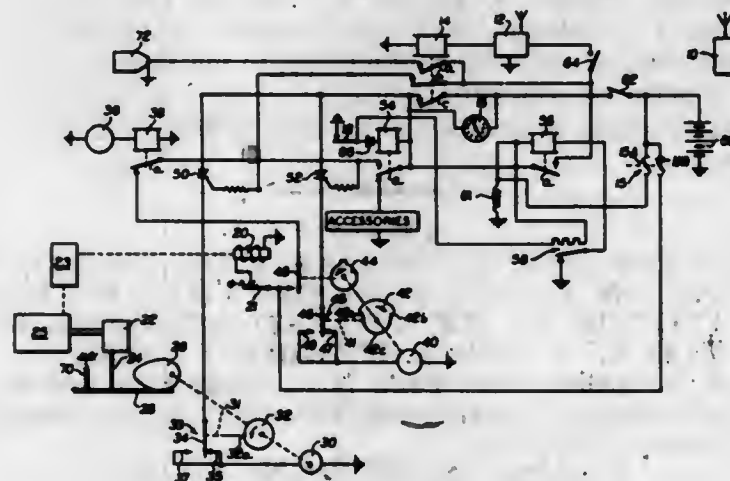


sible reading of the projected dial image. All such film loops may be driven continuously and asynchronously by a single motor. As each frame of the movie film is projected on the screen, each film loop is driven until correlation of a single film loop image with the corresponding dial image occurs as seen by a photocell positioned to accept the light passing through the film loop and is measured by the maximum light intensity passed through the film loop.

On such analysis, the readings of all the dial images will be registered and may be serially recorded on magnetic tape for further analysis.

**3,521,076**  
**AUXILIARY MEANS FOR STARTING INTERNAL COMBUSTION ENGINES**

Jehoshua Hayon, 458 Cliff St., Fairview, N.J. 07022  
Filed Oct. 10, 1967, Ser. No. 674,333  
Int. Cl. F02n 11/06  
U.S. Cl. 290-37 12 Claims

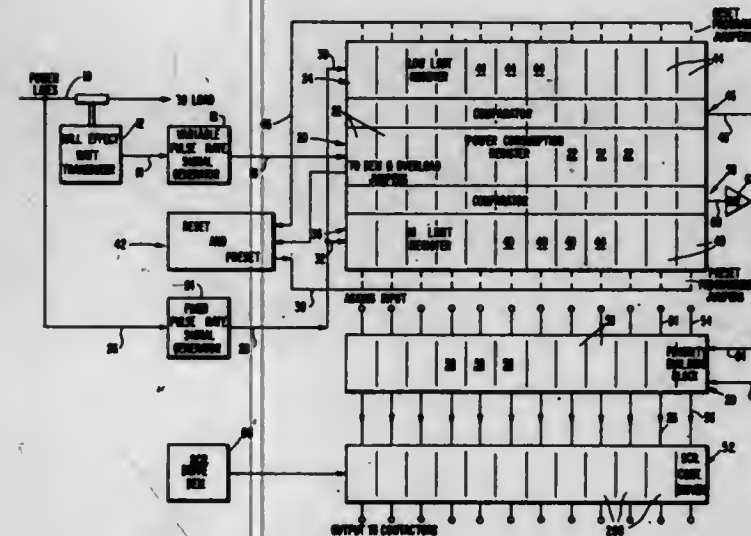


An auxiliary mechanism for starting an automobile without the need for a driver to be present, the actuation of the auxiliary mechanism being effected by a remote radio transmitter, by time controlled means or otherwise, wherein once actuation is effected an auxiliary energizing circuit is established for the ignition coil of the automobile and a motor driven cam means is set into opera-

tion to operate the engine throttle and to energize the starter solenoid whereby to start the engine.

**3,521,077**  
**ELECTRICAL DISTRIBUTION SYSTEM**  
Charles W. Bussell, Jr., East Stroudsburg, Pa., assignor to The Patterson-Kelley Co., Inc., East Stroudsburg, Pa.

Filed May 8, 1969, Ser. No. 822,996  
Int. Cl. H02j 3/00  
U.S. Cl. 307-31 11 Claims



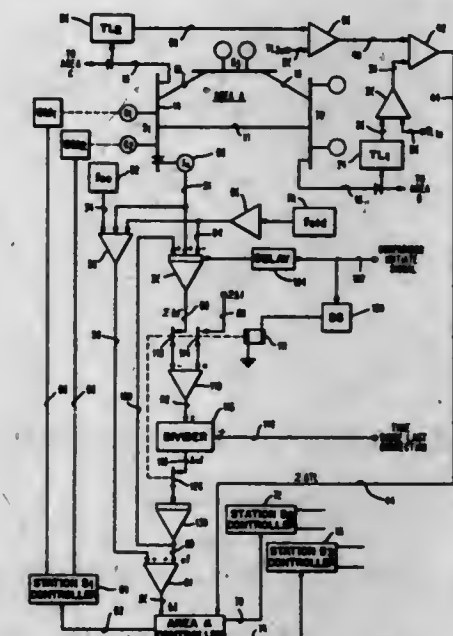
A serial binary counter driven by a signal whose pulse rate is proportional to the power consumption of the system stores a digital number which reflects the power consumption. Two other serial binary counters are driven by a clock signal having a fixed pulse rate and thereby store binary numbers according to the fixed clock rate and one of these additional counters is preset to a higher binary number than the other so that they respectively reflect high and low limits of power consumption. Comparators continuously compare the binary numbers stored in the several counters or registers and control deferrable load switching mechanism whenever the power consumption binary number exceeds the high limit or is less than the low limit.

**3,521,078**  
**DETERMINATION OF CORRECTIONS FOR FREQUENCY DEVIATION MEASUREMENT ERRORS IN AREAS OF AN INTERCONNECTED POWER DISTRIBUTION SYSTEM**

Thomas A. Green, Rodlyn, and Charles W. Ross, Hatboro, Pa., assignors to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania  
Filed Oct. 9, 1968, Ser. No. 766,279  
Int. Cl. H02j 3/00  
U.S. Cl. 307-57 10 Claims

A method and means for determining the magnitude of the error in the frequency deviation measurement in an area of an interconnected power distribution system with reference to another area which is taken as the standard. During each of consecutive periods of time the time deviation change measured in the reference area is converted to a measure of cycles change and that change is compared with the cycles change in the area for which the error is being determined. The differences obtained for each period are accumulated to produce a continuously updated correction signal which is added to the frequency deviation to compensate that measurement for differences from the reference standard. The standard-

ized measurement is used in control to reduce inadvertent interchange which would otherwise occur as a result of

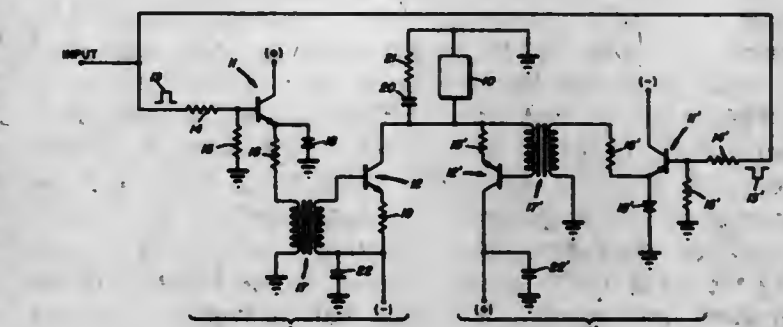


controlling from an incorrect frequency deviation measurement.

**3,521,079**  
**DRIVER CIRCUIT FOR LATCHING TYPE FERRITE**

John H. Kuch, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 31, 1967, Ser. No. 614,769  
Int. Cl. H03k 3/26, 17/06, 17/64  
U.S. Cl. 307-88 8 Claims



The present invention provides a simple and inexpensive, yet efficient, transistor current driver circuit capable of producing narrow, high current output pulses at a relatively fast pulse repetition rate. The driver circuit of the present invention is especially adapted for applying such output pulses into a saturable reactor load, such as a latching type ferrite element, for example, and produces the desired, relatively high, output current pulses by taking advantage of the so-called stored charge of the transistor. This permits the use of transistors having relatively low steady-state current carrying capability.

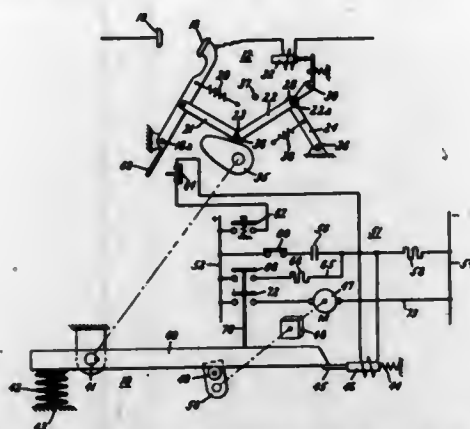
**3,521,080**  
**CLOSING CONTROL SCHEME FOR AN ELECTRIC CIRCUIT BREAKER**

Jerry Hlonis, Woodlyn, and Eugene M. Smith, West Chester, Pa., assignors to General Electric Company, a corporation of New York  
Filed Nov. 5, 1968, Ser. No. 773,536  
Int. Cl. H02h 3/08  
U.S. Cl. 307-143 6 Claims

Discloses a closing-control scheme for a circuit breaker in which closing-control power is developed by discharging a capacitor upon operation of a closure-initiating



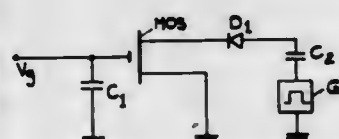
switch. "Pump-free" performance is obtained by preventing the capacitor from being recharged so long as the



operator holds the closure-initiating switch in its operated position.

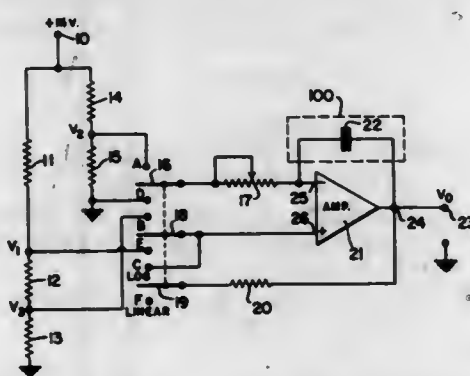
**3,521,081**  
**LOGICAL CIRCUIT ELEMENT COMPRISING AN MOS FIELD EFFECT TRANSISTOR**  
Jean-Pierre Vasseur and Alexandre Sev, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France  
Filed Nov. 30, 1966, Ser. No. 597,934  
Claims priority, application France, Dec. 3, 1965, 40,877

Int. Cl. H03k 19/08  
U.S. Cl. 307-205 12 Claims



A logical circuit element comprises at least one field effect transistor of the metal oxide semiconductor (MOS) type. An input connected to a two-level-voltage D.C. supply is connected to its gate, and an input capacitor is series connected between the input and the source. For a first level the transistor is blocked, for the other it is unblocked. An output is connected to the drain. An output capacitor is series connected between the drain and the source. A pulse generator is connected to the output capacitor. It charges or not the output capacitor, according to the level of the voltage applied to the input. A diode prevents any discharge of the output capacitor across the MOS element.

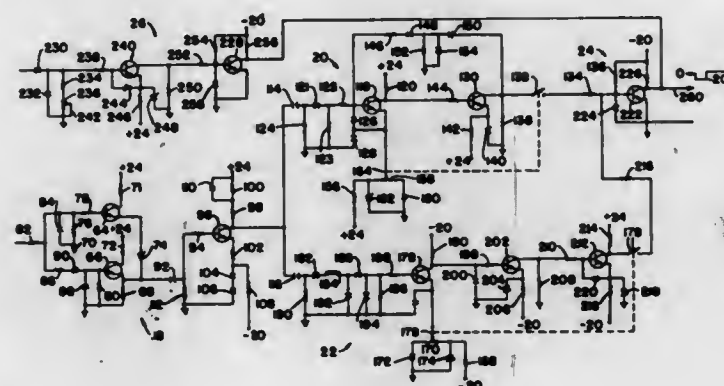
**3,521,082**  
**LINEAR/LOG TIME RAMP GENERATOR**  
Theodore E. D. Wolk, Littleton, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware  
Filed Aug. 15, 1967, Ser. No. 660,693  
Int. Cl. G06g 7/12, 7/24  
U.S. Cl. 307-230 7 Claims



A signal generator is provided. The generator produces a ramp signal. The signal generator includes an opera-

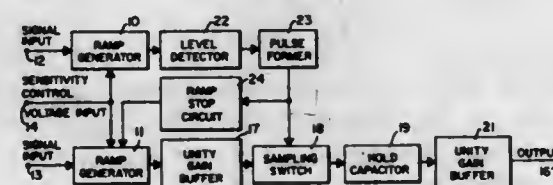
tional amplifier which is used as an integrator and a selectively connected feedback path wherein linear or log operation is alternately achieved. Suitable controls permit the generator to operate over selected ranges.

**3,521,083**  
**ELECTRONIC CONTROL CIRCUIT**  
Robert W. Drushel, Farmington, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan  
Filed Oct. 10, 1966, Ser. No. 585,395  
Int. Cl. H03k 5/20, 17/00  
U.S. Cl. 307-231 11 Claims



A circuit for and method of providing an output control signal in response to a positive or negative current change signal having a selected magnitude in which a composite electric signal including current change signals and extraneous signals is compressed and the current change signals isolated therefrom in a unique emitter follower circuit. Separate circuits are provided responsive to positive and negative current change signals for providing output signals only when the current change signals are above a predetermined selectable minimum. A gate circuit is provided for suppressing any output signal for an initial selected period while the composite electric signal is initially brought to an operating level.

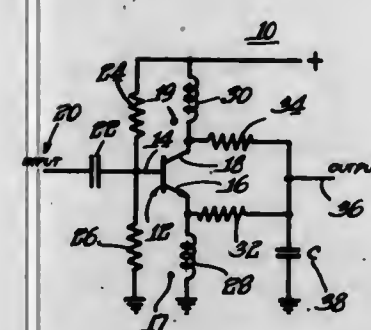
**3,521,084**  
**PHASE DISCRIMINATOR**  
James W. Jones, Redwood City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California  
Filed June 7, 1967, Ser. No. 644,261  
Int. Cl. H03k 9/06  
U.S. Cl. 307-232 15 Claims



A circuit for detecting the phase difference between two input pulses by initiating the generation of two linear ramp signals in time correspondence with the two input pulses and subsequently comparing the levels of the ramps as an indication of the phase difference between the input pulses. Comparison of the ramps is accomplished by sampling the level of one ramp at the instant when the other

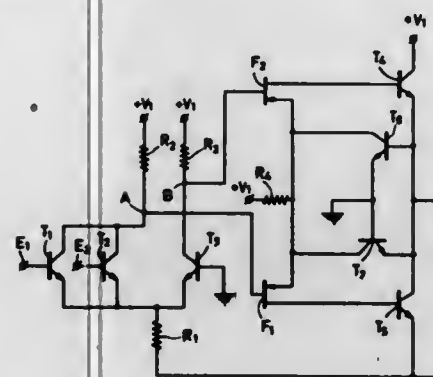
ramp passes through a predetermined threshold level, such as zero. A fast acting-ramp stop circuit stops the first ramp in response to the second ramp passing the threshold such that a hold capacitor may be charged to the level of the first ramp during a relatively long sampling interval.

**3,521,085**  
**RESONANT BRIDGE DEVICE**  
William R. Taylor, Buffalo, N.Y., assignor to Perry Laboratories, Inc., Buffalo, N.Y., a corporation of New York  
Filed Mar. 25, 1968, Ser. No. 715,709  
Int. Cl. H03b 3/04  
U.S. Cl. 307-233 12 Claims



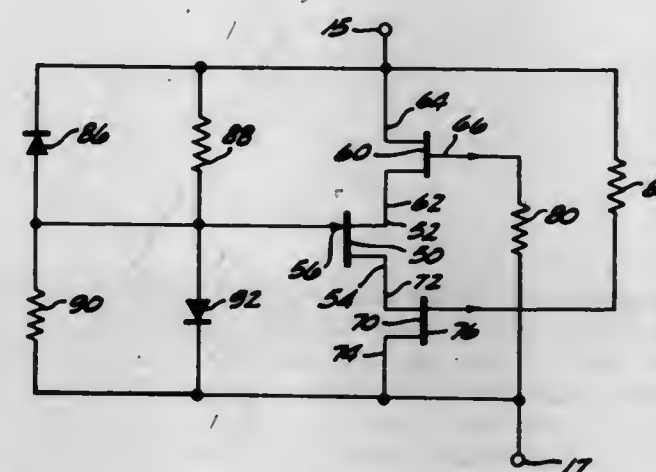
A transistor driven resonant bridge circuit device comprising a pair of coils having similar impedance versus frequency characteristics; a first one of the coils connected to the emitter and a second one of the coils connected to the collector of the transistor, the base of the transistor comprising the input of the bridge circuit; and a pair of resistors interconnected at one end thereof to form the output of the circuit and connected at the other end thereof to the emitter and collector, respectively, of the transistor driver. The bridge circuit in one form, with the aid of detection circuitry coupled thereto, may be used as a contactless decoder and in another form as a magnetic sensor circuit.

**3,521,086**  
**CIRCUIT ARRANGEMENT FOR LIMITING THE OUTPUT VOLTAGE OF A LOGICAL CIRCUIT**  
Arie Slob, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware  
Filed June 5, 1967, Ser. No. 643,552  
Claims priority, application Netherlands, June 29, 1966, 6609004  
Int. Cl. H03k 5/08  
U.S. Cl. 307-237 2 Claims



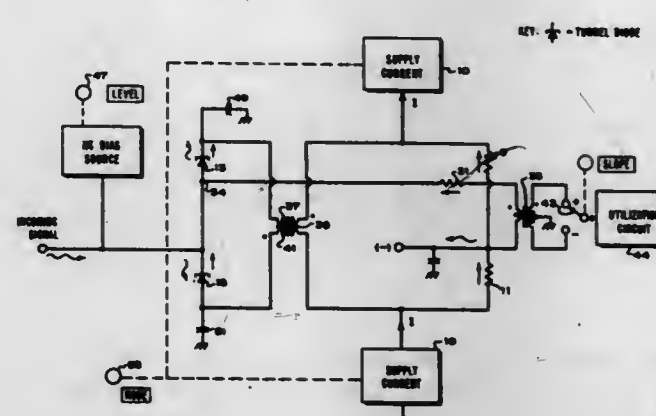
A circuit arrangement for maintaining the output signal of a logic circuit at a non-varying value with respect to a voltage reference point in which the input logic element branches are connected to an output point through an amplifier. The output point is maintained at the non-varying value by being connected to the reference point

**3,521,087**  
**CURRENT LIMITING CIRCUIT**  
Carl A. Lombardi, Glendale, Calif., assignor to Spacelabs, Inc., Van Nuys, Calif., a corporation of California  
Filed May 16, 1969, Ser. No. 825,173  
Int. Cl. H03k 5/08  
U.S. Cl. 307-237 6 Claims



A current limiter circuit is described which is useful as a safety feature in medical testing equipment or the like. The circuit comprises series coupled field effect transistors with a center field effect transistor biased into conduction. The other field effect transistors are used to control the voltage drops across the center field effect transistor to bias the conduction thereof in an inverse relation to the voltage drop, whereby the current increase changes the impedance in the circuit which directly affects the conduction of the center field effect transistor.

**3,521,088**  
**OSCILLOSCOPE TRIGGER CIRCUIT**  
William A. Farnbach, Colorado Springs, Colo., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California  
Filed June 29, 1967, Ser. No. 650,026  
Int. Cl. H03k 3/315  
U.S. Cl. 307-286 2 Claims



A pairs of tunnel diodes are connected to receive input and bias signals for operation in bistable, monostable or astable modes to produce trigger pulses at the repetition rate or at a submultiple of the repetition rate of the input signal.

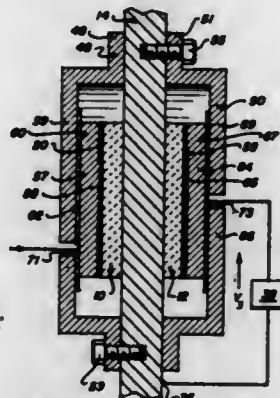


3,521,089

**PIEZOELECTRIC FEEDTHROUGH DEVICE**

Othmar M. Stuetzer, Albuquerque, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission  
 Filed June 5, 1968, Ser. No. 734,689  
 Int. Cl. H01v 7/00; H04r 17/00  
 U.S. Cl. 310-8.2

6 Claims



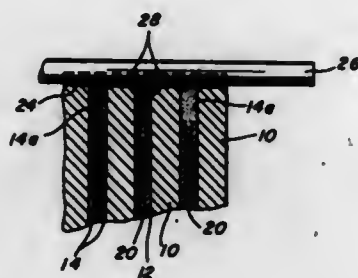
A piezoelectric feedthrough mechanism which employs a pair of thin, axially polarized and axially aligned piezoelectric discs of similar configuration separated by an unbroken wall, each transducer having one of its two electrode faces bonded to one of the two opposite wall surfaces. An alternating voltage is applied across the opposite faces of one transducer to excite it in a dilatational thickness mode. The resultant acoustic vibrations are coupled through the wall and excite corresponding vibrations in the other transducer, also in a thickness mode. A piezoelectric voltage is thereby generated across the opposite faces of the other transducer which may be applied to a load circuit. Optimum power transfer or signal transmission of prescribed frequency and broad bandwidth is accomplished by proper interrelation of signal frequency with transducer and wall thickness and by provision of means for strengthening the mechanical bond between the transducers and the wall.

3,521,090

**PIEZOELECTRIC TRANSDUCER WITH ELECTRICALLY CONDUCTIVE MOUNTING RODS**

Wesley L. Angeloff, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy  
 Filed Mar. 15, 1968, Ser. No. 713,409  
 Int. Cl. H01v 7/00  
 U.S. Cl. 310-9.4

3 Claims



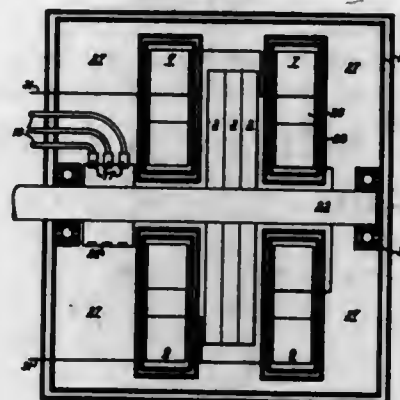
Piezoelectric discs of ceramic are metal coated on both sides, a recess in each coating being left open to the periphery of the discs. Discs are all stacked with faces of like polarity together and with corresponding disc aligned. Two grooves are cut along the side of the stack, each groove being in the center of aligned recesses to expose in each groove the edge of the metal of all coatings of one polarity. A metal rod is laid in each of the grooves and is soldered in place. The rods then constitute the electrical terminals of the transducers.

3,521,091

**SUPERCONDUCTING APPARATUS**

Edward Halas, 125 Saxon St., Woodbridge, Va. 22191  
 Filed Oct. 1, 1965, Ser. No. 492,110  
 Int. Cl. H02k  
 U.S. Cl. 310-10

22 Claims



A rotating electric power machine with an isolated superconducting field coil constructed of foil strips which are damped by placing two strips in a side-by-side relationship and connecting the end of one strip to the beginning of the other, or by coating the strips with a further conductor such as copper. The armature structure is maintained at a cryogenic temperature above its superconductive transition temperature and is also of foil strip construction to improve cooling and resist centrifugal crushing and cut-through. The damping structure maintains direct current superconducting fields in the superconducting state against reacting fields from the adjacent alternating current windings.

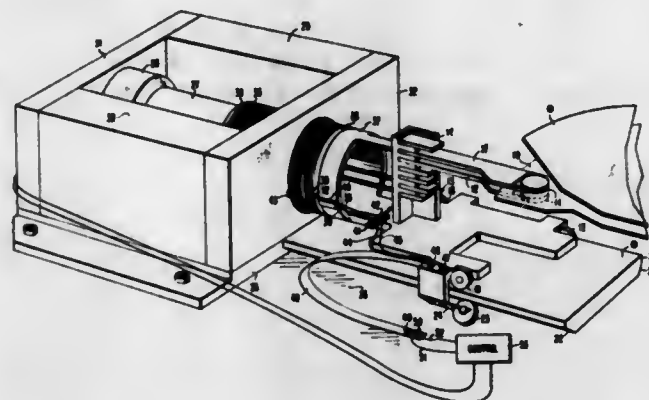
3,521,092

**DATA STORAGE EXTENDED STROKE ACTUATOR**

Clement H. Kalthoff, Boulder, Colo., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
 Filed July 10, 1968, Ser. No. 743,709  
 Int. Cl. H02k 41/02

U.S. Cl. 310-13

4 Claims



An actuator for inserting transducers into and retracting them out of engagement with a recording medium at relatively low speed and for adjusting the lateral position of the transducers so engaged at relatively high speed. The actuator comprises a D.C. linear electric motor having a normal stroke for the high speed adjustment and an extended stroke for the low speed insertion and retraction, and having an emergency eddy current brake to slow retraction. The motor has a cylindrical center pole piece surrounded at one end by an outer pole piece to form a circular flux gap therebetween in which a movable, hollow cylindrical electric drive coil of normal stroke is inserted. A hollow, cylindrical coil extension

made of a lightweight, non-magnetic material is attached to one end of the coil, between the coil and the transducers. Upon retraction, the coil extension is drawn into the flux gap, displacing the coil which coats with leakage flux outside the gap. The coil extension is conductive, comprising a shorted turn. Hence, as the coil extension is drawn into the gap, an eddy current is generated therein tending to brake its velocity.

of circumferentially distributed, axially extending channels near the wall of the rotor shaft. Such channels extend along substantially the entire length of the stack of laminations and are in communication with each other to form together at least one meander-shaped passage running to and fro along the rotor shaft. Coolant introduced at one terminus of such passage flows therethrough to the other terminus thereof and removes heat from the rotor, particularly from the vicinity of the stack of laminations.

3,521,093

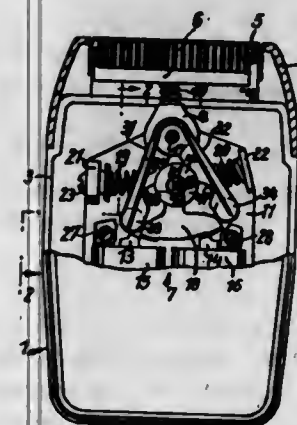
**OSCILLATING MOTOR DRIVING ARRANGEMENT**

Lühr Harms, Oberursel, Taunus, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany  
 Filed July 11, 1969, Ser. No. 841,009  
 Claims priority, application Germany, July 26, 1968, 1,763,728

Int. Cl. H02k 7/02

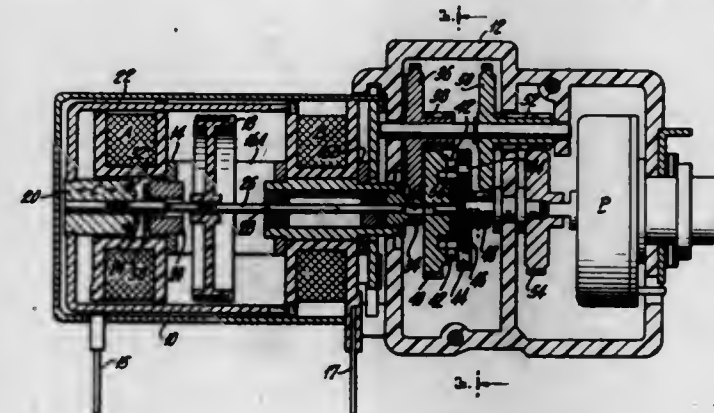
U.S. Cl. 310-19

12 Claims



A driving arrangement for electric hair cutting apparatus having an armature oscillatable about a predetermined axis and operative to drive the cutter of the apparatus at a predetermined frequency of oscillation determined by the mass of the armature. A weight having a predetermined mass is arranged to be selectively coupled to the armature so that the mass of the resulting oscillating assembly which includes the armature and the weight changes the frequency of oscillation.

A motor-potentiometer combination in which the motor drive can be disconnected from the potentiometer when manual operation of the potentiometer is desired. The magnetic core of the rear pole piece assembly is integral and functions as a solenoid plunger and when electrically actuated moves the normally disconnected motor gear train and potentiometer gear train into engagement. The core has an elongated non-magnetic extension. The latter together with the magnetic core and rotor shaft are mounted along the central axis of the housing.



3,521,094

**COOLING DEVICE FOR ELECTRICAL MACHINE ROTORS**

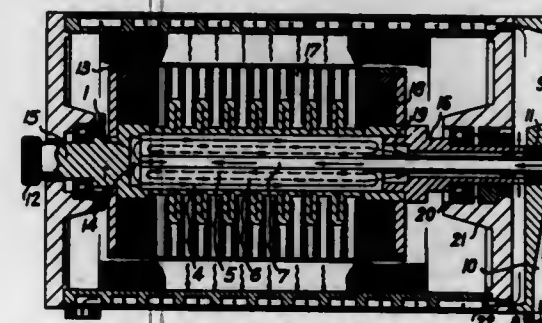
Eugen Renz, Mulheim (Ruhr), Helmut Widder, Essen (Ruhr), and Hubert Rothert, Berlin, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Aug. 26, 1968, Ser. No. 755,179  
 Claims priority, application Germany, Aug. 24, 1967, L 57,283

Int. Cl. H02k 9/19

U.S. Cl. 310-58

6 Claims



Electrical machine in which the rotor has a stack of laminations carried by a hollow rotor shaft and a plurality

3,521,096

**PERMANENT MAGNET DYNAMOELECTRIC MACHINE STRUCTURE**

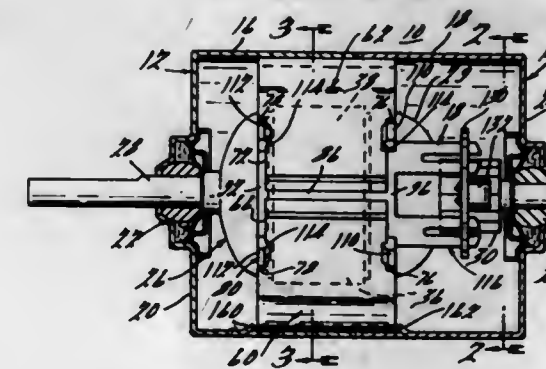
Frank R. Merriam, Plymouth, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 14, 1968, Ser. No. 767,233

Int. Cl. H02k 21/26

U.S. Cl. 310-154

25 Claims



A permanent magnet dynamoelectric machine structure in which a plurality of permanent magnets, preferably of



the flat block type construction, are employed to provide the field for the machine. Ferromagnetic flux return path means are positioned within the machine and engage the permanent magnets for providing a return flux path. The permanent magnets and the return flux path means are held in assembled relationship by a fastening means, preferably in the form of plastic clip members. These plastic clip members may also have resilient axially extending tongues that hold the brush card of the machine in proper position so that the brushes properly engage the commutator of the machine.

3,521,097

**SYNCHRONOUS ELECTRIC MOTOR**

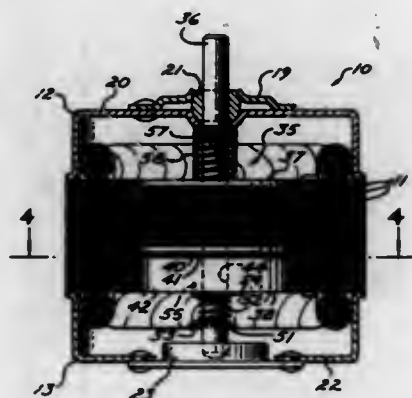
Timothy A. Trinter, Vermilion, Ohio, assignor to The General Industries Company, Elyria, Ohio, a corporation of Ohio

Filed July 17, 1968, Ser. No. 745,583

Int. Cl. H02k 19/00

U.S. Cl. 310-162

7 Claims



An electric motor has a nonsynchronous induction rotor section fixed upon a rotor shaft, there being a permanent magnet, synchronous rotor section rotatably mounted on the shaft adjacent to the induction rotor section. Washers of low friction material are provided between the rotor sections whereby the sections can rotate freely with respect to each other. The synchronous rotor section is connected to the rotor shaft by a spring which limits its rotation relative to the shaft and enables the nonsynchronous section to rotate ahead of the synchronous section from the stall position up to near-synchronous speed whereupon the synchronous section can rotate pass the nonsynchronous section to pull it to synchronous speed.

3,521,098

**RELUCTANCE SYNCHRONOUS MOTOR**

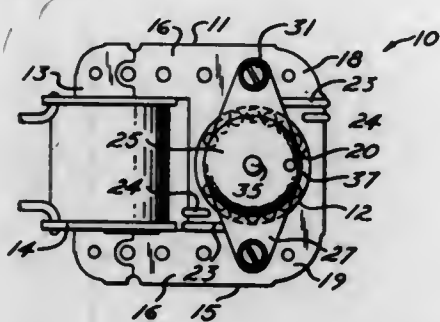
John Fred Jesse, Grafton, Ohio, assignor to The General Industries Company, Elyria, Ohio, a corporation of Ohio

Filed Oct. 16, 1968, Ser. No. 768,001

Int. Cl. H02k 19/00

U.S. Cl. 310-163

6 Claims



A squirrel cage rotor for a synchronous electric motor is provided with oblong shaped laminations between end

plates, and the laminations and plates are connected by annularly disposed conductor bars. Certain of the bars are eliminated adjacent to the flattened sides of the laminations, and the laminations are progressively skewed in an axial direction.

3,521,099

**COMMUTATORLESS ROTARY ELECTRIC MACHINE**

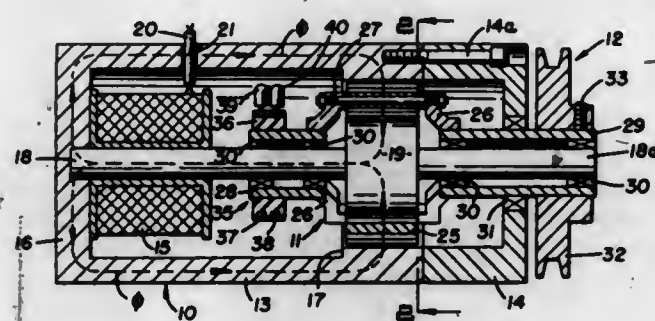
Harry S. Jewusiak, 211 Collins St., Hartford, Conn. 06105

Continuation-in-part of application Ser. No. 604,867, Dec. 27, 1966. This application Dec. 11, 1968, Ser. No. 790,498

Int. Cl. H02k 17/42

U.S. Cl. 310-168

9 Claims



The rotary electric machines of this invention are of the type having a rotor winding and which may operate in either a direct or alternating current circuit as either a generator or motor. Necessity of commutation of the wound rotor is eliminated by utilization of a bipolar stator construction, as defined herein, and a novel rotor assembly revolvable in the magnetic field produced by the dipolar stator structure in cooperation with appropriate field coils magnetically coupled with the stator and energized by a suitable power source. The rotor structure is so designed as to produce a current flow in the same relative direction in all portions of the rotor winding that are effectively coupled with the magnetic field.

3,521,100

**D.C. MOTOR WITH CAST MAIN YOKE AND LAMINATED INTERPOLE YOKE AND METHOD OF FORMING**

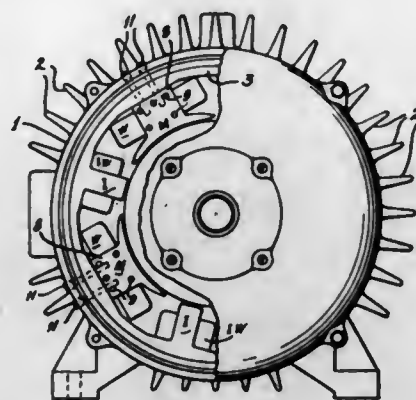
Emil S. Tamm, Fort Smith, Ark., assignor to Baldor Electric Company, Fort Smith, Ark., a corporation of Missouri

Filed Mar. 26, 1969, Ser. No. 810,514

Int. Cl. H02k 1/10, 3/20, 23/24

U.S. Cl. 310-186

7 Claims



Improving the commutation of cast yoke, shunt wound, D.C. motors when operated from a source of alternating current through a silicon-controlled rectifier

system by providing a laminated flux path for interpolar generated flux internally of, but concentric with, the cast yoke, thereby to substantially segregate the intra-yoke portion of the main magnetic field from the intra-yoke portion of the interpole magnetic field.

3,521,101

**DYNAMOELECTRIC MACHINE ARMATURE**

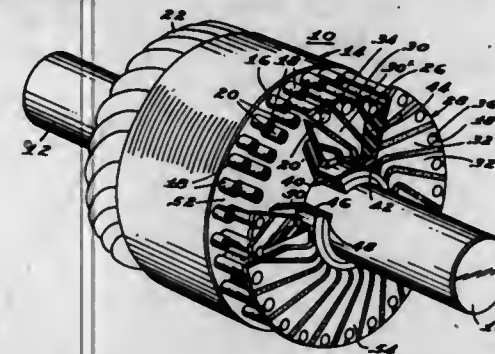
Ram S. Arora, Oak Park, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 30, 1968, Ser. No. 787,665

Int. Cl. H02k

U.S. Cl. 310-233

12 Claims



This disclosure relates to a rotatable dynamoelectric machine armature that comprises a shaft, a stack of a plurality of laminations mounted on the shaft, and a plurality of coil receiving openings formed in the stack of laminations extending the length of the stack and substantially parallel with the axis of the shaft. Each of the coil receiving openings contains at least two conductors which are electrically insulated from each other and which may be radially spaced from each other. The commutator of the armature includes an element having a first conductor receiving means positioned adjacent to and aligned with a first coil receiving opening in the stack of laminations and a second conductor receiving means positioned adjacent to and aligned with the second coil receiving opening in the stack of laminations. The second coil receiving opening is peripherally spaced from the first coil receiving opening, and the first conductor receiving means is electrically connected to a conductor emerging from the first coil receiving opening in the stack of laminations and the second conductor receiving means is electrically connected to a conductor emerging from the second coil receiving opening.

3,521,102

**MOUNTING FOR AN ELECTRICAL CONTACT BRUSH**

Timir Kumar Sen, London, England, assignor to Morganite Carbon Limited, London, England, a corporation of the United Kingdom

Filed Aug. 18, 1969, Ser. No. 850,921

Claims priority, application Great Britain, Aug. 23, 1968, 40,542/68

Int. Cl. H02k 13/00

U.S. Cl. 310-246

17 Claims



An electrical contact brush mounting including a contact member bearing against the brush received in a brush

3,521,103

**FLUID COOLED ELECTRODE WITH INTERNAL BAFFLES FOR A HIGH PRESSURE DISCHARGE LAMP**

Yoshihiko Nakamura, Himeji, Yasho Ohnishi, Kobe, and Yasuhiro Shimizu, Himeji, Japan, assignors to Ushio Electric Inc., Tokyo, Japan

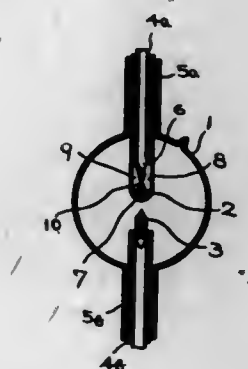
Filed Apr. 8, 1968, Ser. No. 719,497

Claims priority, application Japan, Nov. 10, 1967, 42/71,939; Dec. 19, 1967, 42/80,912

Int. Cl. H01j 1/42, 61/06, 61/84

U.S. Cl. 313-32

3 Claims



A high pressure discharge lamp of the cooled electrode type comprising electrodes, an envelope, sealing portions for said electrodes and said envelope, a cooling liquid inlet passage and a cooling liquid outlet passage formed in the interior of at least one of said electrodes for introducing a cooling liquid into said electrode and discharging same therefrom, and an indented or grooved portion provided in the interior of the forward end portion of said electrode for increasing the area for dissipating heat from the electrode.

3,521,104

**SHADOW MASK RIM HAVING INTEGRAL BLISTERS FOR LOCKING ON LOCATING PINS IN ENVELOPE WALL**

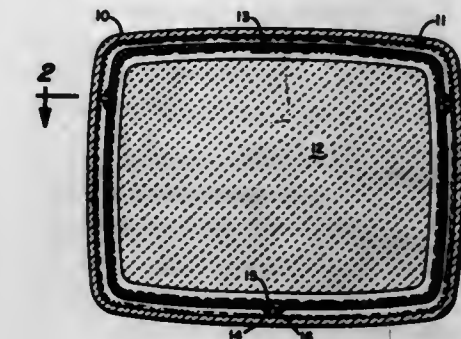
Norman B. Mears, St. Paul, Minn., assignor to Buckbee-Mears Company, St. Paul, Minn., a corporation of Minnesota

Filed Feb. 10, 1967, Ser. No. 615,173

Int. Cl. H01j 29/46, 29/82, 1/96

U.S. Cl. 313-85

2 Claims



An aperture or shadow mask for a colored TV picture tube is provided with a rim with integrally formed detents for latching onto supporting pins embedded in the glass face plate of the tube. The rim is made flexible yet resilient.



ient so that the mask can be unlatched and removed but will return to the same position when it is latched back on.

3,521,105

# IGNITION DEVICE HAVING ELONGATED PLANAR PARALLEL ELECTRODES BETWEEN WHICH A PULSE OF IONIZABLE GAS IS PASSED

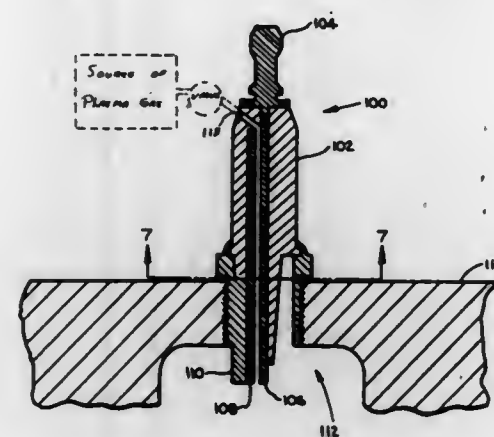
Harry E. Frank, Chestnut Hill, Mass.  
(123 Moody St., Waltham, Mass. 02154)

Continuation-in-part of application Ser. No. 649,232, June 27, 1967. This application Sept. 25, 1967, Ser. No. 670,239

Int. Cl. H01t 13/20, 13/50

U.S. Cl. 313—120

3 Claims



An improved spark plug has a pair of spaced, planar, substantially parallel, opposing electrodes of substantial surface area. An auxiliary electrode located between the first pair of electrodes can be utilized to initiate a spark between them.

In another version of the invention a spark-generated plasma is injected into the combustion chamber of an internal combustion engine to ignite the charge in the chamber.

3,521,106

# PLASMA BURNER WITH ADJUSTABLE CONstriction STRUCTURE IN GAS FLOW PATH

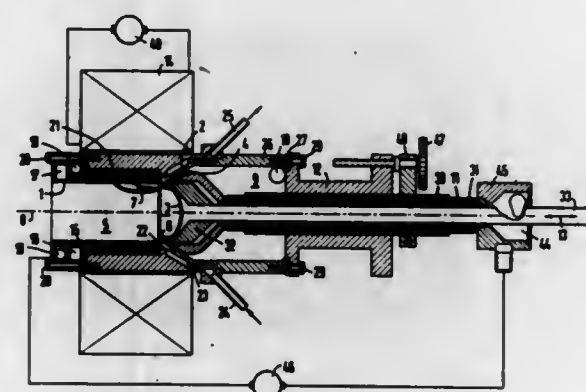
Gunther Hees, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Continuation of application Ser. No. 541,300, Apr. 8, 1966. This application May 28, 1969, Ser. No. 831,262  
Claims priority, application Germany, Apr. 12, 1965, S 96,490

Int. Cl. H01j 1/50, 1/88, 17/26

U.S. Cl. 313—146

4 Claims



Plasma burner includes means for rotating an arc between a pair of spaced members one of which comprises a cylindrical electrode and a conical extension

thereof and the other member comprising a conical axially adjustable central electrode fitted in the extension and defining therewith a conical annular gap forming constriction in the path of gas supplied to the arc. Also provided are adjusting means for varying the width of the gap and supplying gas duct means extending in a direction tangential to the rotational direction of the arc.

3,521,107

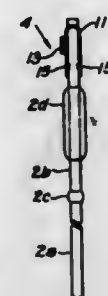
# FLASHTUBE GETTER ELECTRODE

Sanford J. Zemel, Mayfield Heights, and Paul B. Davis, South Euclid, Ohio, assignors to General Electric Company, a corporation of New York  
Filed Aug. 26, 1968, Ser. No. 755,243

Int. Cl. H01j 19/70

U.S. Cl. 313—178

5 Claims



A getter flag for use in a flashtube comprises a metal strip folded over into a U-shape and containing barium getter material in a cup-like depression stamped into one side of the strip. The tungsten inlead projects through a hole punched in the closed end of the U, and the strip is secured to the inlead by spot welds at the open end. It may be used as anode in repetitive flashtubes, and also as cathode in flashtubes for intermittent photographic use.

3,521,108

# METALLIC VAPOR ARC-LAMP HAVING HIGH INTENSITY SUN-LIKE EMISSION

Rodney E. Hanneman, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York  
Filed July 17, 1968, Ser. No. 745,502

Int. Cl. H01j 17/20, 61/22

U.S. Cl. 313—184

14 Claims



An electric arc-lamp includes a pair of solid arc-electrodes within an evacuable, light-transmissive ceramic envelope which also contains a charge which is basically

a four constituent system including sodium, thallium, mercury, and cadmium. In a preferred embodiment, all four constituents are present. Under certain circumstances, fewer constituents may be present. In all circumstances, an excess of each constituent present in the charge remains in unvaporized form within the lamp envelope during operation.

3,521,109

# TUBULAR HALOGEN CYCLE INCANDESCENT LAMPS

James F. English, Lakewood, and David H. Green, Wake Hill, Ohio, assignors to General Electric Company, a corporation of New York

Filed Apr. 18, 1968, Ser. No. 722,241

Int. Cl. H01j 61/26

U.S. Cl. 313—222

5 Claims



In a halogen cycle incandescent lamp comprising an elongated tubular envelope and an axial filament, and containing an inert fill gas and a halogen, and subject to thermal diffusion separation of the halogen from the fill gas when the lamp is operated vertically, such separation is prevented or effectively minimized by selecting a halogen compound and a fill gas which have approximately the same molecular weight.

3,521,110

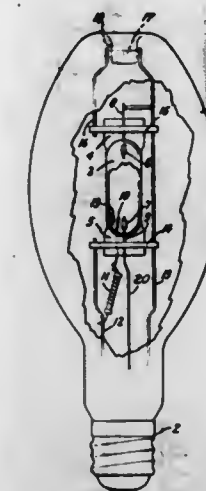
# MERCURY-METALLIC HALIDE VAPOR LAMP WITH REGENERATIVE CYCLE

Peter D. Johnson, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
Filed Sept. 25, 1967, Ser. No. 670,096

Int. Cl. H01j 17/20, 61/18

U.S. Cl. 313—227

6 Claims



An improved mercury-metallic halide arc discharge lamp in which sputtering and evaporation of electrode material and deposition thereof upon the inner bulb wall, with resulting bulb wall darkening and reduced electrode life, is counteracted by addition, to the vaporizable charge within the bulb, of a quantity of the halide of a metal having a principal valence of at least two. Dissociation of this halide greatly enhances existence of a regenerative halide transport cycle and maintains electrodes intact and the bulb wall clean.

3,521,111

# DISCHARGE LAMP HAVING A FILL INCLUDING MERCURY AND GALLIUM IODIDE

Michihiro Tsuchihashi, Tatsuo Mikami, and Noboru Kondo, Kamakura, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan

Continuation of application Ser. No. 581,553, Sept. 23, 1966. This application Oct. 10, 1968, Ser. No. 788,667  
Claims priority, application Japan, Oct. 1, 1965, 40/60,007

Int. Cl. H01j 61/18

U.S. Cl. 313—229

2 Claims



A discharge lamp particularly suitable for use with blue-printing processes containing a quantity of mercury and gallium iodide in an amount of from 0.005 to 0.5 mg. for each cubic centimeter of the internal volume of its envelope for efficiently emitting the line spectra of 403 and 417 mμ resulting from gallium. Further, in order to ensure even printing the gallium iodide is used in an amount of up to 15% based upon the weight of the mercury charge in the lamp.

3,521,112

# TUBULAR SUPPORT FOR TUBULAR LAMPS

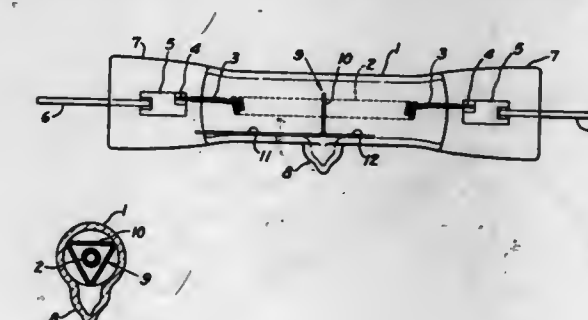
La Verne E. Walsh, South Euclid, and Gerald W. Keimer, Eastlake, Ohio, assignors to General Electric Company, a corporation of New York

Filed July 2, 1968, Ser. No. 742,034

Int. Cl. H01j 1/96, 19/50

U.S. Cl. 313—274

8 Claims



In a tubular incandescent lamp, a filament support of wire is formed with a transverse portion which loosely encircles the filament and also engages the envelope wall, for example a triangle or a spiral, and leg portions which extend in opposite directions from the transverse portion in longitudinal alignment with each other and longitudinally of the envelope. The support may be first inserted into the envelope, and the filament assembly may then be threaded into the envelope and through the support.

3,521,113

# ELECTRON BEAM APPARATUS INCORPORATING A HOLLOW PYRAMIDAL INDIRECTLY HEATED CATHODE MEMBER

Alec N. Broers, Purdy Station, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 552,190,

May 23, 1966. This application Feb. 19, 1969, Ser. No. 800,439

Int. Cl. H01j 1/02

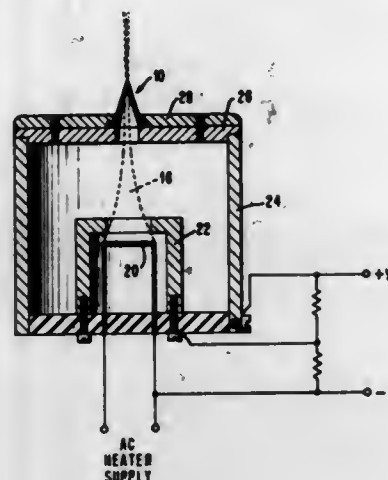
U.S. Cl. 313—309

6 Claims

Electron beam apparatus for producing a high intensity very stable electron beam for use in certain electron beam



devices. The apparatus includes a hollow pyramidal refractory material cathode adapted to produce a very high intensity electron beam from the exterior apex thereof. A holder is provided for said cathode together with means



for effecting electron bombardment at the interior apex thereof and electron optic means for forming an electron beam from the electrons emitted from the exterior apex of said cathode structure.

3,521,114

## AUTOMATIC STARTING ARC LAMP

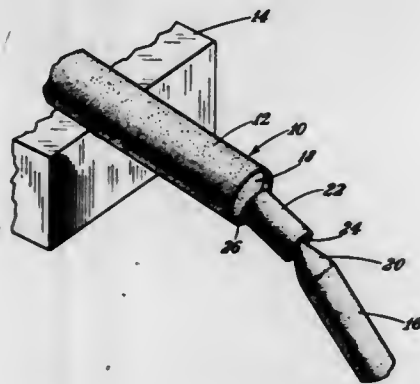
Maurice J. Scharf, Fostoria, Ohio, assignor to Union Carbide Corporation, New York, N.Y., a corporation of New York

Filed Oct. 1, 1968, Ser. No. 764,103

Int. Cl. H05b 31/30

U.S. Cl. 314-34

7 Claims



Means are provided for improving initial arc striking in an arc light source. An annular refractory tube is positioned between electrodes and in contact therewith. When current is caused to flow through the tube an arc is struck between electrodes and the tube is automatically ejected. With the use of such a tube, no movement of the electrodes is required to strike an arc, thus eliminating the need for manual manipulation by an operator.

3,521,115

## HELIX COUPLED IMPEDANCE TRANSFORMER AND TUBES USING SAME

Hunter L. McDowell, Chatham, N.J., assignor to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey

Filed Dec. 7, 1967, Ser. No. 688,929

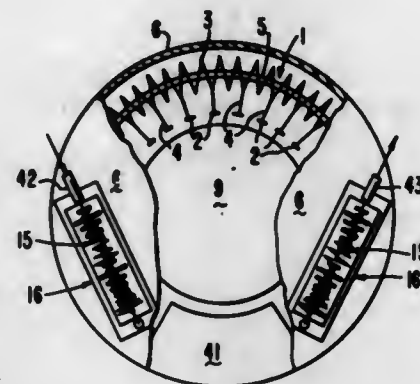
Int. Cl. H01j 25/36; H03h 7/38

U.S. Cl. 315-3.5

9 Claims

A helix coupled periodic circuit broadband impedance transformer is disclosed which includes an array of conductive elements such as parallel conductive bars, with

successive ones of the bars being interconnected by a helical structure and disposed over a ground plane such that the impedance transformer circuit forms a two wire line. The bars form periodic shunt capacitive elements, whereas the helical turns between successive bars form periodic series inductance in one of the lines of the circuit. The transformers are dimensioned such that the ratio



of periodic inductance to periodic capacitance changes widely from one end of the transformer circuit to the other in a continuous manner. On the other hand, the product of period inductance times periodic capacitance is caused to remain substantially constant throughout the transformer circuit such that the high frequency cutoff for the transformer remains relatively constant.

3,521,116

## SINGLE HIGH-FREQUENCY INTERACTION GAP KLYSTRON WITH MEANS FOR INCREASING THE CHARACTERISTIC IMPEDANCE

Friedrich Potzl, Hamburg, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 30, 1968, Ser. No. 701,755

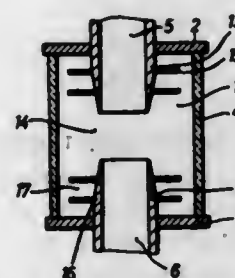
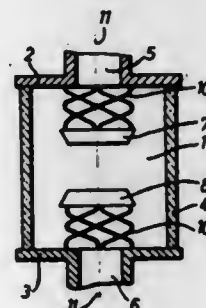
Claims priority, application Germany, Jan. 31, 1967,

P 41,315

Int. Cl. H01j 23/20, 25/02

U.S. Cl. 315-5

8 Claims



Single high-frequency interaction gap klystron formed by an inner evacuated cavity at least partially surrounded by an outer chamber with drift tubes which extend into

the inner cavity and define a gap therebetween. Means are provided in the cavity for increasing the characteristic impedance which substantially exclusively store magnetic energy and increase induction without substantially contributing to the capacitance of the cavity electrodes.

3,521,117

## FOCUSING DEVICE IN A MULTI-CAVITY KLYSTRON

Wolfgang Schmidt, Hamburg-Othmarschen, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed May 13, 1968, Ser. No. 728,571

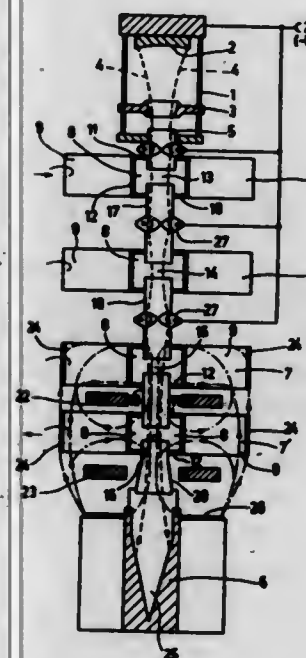
Claims priority, application Germany, May 15, 1967,

1,541,961

Int. Cl. H01j 23/18, 23/20

U.S. Cl. 315-5.34

4 Claims



A multi-cavity klystron in which the cavities are connected by drift spaces with those adjacent the electron gun being electrostatically focused while those adjoining the collector are magnetically focused.

3,521,118

## DIRECT-VIEWING HALF-TONE STORAGE TUBE

Hisao Takayama, Kozo Natsume, Shigeru Minakami, and Mitsuharu Hoshi, Tokyo, Japan, assignors to Nippon Avionics Company Limited, Tokyo, Japan, a corporation of Japan

Filed Mar. 15, 1965, Ser. No. 439,656

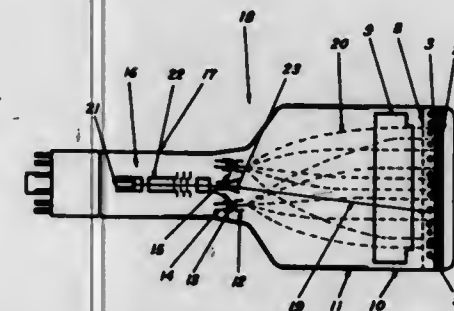
Claims priority, application Japan, Mar. 16, 1964,

39/14,324; Dec. 22, 1964, 39/80,625

Int. Cl. H01j 9/12

U.S. Cl. 315-12

1 Claim



1. A direct-viewing half-tone storage tube comprising: a storage mesh having a storage layer thereon, said

storage layer having an overall thickness of between 10 and 40μ and being comprised of a layer of calcium fluoride and a layer of magnesium fluoride having a thickness of about 2-3μ applied over said layer of calcium fluoride;

a charging gun having grid and cathode electrodes; the accelerating voltage of said charging gun being maintained at approximately 50 volts or below with respect to the cathode electrode of said charging gun; and

the grid voltage of said charging gun being maintained at -10 volts or above with respect to the cathode electrode of said charging gun.

3,521,119

## RF EXCITATION PUMPING OF GAS LASERS BY MEANS OF A WAVE GUIDE AND COUPLING COILS

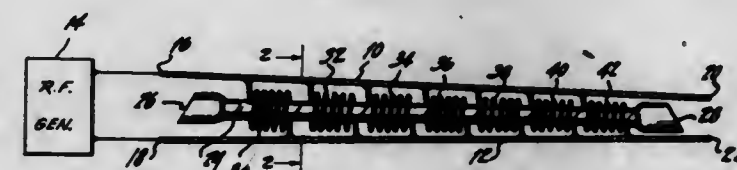
Samir A. Ahmed, New York, N.Y., Thomas J. Faith, Jr., Trenton, N.J., and Graham W. Hoffman, Knoxville, Tenn., assignors to RCA Corporation, a corporation of Delaware

Filed Jan. 10, 1968, Ser. No. 696,812

Int. Cl. H01j 7/44; H01s 3/09; H01b 41/23

U.S. Cl. 315-39

3 Claims



There is disclosed highly efficient apparatus for exciting a high energy density, highly ionized gas discharge with RF energy, which is particularly useful as pump means for an ion gas laser. The apparatus comprises a tapped transmission line, which is preferably a two-plate transmission line, having RF energy applied to the proximate ends thereof. Each of a plurality of coils oriented in colinear serial relationship surround a gas tube which is located between the plates with its axis substantially parallel to the direction of propagation of the RF energy down the transmission line. These coils, which have opposite ends thereof connected respectively to the first and second plates, are distinguished by the fact that the maximum diameter of any one of the plurality of coils is less than the minimum diameter of any other of the plurality of coils which is located closer to the proximate ends of the plates than that one coil and the minimum diameter of any one of the plurality of coils is more than the maximum diameter of any other of the plurality of coils which is located to the distal ends of the plates than that one coil.

3,521,120

## HIGH FREQUENCY ELECTRODELESS FLUORESCENT LAMP ASSEMBLY

John M. Anderson, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 20, 1968, Ser. No. 714,506

Int. Cl. H01j 11/02, 65/04; H05b 41/24

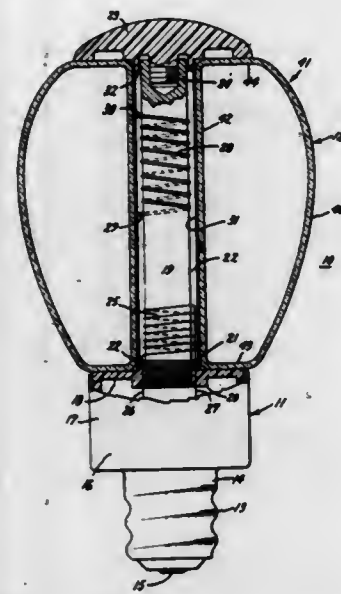
U.S. Cl. 315-57

9 Claims

A fluorescent lamp adapted to fit into a standard incandescent lamp fixture includes an integral member having a contact base, a self-contained solid-state radio-frequency oscillator and a cylindrical, rod-shaped ferrite core with coupling means between core and oscillator. A removable lamp envelope includes an annular, hermetically-sealed bulb adapted to rest in place surrounding the



ferrite core and to be activated thereby. Bulb contains an ionizable medium and a luminescent phosphor. Means



are provided to secure the bulb upon the core in fixed relationship during operation.

3,521,121

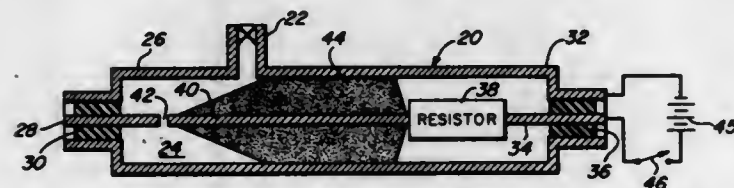
**OXYGEN CONTAINING, SUPERATMOSPHERIC ENVELOPE USED AS A PULSE GENERATOR**  
Joseph M. Prond, Jr., Wellesley, Mass., assignor to Ikor Incorporated, Burlington, Mass., a corporation of Massachusetts

Filed July 5, 1968, Ser. No. 742,691

Int. Cl. H03b 11/02

U.S. Cl. 315—58

5 Claims



A pulse generator, particularly useful for synthetic generation of microwaves, in the form of a superatmospheric air-filled elongated tube having coaxial conductors. The outer conductor is insulated from the inner conductor, and the latter includes a small, air-filled gap of less than 4 mil inches. The central conductor facing one end of the gap is a short (ca. 1 inch) charging line connected in series to a current limiting high resistive impedance. Due to the high pressure, short space gap, the pulses produced can exceed several kv. pulse amplitude when the device is powered from a high voltage source applied across the outer conductor and the current limiting impedance.

3,521,122

**INCANDESCENT-FLUORESCENT LAMP**  
Sandford Christopher Peek, Jr., Ipswich, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed July 3, 1967, Ser. No. 651,009

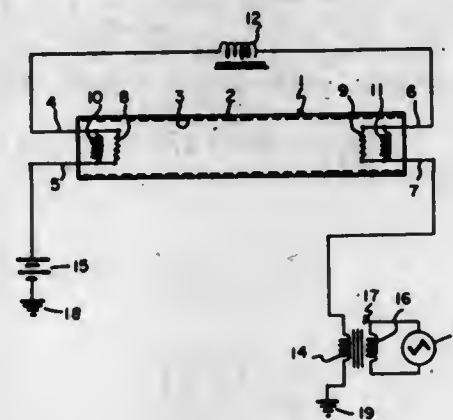
Int. Cl. H05b 31/06; H01J 61/96

U.S. Cl. 315—99

4 Claims

A combined fluorescent and incandescent lamp for use in automotive lighting is described, together with a circuit for operating it. At ordinary temperatures the light is fluorescent supplemented by some incandescent, but at

low temperatures where the vapor pressure in the fluorescent lamp is low, the lighting is mostly incandescent. The lamp has two filaments at each end, one filament being coated with alkaline earth oxides for good electron emission, the other being uncoated and designed for operation at a higher temperature to enhance its incandescent light output. The lamp is preferably operated at a high frequency, for example, 20 kilocycles for the electric discharge in its fluorescent portion, and from a direct current source such as a battery or generator for its



filaments. A choke coil connects an end of each filament to an end of the other for such D.C. heating, the coil preventing passage of the alternating current through itself, thus keeping it out of the filament circuits. A.C. heating of the filaments can be used if a suitable source is available, but since in an automobile the alternating current generally comes from an oscillator operating from the usual 12-volt battery, so it is preferable to make the oscillator as small as possible and operate the filaments directly from the battery.

3,521,123

**INTERFERENCE SUPPRESSING CONTROL CIRCUIT FOR SWITCHING A SILICON CONTROLLED RECTIFIER**

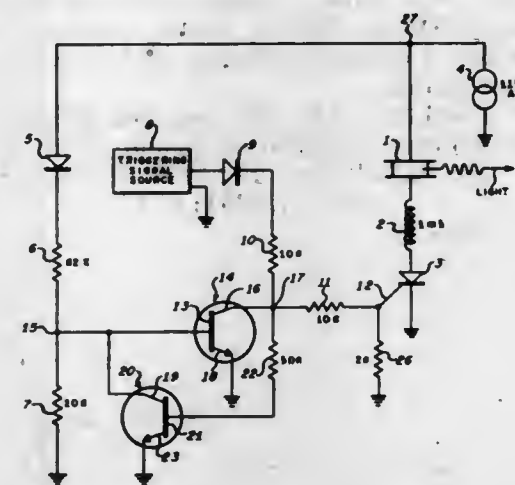
James B. Armstrong, Phoenix, Ariz., and Lawrence T. Fisher, Las Cruces, N. Mex., assignors to Sperry Rand Corporation, a corporation of Delaware

Filed May 16, 1968, Ser. No. 729,772

Int. Cl. H05b 37/02

U.S. Cl. 315—194

4 Claims



A silicon controlled rectifier circuit for switching an electroluminescent lamp without generating objectionable radio frequency interference. A pair of transistors are reversely connected across the base and collector electrodes of each other so that the conduction of either transistor prevents conduction of the other transistor. One

junction point of the connected transistors receives the alternating voltage which is applied to the anode and cathode of the rectifier; the other junction point receives a rectifier firing signal and is coupled to the rectifier gate. The transistors are operated so that the same one always conducts to clamp the aforementioned first junction point to ground except when the firing signal precedes the attainment of a certain voltage during the rise of the positive half cycle of the alternating voltage.

3,521,124

**APPARATUS FOR PRODUCING AUTOMATIC LAMP INTENSITY CONTROL VOLTAGES**  
Robert Eugene Bogner, London, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain

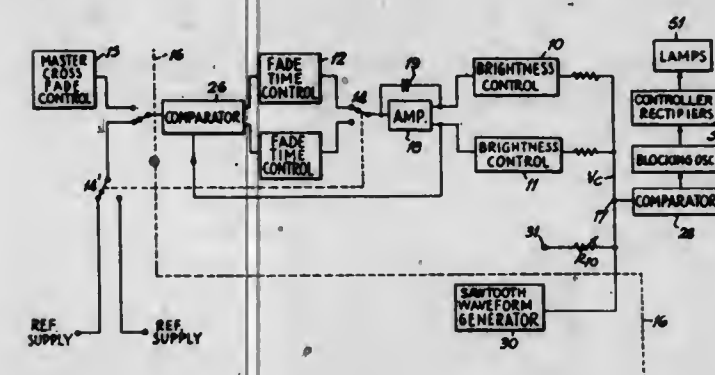
Filed Sept. 4, 1968, Ser. No. 757,263

Claims priority, application Great Britain, Sept. 15, 1967, 42,115/67

Int. Cl. H05b 37/00, 39/00, 41/00

U.S. Cl. 315—312

12 Claims



Apparatus is described for providing a control voltage which can be changed at a predetermined rate to a predetermined value. The apparatus is useful for controlling stage or studio lighting when the control voltage controls the intensity of illumination of lamps. Hence fading from one preset intensity to another can be achieved. The apparatus may comprise an integrator coupled to an inverter, the outputs of the integrator and the inverter passing by way of variable resistors before being added to provide the control voltage. The variable resistors can be set to give the value of the control voltage and hence the intensity of illumination. Further variable resistors at the input of the integrator control the rate of integration and thus the fade time. A way of controlling the lamps using the control voltage is described.

3,521,125

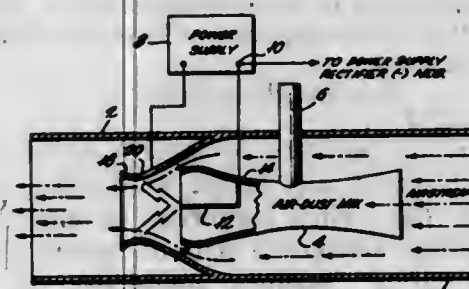
**ELECTROSTATIC CROP DUSTING APPARATUS**  
Robert H. Nelson, 4500 W. 2nd Ave., Amarillo, Tex. 79106

Filed Jan. 16, 1967, Ser. No. 609,589

Int. Cl. B05b 5/00, 5/04

U.S. Cl. 317—3

13 Claims



The patent specification and drawings disclose an electrostatic charging apparatus for placing a charge on

crop dusting material. Dusting material is fed into an ionization chamber by an air stream flow where it is ionized by the charge across a pair of high voltage electrodes, which are made plus and minus with respect to ground. By providing a charge across the positive and negative electrodes, the need for an apparatus ground is eliminated. In an electrostatic charging apparatus for placing a charge of crop dusting material, the dusting material is fed into an ionization chamber by air stream flow where the air is ionized by the voltage across a pair of high voltage electrodes. A power supply provides a high positive voltage to one of the electrodes with respect to ground and a high negative voltage to the other electrodes with respect to ground. The positive electrode surrounds the negative electrode and the air stream flows over the positive electrode at a high rate shielding it from the crop dusting material introduced into the chamber. The surface of the positive electrode is curved in the form of an air foil to increase the velocity of the air stream flowing over the positive electrode.

3,521,126

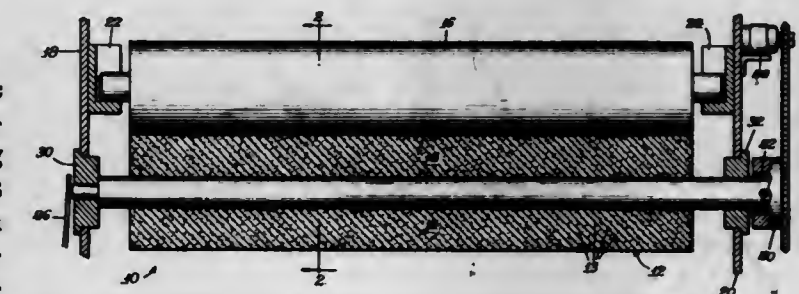
**ROLLER CHARGING APPARATUS**  
Daniel B. Granzow, Arlington Heights, and Karl K. Klessig, Hoffman Estates, Ill., and Richard J. Pleitt, Millington, Pa., assignors to Addressograph-Multigraph Corporation, Mount Prospect, Ind., a corporation of Delaware

Filed July 28, 1967, Ser. No. 656,820

Int. Cl. H01b 1/00

U.S. Cl. 317—3

2 Claims



Driven roller electrodes connected to a DC power supply simultaneously move and charge a photoelectrostatic member. One roller is formed of a ceramic material having metal particles dispersed therein. This material comprises a major portion of aluminum oxide or beryllium oxide and a minor portion of a reducible metal ion containing additive, such as iron oxide, tin oxide, copper oxide, zinc oxide, manganese oxide or silicon carbide. Reduction of the additive provides the metal particles which are present in an amount sufficient to render the material semi-conductive so that its resistivity is in the range of from about  $10^7$ – $10^9$  ohm-centimeters as measured over an applied voltage within the range of from 2–8 kilovolts.

3,521,127

**REMOTELY OPERATED CIRCUIT BREAKER**  
John Richard Shand, Easton, Md., assignor to Airpax Electronics, Incorporated, Cambridge, Md., a corporation of Maryland

Filed Oct. 13, 1967, Ser. No. 675,177

Int. Cl. H02h 1/00

U.S. Cl. 317—54

2 Claims

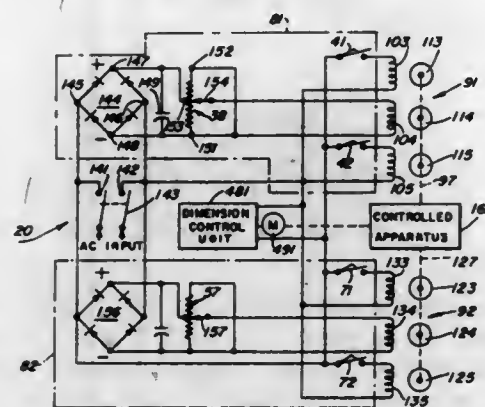
A circuit breaker including a remote switch operating a silicon-controlled rectifier coupled in series with a circuit breaker reset coil and a switch mechanically coupled to the circuit breaker so as to be open when the circuit breaker is closed and to be closed when the circuit breaker is open. During operation, with the circuit breaker open, manual or automatic depression of the remote







to energize that motor to rotate in a given direction depending upon the direction of movement of the main control member away from its home position about one particular axis. Each dimension control unit further includes a rheostat speed control device that is electrically con-



nected to the same motor and varies the speed of the motor in accordance with the amplitude of pivotal movement of the main control member about the same axis. The motors in some embodiments are of special construction, being provided with electrically energized dynamic brakes to limit the rotational speeds of the motors. Other embodiments use conventional electric motors, the basic electrical construction for the dimension control units being essentially the same in all embodiments. Additional dimension control units controlled from the same main control member are added in accordance with the requirements of the controlled apparatus.

3,521,137

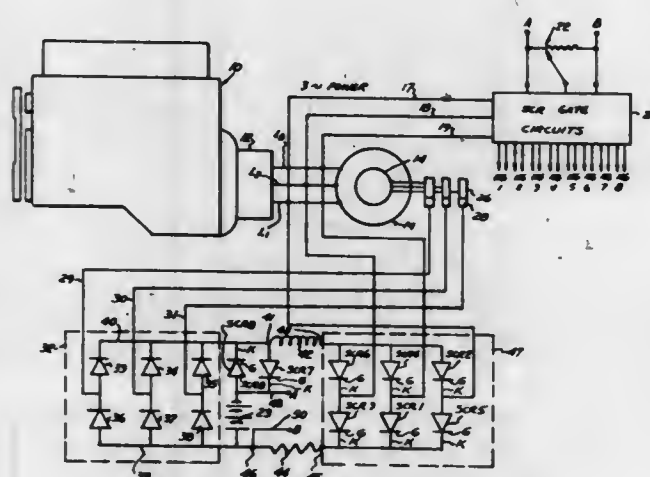
### CONTROL CIRCUIT FOR HYBRID PRIME MOVER ELECTRIC MOTOR SYSTEM

Harry Van Sweden, Roseville, Mich., assignor to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia

Filed Nov. 3, 1967, Ser. No. 680,399  
Int. Cl. H02p 5/28

U.S. Cl. 318-197

7 Claims



A prime mover supplies alternating current for driving a three-phase, wound rotor induction motor, while an additional source of power for the system is supplied by storage batteries which are used only for short intervals of time when increased horsepower is required. The battery power is automatically placed in the circuit when needed and the batteries are automatically recharged by means of a rotor circuit.

### 3,521,138 THERMAL STARTING DEVICE FOR A SINGLE-PHASE ASYNCHRONOUS MOTOR

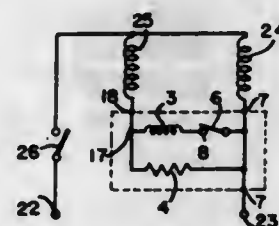
Arne F. Enemark, Sønderborg, and Holger V. Vind and Andreas T. Schack, Nordborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark

Filed Apr. 2, 1968, Ser. No. 718,147  
Claims priority, application Germany, Apr. 5, 1967,  
D 52,708

Int. Cl. H02p 1/44

U.S. Cl. 318-221

11 Claims



A thermally-responsive starting device for single phase asynchronous motors having a main winding and a starting winding. The device comprises a bimetallic switch connected in use in series with the starting winding for disconnecting it after a predetermined time. A first heat source opens the switch and comprises a tubular body circumferentially of the switch with a heating coil around thereof connected across the windings of the motor. A second heat source likewise connected across the windings of the motor holds the switch open when opened in response to heating thereof from the first heat-source.

3,521,139

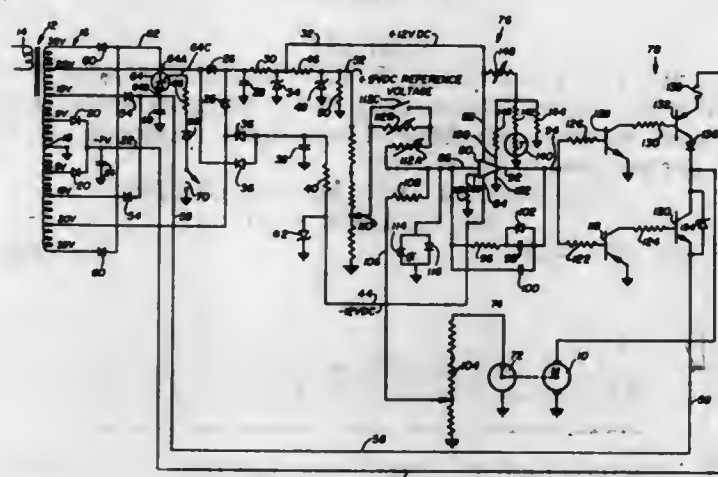
### VELOCITY SERVO CIRCUIT

Graham L. Kendall, Tulsa, Okla., assignor to Midwestern Instruments, Inc., a division of Telex, Inc., Tulsa, Okla., a corporation of Delaware

Filed July 14, 1967, Ser. No. 653,477  
Int. Cl. H02p 5/06

U.S. Cl. 318-302

2 Claims



This invention relates to a variable speed velocity servo circuit. The invention is directed to a circuit for controlling the speed of a rotary driving device, such as a paper drive in an oscillograph, wherein improved and more accurate speed control is obtained. A direct current motor has connected to it a tachometer producing a voltage output proportional to the motor speed. An inverting D.C. operational amplifier is provided and a D.C. power amplifier, the output of the power amplifier being connected to provide D.C. power for operation of the motor. The output of the inverting operational amplifier drives the power amplifier. A selectable voltage means is provided producing a selectable reference voltage output, such selectable voltage means serving as a speed selector means. The reference voltage output is connected to the operational amplifier input and the output of the tachometer is also connected to the operational amplifier input so that

the voltage applied to the operational amplifier is a function of the combined selected reference voltage and the tachometer output voltage. A negative feed back circuit from the operational amplifier output to the operational amplifier input eliminates oscillations which tend to be set up in the amplifying circuit. In the preferred embodiment the power amplifier includes a reverse drive amplifier means and a forward drive amplifier means in series, each of the amplifier means being fed by the operational amplifier output whereby when the speed control is changed from a high to low speed, a reverse drive voltage is supplied to the motor causing rapid deceleration to the newly selected speed. In addition, the preferred embodiment includes an improved power supply including means of selecting either a high or a low voltage output whereby the speed range of the motor is doubled.

3,521,140

### DC MOTOR CONTROL SYSTEM

Kazutsugu Kobayashi, Kadoma-shi, and Hisayuki Matsumoto, Moriguchi-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan

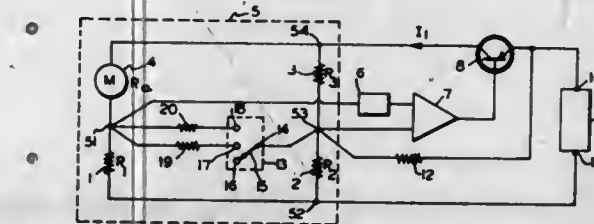
Filed Nov. 3, 1967, Ser. No. 680,408

Claims priority, application Japan, Nov. 9, 1966,  
41/74,213, 41/74,215

Int. Cl. H02p 7/28

U.S. Cl. 318-331

4 Claims



A D-C motor control system comprising a bridge circuit, a reference voltage means, an amplifying means, a power supply, a power control transistor, a switch means and resistor circuits.

The amplifying means is connected to said bridge circuit and controls the electric conductivity of the power control transistor. The switch means selects said resistor circuits connected to the bridge circuit and makes it possible to change easily the settings of the rotational speed of said motor. The resistor circuits also compensate for the speed-torque characteristics and speed-supply voltage characteristics of the motor in the case of multi-speed setting.

3,521,141

### LEAKAGE CONTROLLED ELECTRIC CHARGE SWITCHING AND STORING CIRCUITRY

Charles A. Walton, Los Gatos, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 30, 1967, Ser. No. 678,896

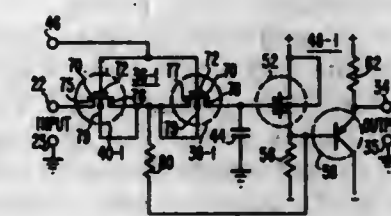
Int. Cl. H03k 17/60, 5/20; H01l 11/14

U.S. Cl. 320-1

17 Claims

Leakage from a storage capacitor to a charge source through a semiconductor device static switching arrangement is reduced and maintained substantially constant over the range of charge stored in the capacitor. A resistor is connected from an element in circuit with and following the voltage on the storage capacitor to a point of the switching arrangement intermediate the capacitor and the charge source. When the static switching arrangement is in the open circuit condition, the intermediate point lies in the leakage path and is brought to a potential nearly equal to the charge stored on the capacitor. Thus the leakage potential is low and substantially the same for all values of charge for which the circuit is

designed. The circuit can then be calibrated for this substantially constant leakage factor. Single and dual field



effect transistor switching arrangements are exemplified. Advantageous charge following circuitry is suggested.

3,521,142

### POWER SUPPLY SYSTEM FOR PORTABLE TELEVISION RECEIVER

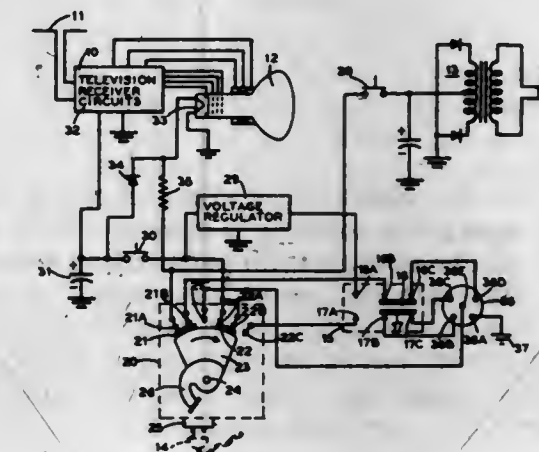
R. Joseph Ludlam, Benton Harbor, Mich., assignor to Heath Company, St. Joseph, Mich., a corporation of Delaware

Filed Nov. 13, 1967, Ser. No. 682,486

Int. Cl. H02j 9/00

U.S. Cl. 320-39

2 Claims



A power supply system for a portable television receiver whereby the receiver may be operated from (1) an alternating-current power line, (2) a detachable battery pack accessory or (3) a separate battery such as an automobile battery. The television receiver includes the usual rectifier circuit for operation from an alternating-current power line together with two multicontact switch assemblies for enabling the receiver to switch over for operation from either the battery pack accessory or a separate battery. When used in conjunction with the battery pack accessory and with the television receiver connected to an alternating-current power line, the batteries included in the battery pack accessory are automatically recharged whenever the television receiver is turned off.

3,521,143

### STATIC INVERTERS WHICH SUM A PLURALITY OF WAVES

Dorrance L. Anderson, Albert E. Willis, Carl E. Winkler, and John M. Gould, Huntsville, Ala., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed June 26, 1962, Ser. No. 205,470

Int. Cl. H02m 7/52

U.S. Cl. 321-5

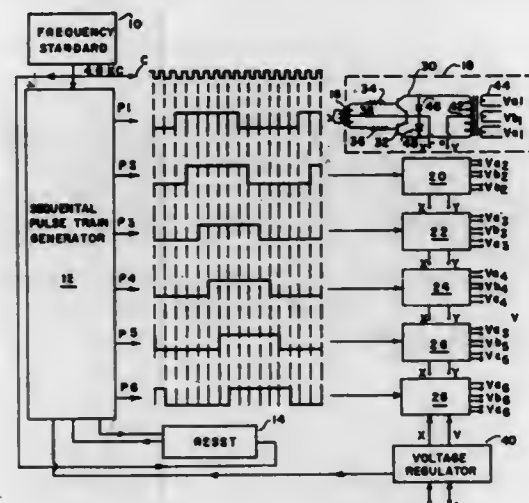
10 Claims

1. A static inverter comprising:  
(A) pulse generating means for generating a wave train of electrical pulses at a first frequency;  
(B) a sequential pulse train generator responsive to said generating means for providing a plurality, N,



of pulse wave trains differing in time by a factor of  $180^\circ/N$  with the time reference being at a second frequency, the output frequency of the inverter; (C) N output voltage coding means,

- (1) each of said coding means being responsive to separate and single pulse wave trains from said pulse train generator and an input direct current supply voltage for developing an alternating current rectangular wave voltage for each phase of the output of said inverter and having a duration corresponding to pulses of said pulse wave train of said pulse wave train generator,



- (2) the amplitudes of said rectangular wave voltages being adjusted to make available as a sum of one voltage from each coding means, when like polarities are added, a voltage equal to the maximum voltage of an output phase;

- (D) summing means for each output phase for combining one voltage output from each coding means to provide a single phase output.

### 3,521,144 VOLTAGE MULTIPLIER HAVING METALLIC FOIL CAPACITORS

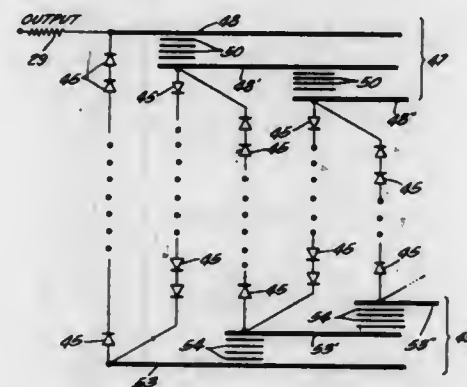
Philip Martin, 1345 West Road, Whittier, Calif. 90603

Filed Sept. 16, 1966, Ser. No. 579,954

Int. Cl. H02m 7/00

U.S. Cl. 321-15

18 Claims



A high-voltage multiplier of the Cockroft-Walton type for operation in a space having relatively small diameter, such as an oil well, in which a string of serially connected diodes is disposed in the groove of an outer thread formed on a middle tube support, one set of capacitors being disposed on an inner tube, these capacitors comprising a sheet of dielectric material and foils of metal of graduated sizes interposed between successive windings of the sheet of insulating material, a similar set of capacitors

being provided on an outer tube, the tubes being in concentric relation, and the capacitors of the inner and outer tubes being connected by spring contacts to junction points between predetermined ones of the diodes.

### 3,521,145 SEQUENCE FIRING OF SERIES-CONNECTED CONTROLLED RECTIFIERS

Jacques Toulemonde, Versailles, and Jean Chaupit, Fontenay-aux-Roses, France, assignors to Compagnie Generale d'Electricite, Paris, France, a corporation of France

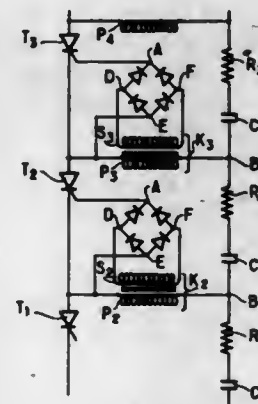
Filed Dec. 3, 1968, Ser. No. 780,728

Claims priority, application France, Dec. 4, 1967, 130,889

Int. Cl. H03k 17/06; H02m 7/00

U.S. Cl. 321-27

4 Claims



A device for triggering a number of series-connected controlled rectifiers, each rectifier having its trigger circuit connected, through a full wave rectifying system, to the secondary winding of a transformer whose primary winding is connected to the anode of the preceding controlled rectifier which has already been fired.

### 3,521,146 MICROWAVE POWER RECTIFIER WITH MULTIPACTOR DISCHARGE

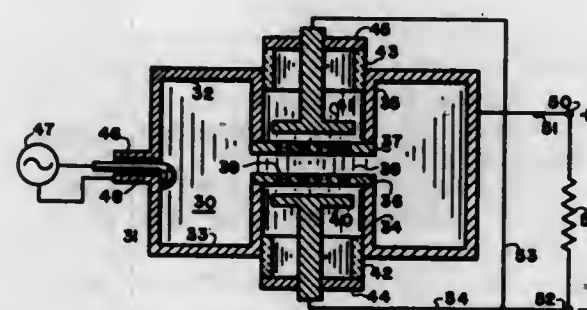
Max P. Forrer, Neuchatel, Switzerland, assignor to General Electric Company, a corporation of New York

Filed Dec. 17, 1964, Ser. No. 419,080

Int. Cl. H02m 7/00; H01j 43/00

U.S. Cl. 321-8

3 Claims



This invention relates to the use of a multipactor discharge as a rectifier. In one embodiment the electrodes have dissimilar secondary emission surfaces whereby more electrons travel in one direction than in the reverse direction. In another embodiment the multipactor discharge is between a pair of gridded secondary emitting surfaces. These surfaces intercept only as many electrons as are needed to maintain the discharge. Collector electrodes behind the multipactor collect the remaining electrons.

### 3,521,147 REGULATED VOLTAGE SUPPLY CIRCUIT

Werner Ostreicher, Tenningen, Baden, Germany, assignor to Messrs. Frako Kondensatoren- und Apparatebau G.m.b.H., Tenningen, Baden, Germany, a corporation of Germany

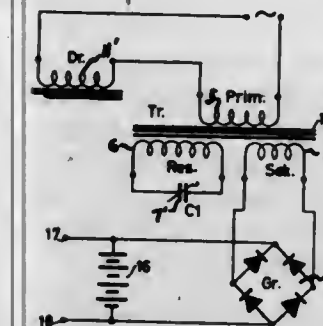
Filed Mar. 22, 1968, Ser. No. 715,409

Claims priority, application Germany, Mar. 22, 1967, F 51,914

Int. Cl. H02m 7/02; H02j 7/26; G05f 3/06

U.S. Cl. 321-16

6 Claims



A regulated power supply circuit utilizes a constant voltage transformer circuit with a resonating condenser coupled to one transformer secondary winding and a rectifier circuit connected to another secondary winding and having a condenser or battery at its output end to set up a counter voltage. In one embodiment a directed magnetic flux path exists in the transformer and in another a saturable choke in series with the primary winding is used.

### 3,521,148 SEMICONDUCTOR VOLTAGE REGULATOR FOR A GENERATOR WITH MAIN AND BUCKING FIELD WINDINGS

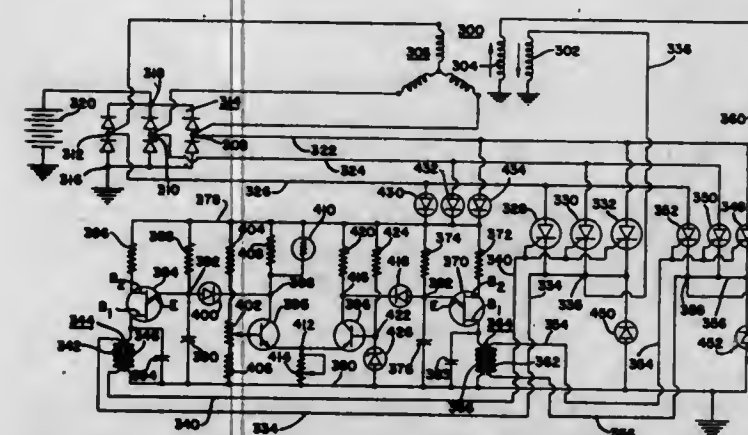
Thomas E. Kirk, Anderson, Ind., and David J. Hartman, Minneapolis, Minn., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Sept. 20, 1963, Ser. No. 310,195, now Patent No. 3,364,416, dated Jan. 16, 1968. Divided and this application Nov. 3, 1967, Ser. No. 680,499

Int. Cl. H02p 9/30

U.S. Cl. 322-28

4 Claims



This invention relates to a semiconductor voltage regulator which is capable of controlling both the main and bucking field windings of a generator. The system includes a voltage responsive circuit which senses the output voltage of the generator. The voltage responsive circuit controls the application of gate signals to groups of controlled rectifiers which respectively feed the main and bucking field windings of the generator. The voltage responsive circuit turns off the gate signals to the controlled rectifiers that feed the main field winding and turns on the controlled rectifiers that feed the reverse field winding when a high voltage condition exists. When the output voltage of the generator drops below a predetermined value the conduction states of the groups of controlled rectifiers is changed so that the main field winding is now supplied

with current and current is cut off to the bucking field winding.

### 3,521,149 ELECTRIC POWER GENERATOR

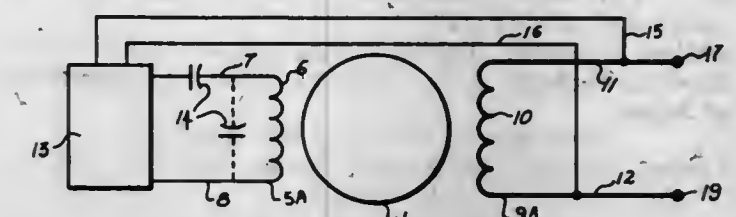
John F. Roedel, Jr., 8138 Westmoreland Drive, Sarasota, Fla. 33580

Filed Nov. 16, 1966, Ser. No. 594,764

Int. Cl. H02p 9/42

U.S. Cl. 322-47

16 Claims



An electric A.C. generator for producing an output of constant A.C. frequency from a rotational input of varying speed which has a rotor with a layer of magnetizable material on the periphery thereof which when imprinted upon by a magnetic field will become permanently magnetized. Disposed adjacent to this periphery are magnetizing means which create a magnetic field across the travel path of said magnetizable material, with excitation means coupled thereto to create an A.C. excitation of a desired frequency in the magnetizing means so that permanent magnets are endlessly imprinted in said magnetizable material as said periphery passes adjacent said magnetizing means. These permanent magnets are then erased as the permanent magnets again pass before said magnetizing means at which time new permanent magnets are imprinted in the magnetizable material. Angularly disposed about said periphery away from said magnetizing means is a power output means, including coil means with output leads. These coil means are so disposed that electric power is induced therein as the imprinted permanent magnets travel past the coil means.

### 3,521,150 PARALLEL SERIES VOLTAGE REGULATOR WITH CURRENT LIMITING

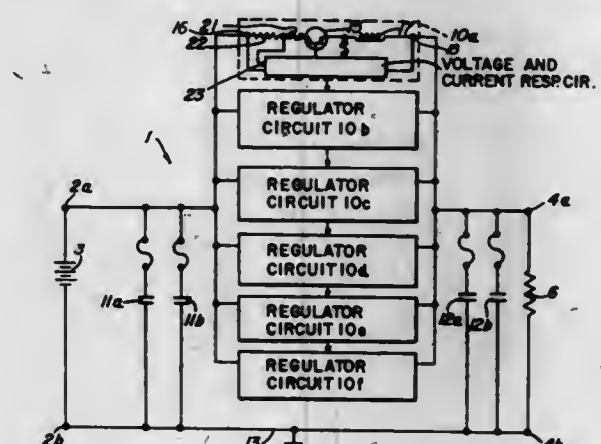
James William Bates, Palos Verdes Estates, Calif., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of Delaware

Filed Dec. 6, 1967, Ser. No. 688,490

Int. Cl. G05f 1/56, 1/58

U.S. Cl. 323-9

16 Claims



A number of series voltage regulator circuits are connected in parallel between D.C. input and output terminals and each is designed to carry only a fractional part of a given maximum load current and capable of maintaining the voltage across said output terminals within given predetermined limits without the aid of the other. One of the voltage regulator circuits is initially operative to carry load current up to a given maximum current level which is a fractional part of said total load current and means



are provided for rendering a number of the initially inoperative regulator circuits operative to carry load current in accordance with the demands of the load to be connected across said output terminals, wherein there can be only one operating voltage regulator circuit carrying less than its assigned maximum current.

**3,521,151**  
**MODULATOR HAVING LINEARIZED INPUT-OUTPUT CHARACTERISTIC AND SEPARATE D.C. AND A.C. OUTPUTS**

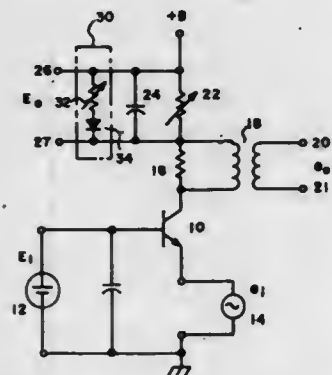
Yoshihisa Kameoka, Tokyo, Japan, assignor to Yokogawa-Hewlett-Packard, Ltd., Tokyo, Japan, a corporation of Japan

Filed May 3, 1968, Ser. No. 726,317  
Claims priority, application Japan, July 18, 1967, 42/61,652

Int. Cl. H03c 5/00

U.S. Cl. 332-16

5 Claims



A modulator circuit receives an AC signal at the emitter input circuit of a transistor and receives a DC signal at the base input circuit and produces at the collector output circuit a DC output and an AC output representative of the DC input signal. The collector output circuit includes a compensating circuit which utilizes the forward characteristic of a diode.

**3,521,152**  
**CONSTANT VOLTAGE TRANSFORMER WITH CORE GAP AT PRIMARY END**

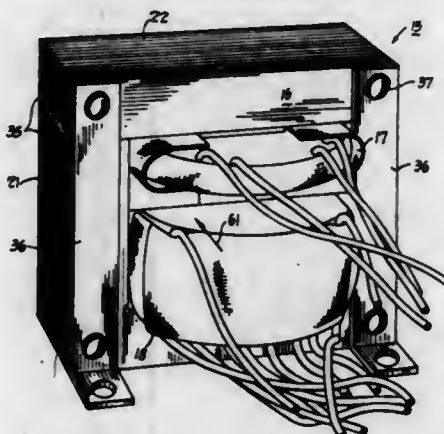
Wayne C. Emerson, Black Creek, N.Y., assignor to Acme Electric Corporation, a corporation of New York

Filed Aug. 28, 1967, Ser. No. 664,596

Int. Cl. G05f 3/06, 5/00

U.S. Cl. 323-60

10 Claims



The invention relates to a substantially constant voltage transformer with a core having E and I laminations and a butt joint or lap joint of these laminations all at the primary end of the core. A magnetic shunt is positioned on the core between a primary and a secondary winding to shunt some of the secondary flux. This flux is greater than the primary flux because the secondary winding or a part thereof is connected to a resonating capacitor resonant at the fundamental frequency to establish a ferroresonant transformer wherein the central leg of the secondary core

portions is operated above saturation and the primary portion of the core is operated below the knee of the B-H curve. The joint in the core permits the entire transformer to be assembled with the coils on the core and the fact that the secondary core portion has no joint whatever, increases the range of operation by about 20%. This 20% increase is true for regulated output current versus output volts and also for the operating range of input voltage over which the output voltage remains substantially constant. This is in comparison with the prior art form of constant voltage transformer which used E and I laminations interleaved so that the butt joints were interleaved and staggered, alternating on the primary and secondary ends of the core. Accordingly, instead of having the 20% increase in input voltage range and regulated voltage range, one may alternatively provide less volt-ampere capacity in the capacitor and capacitor coil combination, and still achieve a constant voltage transformer meeting the same specifications as the prior art devices.

**3,521,153**  
**GEOLOGICAL PROSPECTING WITH ELECTROMAGNETIC WAVES OF EXTREMELY LOW FREQUENCY**

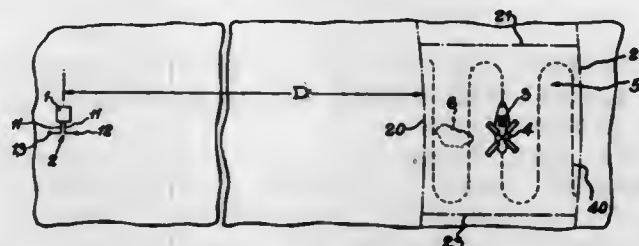
Calvin K. Moss, North Salt Lake City, Utah, assignor to American Smelting and Refining Company, New York, N.Y., a corporation of New Jersey

Filed July 11, 1968, Ser. No. 744,074

Int. Cl. G01v 3/12

U.S. Cl. 324-6

7 Claims



Geophysical prospecting by spacing a transmitter, for above ground transmission of electromagnetic waves, away from an area to be investigated at a distance which is greater than substantially the distance represented by the equation:

$$D = 0.15L$$

in which D is distance in miles and L is the wavelength, in miles, of the transmitted electromagnetic waves, transmitting from the transmitter electromagnetic waves having a frequency less than approximately 3000 cycles per second and also possessing sufficient energy to be received in the area by a receiver and measuring the electromagnetic field at a number of points in the area.

**3,521,154**  
**METHODS AND APPARATUS FOR ENHANCING WELL LOGGING SIGNALS BY THE USE OF MULTIPLE MEASUREMENTS OF THE SAME FORMATION CHARACTERISTIC**

James J. Maricelli, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed July 3, 1967, Ser. No. 650,875

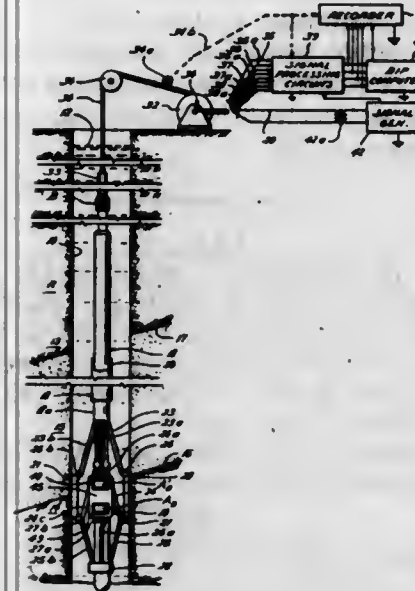
Int. Cl. G01v 3/18

U.S. Cl. 324-10

14 Claims

The particular embodiments described herein as illustrative of the invention describe a technique for enhancing the quality of well logging signals which is especially useful for dipmeter surveys. One embodiment shows a survey electrode located a given depth interval from another survey electrode and depth synchronizing the signals derived from both survey electrodes. The depth synchronized signals are then multiplied together to produce one resulting signal with an enhanced information content

but a minimized noise content. Another embodiment shows a plurality of survey electrodes having different



**3,521,156**  
**APPARATUS FOR TESTING INTERNAL COMBUSTION ENGINE IGNITION SYSTEMS FOR INCIPENT FAILURES CAUSING MISFIRING**

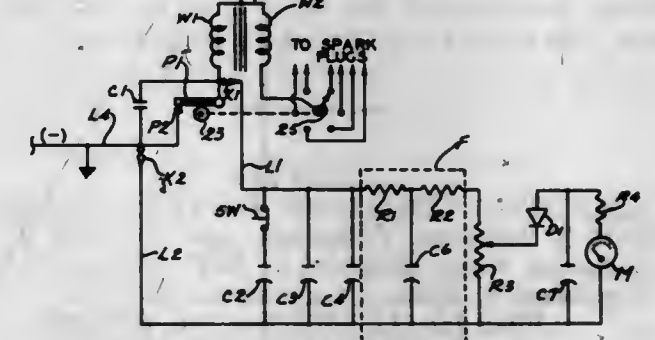
Carl H. Mueller, Pasadena Hills, and Rudy F. Schneller, O'Fallon, Mo., assignors to McNell Corporation, Akron, Ohio, a corporation of Ohio

Filed Jan. 22, 1968, Ser. No. 699,541

Int. Cl. G01r 13/42

U.S. Cl. 324-15

7 Claims



relative locations, as for example, horizontal displacement, to produce the desired results.

**3,521,155**  
**IGNITION AMPLIFIER AND COIL TESTER**

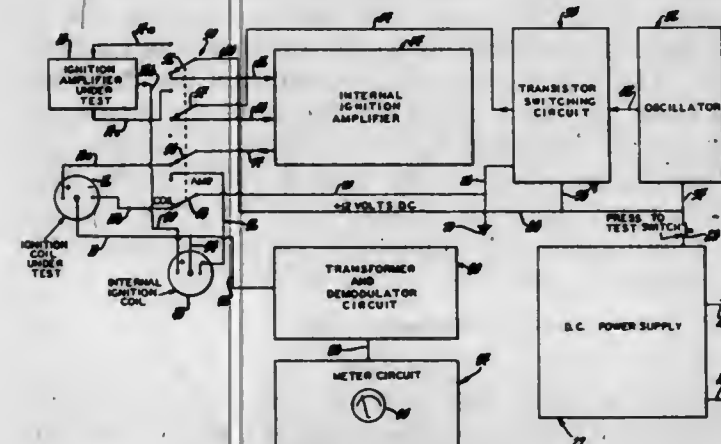
Norbert J. Zdrzal, Inkster, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 6, 1967, Ser. No. 688,433

Int. Cl. G01r 13/42

U.S. Cl. 324-15

3 Claims



In a preferred embodiment, a tester for dynamically testing semiconductor ignition amplifiers and ignition coils of ignition systems utilizing semiconductor elements is provided with both an internal semiconductor amplifier and an internal ignition coil each being substantially identical to the respective amplifier and coil to be tested. A two-position function selector switch connects either an ignition amplifier under test or an ignition coil under test into two testing circuit combinations including respectively the internal ignition coil or internal semiconductor amplifier. A D.C. power supply connected to a conventional A.C. source supplies D.C. power to the tester circuits and to the testing circuit combination. An oscillator controlled semiconductor switch circuit provides control of the ignition amplifiers and the outputs of either of the ignition coils is applied to a step down transformer and demodulator load circuit connected to a meter circuit. The meter circuit provides a visual meter indication of the condition of the ignition amplifier or coil being tested under dynamic ignition circuit input and load conditions.

**3,521,157**  
**AUTOMOTIVE VEHICLE IGNITION MONITORING SYSTEM**

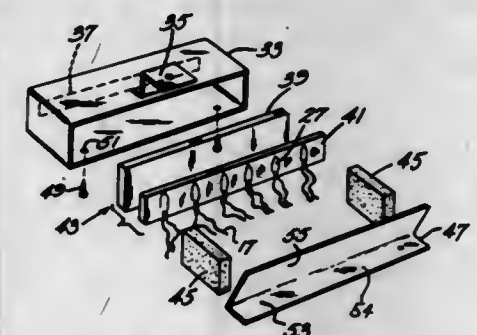
Jerry F. Robertson, 5497 Brown Road, Davison, Mich. 48423

Filed May 16, 1968, Ser. No. 729,573

Int. Cl. G01r 13/42

U.S. Cl. 324-18

2 Claims



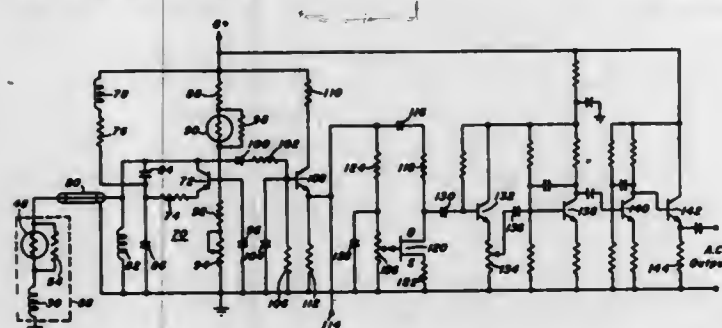
A display device is disclosed for mounting to an automobile dashboard. A housing contains a plurality of neon tubes, or the like, displayed through a portal in the housing for viewing by vehicle driver and passengers. The neon tubes are connected individually to the vehicle spark plugs, by inductive or other indirect external coupling means. The neon tubes are imbedded in a plastic layer for permanent, anti-vibrating, relative positioning. The tubes flash in correspondence to spark plug firing and are



normally arranged to fire consecutively in order from left to right. The result is an optically perceptible sequence of light flashes, with a particularly engaging visual effect. The unit also serves as an analytical device, with the character of the neon flash corresponding to the efficiency of the firing of the associated spark plugs. A non-flashing light indicates a completely non-firing plug. Weak or unsteady flashes indicate a mis-firing spark plug. Cable wrapping conductor strips, and alternative cylindrical braided shielding cables are revealed as means for the indirect coupling of the neon tubes to the spark plug wires. The tubes are grounded to the vehicle.

3,521,158

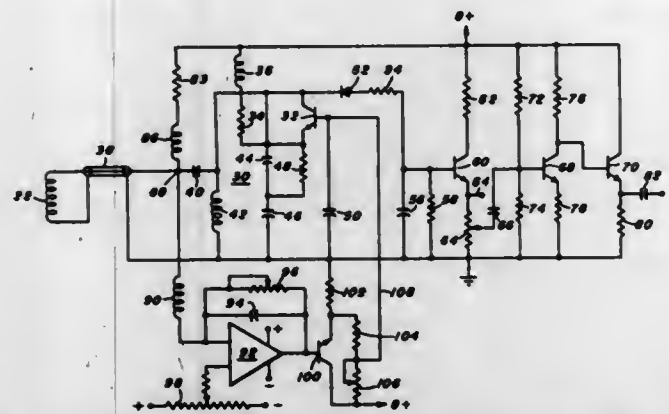
**INDUCTIVE VIBRATION PICKUP APPARATUS**  
Robert S. Morrow, Columbus, and Kenneth E. Hays, Gahanna, Ohio, assignors to IRD Mechanalysis, Inc., Worthington, Ohio, a corporation of Ohio  
Filed Jan. 11, 1968, Ser. No. 697,108  
Int. Cl. G01r 33/00; G08c 21/00  
U.S. Cl. 324—34 6 Claims



Electrical sensing apparatus such as vibration pickups of the type in which cyclical variations in the distance between a stationary inductor in the tank circuit of an oscillator and a vibrating metallic object in the field of the inductor are reflected as cyclical changes in amplitude at the output of the oscillator. The apparatus incorporates automatic gain control circuitry to compensate the change in sensitivity which results from changes of instantaneous gap between the aforesaid stationary inductor and the vibrating metallic object in its field.

3,521,159

**ELECTRICAL SENSING APPARATUS INCORPORATING TEMPERATURE COMPENSATION**  
Robert S. Morrow, Columbus, Ohio, assignor to IRD Mechanalysis, Inc., Worthington, Ohio, a corporation of Ohio  
Filed Jan. 11, 1968, Ser. No. 697,110  
Int. Cl. G01r 33/12; H03b 3/02  
U.S. Cl. 324—34 8 Claims

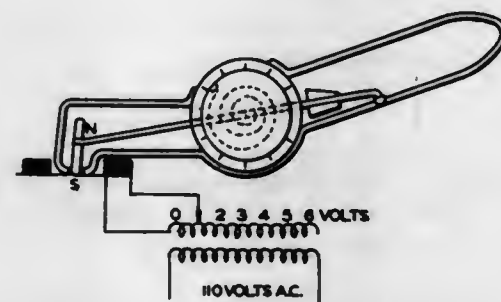


Electrical sensing apparatus such as proximity detectors and vibration pickups of the type in which the instantaneous displacement between an inductor in the tank circuit of an oscillator and a metallic object in the field of the

inductance is reflected in the output of the oscillator. The apparatus incorporates: means adapted to compensate for changes in the output amplitude of the oscillator due to temperature variations in the aforesaid inductor. Temperature compensation is accomplished by applying an auxiliary potential across the inductor and sensing variations in this potential with temperature variations to vary the gain of an electron valve in the oscillator and/or related output circuitry.

3,521,160

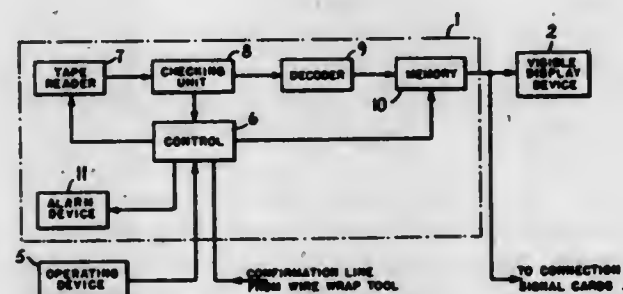
**METHOD OF MAKING A MAGNETIC GAUGE FOR MEASURING THICKNESS OF NON-MAGNETIC LAYERS ON FERROMAGNETIC SUPPORTS**  
Hans Nix, 9-11 Eberburgweg, Cologne-Nippes, Germany, and Erich Steingrover, 33 Flensburger Strasse, Bonn, Germany  
Filed Apr. 22, 1968, Ser. No. 723,134  
Claims priority, application Germany, Apr. 22, 1967, N 30,394  
Int. Cl. G01r 33/12  
U.S. Cl. 324—34 2 Claims



A housing contains a permanent magnet to be placed in contact with a non-magnetic layer supported on a ferromagnetic base. The magnet is mounted on the end of a balanced rotatable arm to which a dial is coupled over a spring. The dial is subdivided to indicate the thickness of the layer, and by turning the dial until the increasing tension of the spring breaks the magnetic contact, the thickness of the layer can be read directly on the dial. The permanent magnet is demagnetized for proper adjustment of spring tension and magnetic adhesive force, thereby improving the sensitivity of the instrument.

3,521,161

**APPARATUS FOR DISPLAYING WIRING INSTRUCTIONS AND CHECKING CONNECTIONS MADE IN WIRING ELECTRICAL CIRCUITRY**  
Kiyoshi Kurata and Koichi Shimizu, Kamakura, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan  
Filed June 11, 1968, Ser. No. 736,105  
Claims priority, application Japan, June 13, 1967, 42/50,309  
Int. Cl. G01r 31/04  
U.S. Cl. 324—66 1 Claim

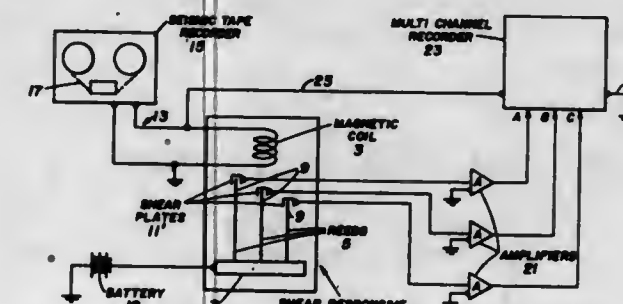


The informations for many terminals to be wired are coded on a punched tape in accordance with the sequence

of the steps of the particular wiring operation. An operating device is operated to visibly display the information for a first one of the terminals on a visible display device through a control device while at the same time an electrical signal corresponding to the information is applied to the first terminal through one of connection signal cards operatively connected to that terminal. When a wire wrap tool engages the first terminal the information previously applied to the first terminal is supplied to control device through a lead extending from the tool to the control device which, in turn, actuates a buzzer indicating that a correct wiring has been accomplished. The process just described is repeated with the remaining terminals while the display on the display device is revised each time the operating device is operated. The engagement of the tool with any incorrect terminal results in no buzzer and in the suspension of the succeeding operation.

3,521,162

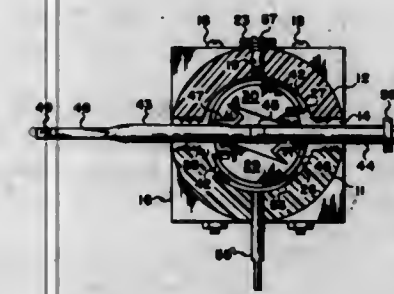
**FREQUENCY ANALYZING DEVICE AND METHOD USING VIBRATING REEDS**  
Kevin E. Moran, Cumberland, Md., and Robert M. Haines, Placentia, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California  
Filed Nov. 21, 1966, Ser. No. 595,928  
Int. Cl. G01r 23/16, 27/02  
U.S. Cl. 324—77 5 Claims



The frequencies and amplitudes comprising a multi-frequency energy source are segregated by transmitting the energy to a plurality of reeds having separate and discrete resonance frequencies and positioned in a medium exhibiting shear-dependent impedance to the passage of electrical current and measuring the change in current passing through an electric circuit connected across a shear-responsive fluid subjected to shearing by each vibrating reed.

3,521,163

**GALVANOMETER MOUNTING ASSEMBLY PERMITTING LIMITED UNIVERSAL GALVANOMETER POSITIONING**  
John W. Miller, Smyrna, Ga., assignor to Lockheed Aircraft Corporation, Los Angeles, Calif.  
Filed May 23, 1966, Ser. No. 552,135  
Int. Cl. G01r 13/38, 1/04  
U.S. Cl. 324—97 8 Claims

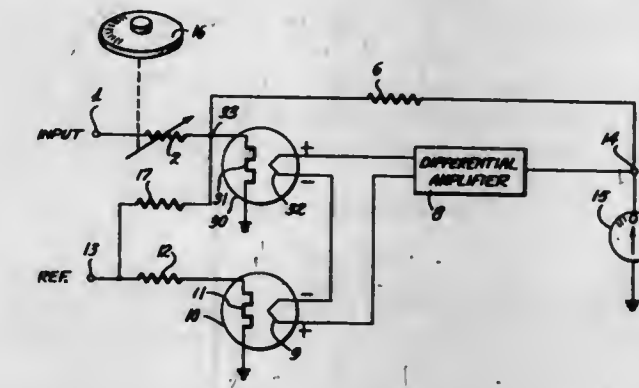


A mounting assembly for one or more generally elongate electrical devices such as an optical galvanometer. For example, a galvanometer is retained in a passage through a mounting block by means of a pair of rotary

electrodes positioned at opposite sides of the galvanometer. Each of the rotary electrodes includes an electrical conducting surface which is connectable to the galvanometer circuit and which contacts a corresponding portion of the galvanometer. The galvanometer is movable in the limiting confines of the passage for positional adjustment when a retaining set screw engaging one of the rotary electrodes is loosened.

3,521,164

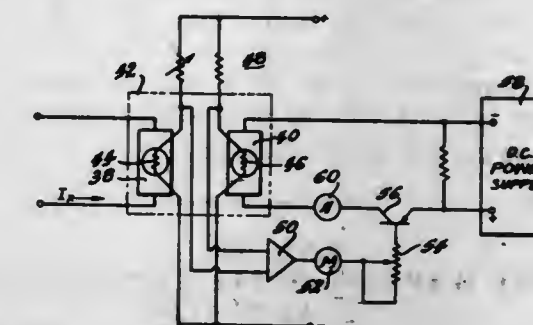
**RMS VOLTAGE MEASURING APPARATUS**  
Peter L. Richman, Lexington, Mass., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware  
Filed Jan. 3, 1968, Ser. No. 695,485  
Int. Cl. G01r 5/26  
U.S. Cl. 324—106 6 Claims



RMS measuring apparatus including two heater-thermoelement converters with the thermoelements connected in series opposition. An input signal is connected to one heater. The thermoelement output is amplified by a difference amplifier and fed back to an auxiliary heater to obtain isothermal operation. In other embodiments the feedback is provided to one or both heaters with no auxiliary heater being used.

3,521,165

**METER FOR MEASURING RMS VALUES OF PULSED CURRENT SIGNALS**  
Age T. Visser, Downers Grove, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission  
Filed Sept. 20, 1968, Ser. No. 761,060  
Int. Cl. G01r 19/24  
U.S. Cl. 324—106 4 Claims



A pulsed signal RMS meter includes, connected across the signal, a resistor which is temperature-sensitive to the RMS value of the pulsed signal and has a thermal time constant greater than the time separation of the pulsed signals to remain relatively insensitive thereto. Thermocouples monitor the temperature of the resistor and provide an output which, when recorded, is a measure of the RMS value of the applied pulsed signal.



3,521,166

**WIDE BAND MEASURING AND RECORDING METHODS AND APPARATUS**

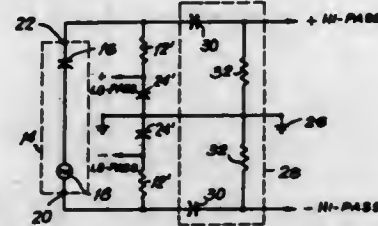
Joseph Grayzel, Fallendes Park, N.J., assignor to Electro-Catheter Corporation, Rahway, N.J., a corporation of New Jersey

Filed Feb. 1, 1967, Ser. No. 614,770

Int. Cl. G01m 7/00; G01r 29/22

U.S. Cl. 324-128

3 Claims



Method and apparatus are disclosed which enable the measurement and recording at low impedance of both low-frequency and high-frequency components, separately and simultaneously, of a signal generated by a piezo-electric crystal or other device possessing a small internal capacitance, and further, for enabling the respective low levels of impedance for low-frequency and high-frequency bands to be different and independently prescribed.

3,521,167

**METHOD FOR MEASURING THE JUNCTION TEMPERATURE BY UTILIZING A GATE-CATHODE CHARACTERISTIC OF A SILICON CONTROLLED RECTIFIER**

Takashi Umemori and Ukyo Konishi, Tokyo, Japan, assignors to Japanese National Railways, a corporation of Japan

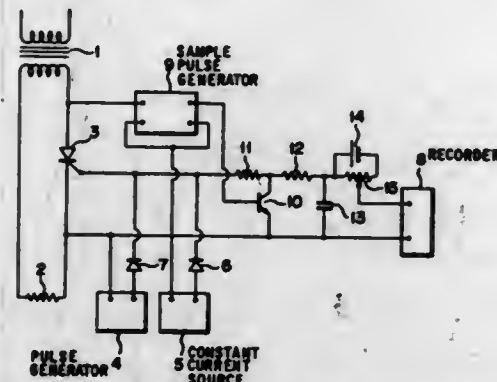
Filed Mar. 15, 1967, Ser. No. 623,295

Claims priority, application Japan, Mar. 16, 1966, 41/15,831

Int. Cl. G01r 31/22

U.S. Cl. 324-158

5 Claims



A method of measuring the junction temperature of an SCR in its operating circuit environment. A constant current, less than the minimum firing current, is applied between the gate and the cathode of the SCR, and the junction temperature of the SCR is determined from the gate to the cathode voltage of the SCR during intervals when anode current is not flowing.

3,521,168

**NATIONAL WARNING SYSTEM OPERABLE FROM CENTRAL STATION**

Edward F. Kaiser, 109 Boone Highway 40222, and Stuart H. Gates, 4309 Taylorsville Road 40220, both of Louisville, Ky.

Filed Mar. 9, 1966, Ser. No. 532,934

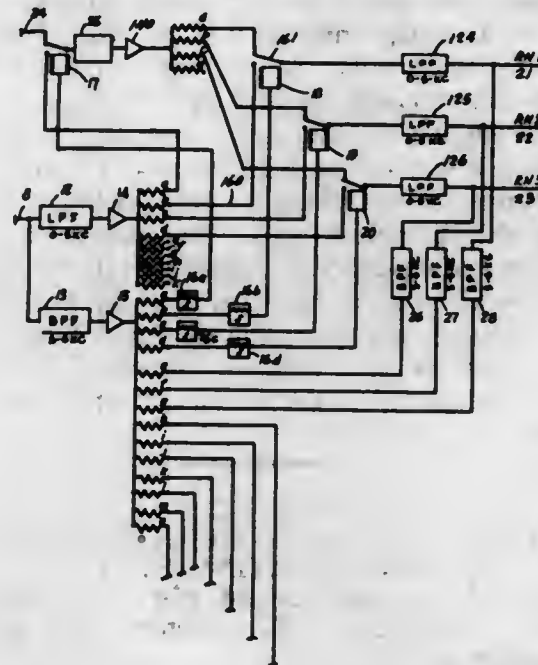
Int. Cl. H04h 1/00, 1/08

U.S. Cl. 325-53

16 Claims

A telecommunication system whereby emergency audio and/or video information can be transmitted from a central control point to all or part of the country. A unique pulse control signal is generated at a central point and communicated to existing radio and other transmit-

ting stations to cause the stations to be disconnected from their regular broadcast sources and connected to lines carrying audio and video information from the central point. The control signals can be employed to activate



a transmitting station which is not operating and the signals can be likewise used to increase the volume of the audio transmitted. Further, an arrangement whereby specially equipped telephones can be made to ring continuously when such unique control signals are transmitted is also disclosed.

3,521,169

**SUBMINIATURE INTEGRATED ANTENNA**

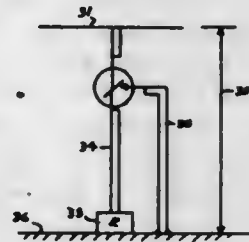
Edwin M. Turner, 1530 Newton Ave., Dayton, Ohio 45406; Hans H. Melnke, Gockelberg 3, Gauting, Germany; and Heinz Lindenmeyer, Ungererstr. 36, Munich, Germany

Filed July 17, 1967, Ser. No. 654,010

Int. Cl. H01q 1/26, 9/00

U.S. Cl. 325-105

6 Claims



An electrically small antenna (that is, an antenna whose dimensions are small compared to a wavelength) having a transistor active element integrated into the electrical geometry of the antenna such that the electrical characteristics at the connections to the integrated antenna have the electrical parameters of a physically much larger conventional antenna.

3,521,170

**TRANSVERSAL DIGITAL FILTERS HAVING ANALOG TO DIGITAL CONVERTER FOR ANALOG SIGNALS**

Peter Leuthold, Neuhausen, Switzerland, and Petrus Josephus van Gerwen, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 28, 1967, Ser. No. 619,324

Claims priority, application Netherlands, Mar. 5, 1966, 6602900

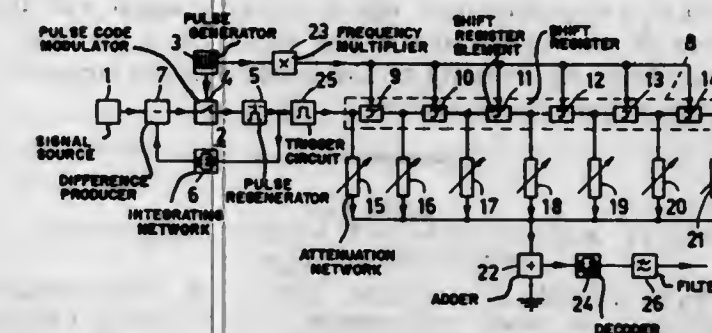
Int. Cl. H03k 7/00

U.S. Cl. 325-323

23 Claims

A filter circuit for analog signals is disclosed in which the analog signals are first converted to a pulse sequence

characteristic of the signal, for example, by means of a delta modulator. The pulse sequence is applied to a shift register having a plurality of output terminals. The



contents of the shift register are shifted by a control signal. The outputs of the shift register are combined after being subjected to predetermined attenuations, and the combined signal is decoded and filtered.

3,521,171

**RANDOM TIME INTERVAL GENERATOR**

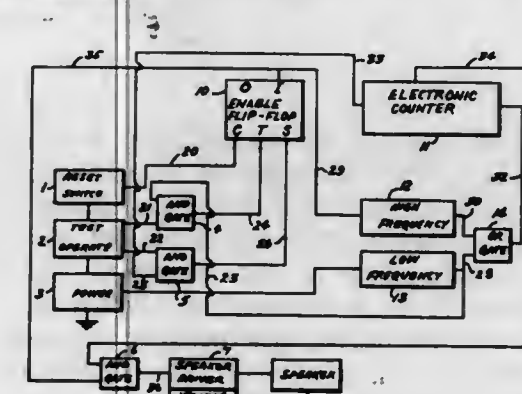
Michael S. Pinkert, 8811 Colesville Road, Silver Spring, Md. 20910

Filed Apr. 7, 1967, Ser. No. 629,180

Int. Cl. H03k 5/00

U.S. Cl. 328-129

3 Claims



A random time interval signaling device is presented which operates by driving an electronic counter until a signal is generated. When the signal is generated a secondary driving means begins pulsing the counter and continues until the signal is turned off leaving the counter in a random state. The source of the random time interval being the reaction time of the operator of the device.

3,521,172

**BINARY PHASE COMPARATOR**

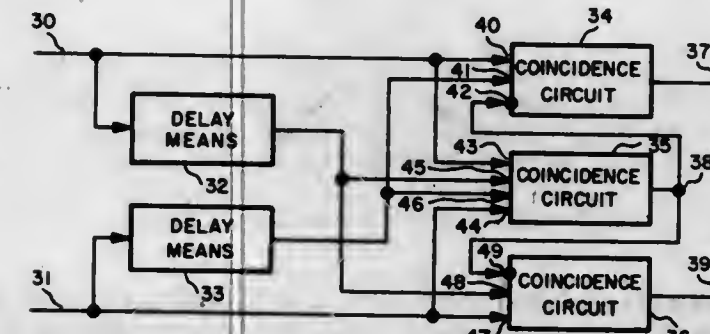
George Lamar Harmon, Winter Park, Fla., assignor to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland

Filed Nov. 26, 1965, Ser. No. 509,993

Int. Cl. H03d 13/00; G06f 11/00

U.S. Cl. 328-133

11 Claims



This invention relates to a digital phase comparator designed to measure phase advance or phase retard between pulse trains on a pulse by pulse basis, the output

information from which may be utilized by an analog computer or the like. Delay means are utilized in the comparator not only to make phase measurements, but also to reject errors of omission as well as errors of commission.

3,521,173

**PHASE DETECTOR**

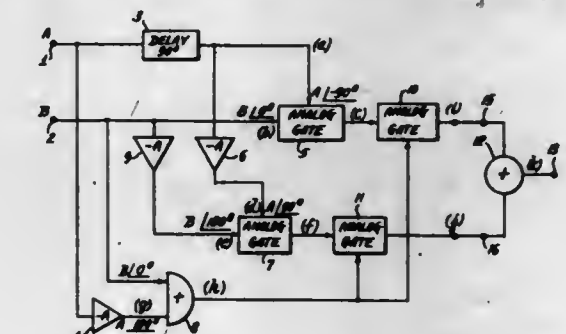
Walter C. Farley, Silver Spring, Md., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware

Filed June 21, 1967, Ser. No. 647,684

Int. Cl. H03k 9/06

U.S. Cl. 328-134

3 Claims



An input signal and an inverted reference signal are logically added to produce a gate signal. The gate signal is used to switch two gate circuits together with two reference signals separated by 180° from each other and 90° from the inverted reference. The result is summed to produce a phase error signal which is unidirectional when there is a phase difference and zero when there is none.

3,521,174

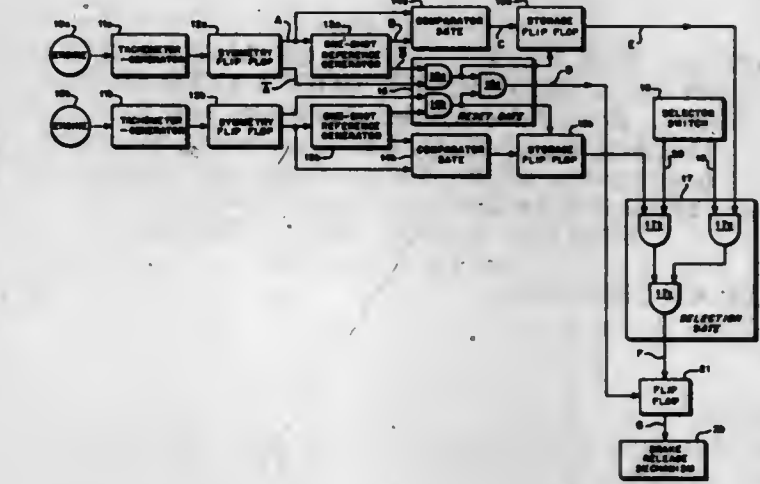
Henry Naubert, Cherry Hill, N.J., and Salvatore R. Picard, Hatboro, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Filed Mar. 23, 1967, Ser. No. 625,929

Int. Cl. G01p 3/22

U.S. Cl. 328-138

12 Claims



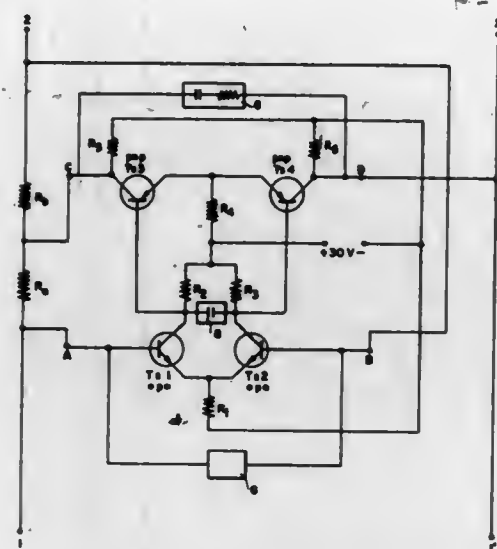
An apparatus for sensing the speed of a catapult engine and converting the speed to an alternating current signal having a frequency proportional to the engine speed, for launching an aircraft when the engine speed exceeds a predetermined value which is set by a reference signal generator. The reference signal and the alternating current signal are compared in a comparator which provides an output signal to a storage device when the engine has







terminal. The amplifier is a D.C. coupled transistor amplifier, has no inductances and is symmetrically constructed step *p* in the form of an automatically functioning high stability generator of a spectrum of fixed frequencies in



with respect to its pair of first and pair of second terminals.

3,521,182

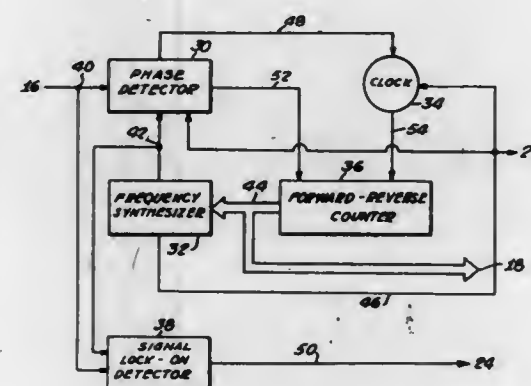
## ENCODING SYSTEM FOR DIGITAL LINKS

Troy L. Stueck, Baltimore County, Md.  
(161 Stanmore Road, Baltimore, Md. 21212)  
Continuation-in-part of application Ser. No. 517,186,  
Dec. 23, 1965. This application Apr. 29, 1968, Ser.  
No. 725,230

Int. Cl. H03b 3/04

U.S. Cl. 331-14

2 Claims



An electrical system having phase-synchronized servo and frequency synthesis means for the digital encoding of an input variable-frequency signal wherein a digital-controlled oscillator is caused to discretely approximate the input signal in a phaselock loop. The electrical system input is frequency and the electrical system output is digital.

3,521,183

## FREQUENCY SYNTHESIZER

Joseph Leostic, Le Mesnil-Saint-Denis, Yvelines, Lucien Babany, Le Blanc-Mesnil, Seine-St.-Denis, Roger Sassoon, Saint-Germain-lès-Arpajon, Essonne, and Antoine Poussin, Amlieres, Hauts-de-Seine, France, assignors to C.I.T.-Compagnie Industrielle des Telecommunications, Paris, France, a corporation of France  
Filed Jan. 12, 1968, Ser. No. 697,522  
Claims priority, application France, Jan. 12, 1967,  
90,951; Oct. 30, 1967, 126,416, 126,417

Int. Cl. H03b 3/04

U.S. Cl. 331-16

14 Claims

A wide band frequency synthesizer providing a spectrum of frequencies spaced by a constant quantification

harmonic interrelationship, including a phase discriminator for providing synchronizing control.

3,521,184

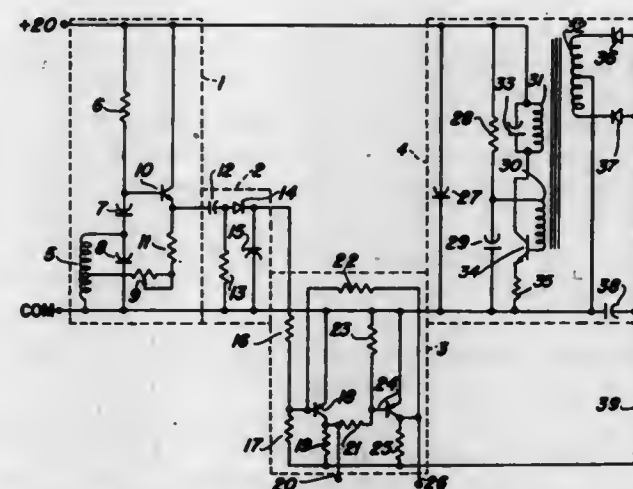
## FAIL-SAFE METAL DETECTOR REMOTELY POWERED AND MONITORED THROUGH A CABLE

Anthony J. Bowker, Victor, N.Y., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan  
Filed Mar. 22, 1968, Ser. No. 715,363  
Claims priority, application Great Britain, Mar. 23, 1967,  
13,864/67

Int. Cl. G01v 3/10; H03b 5/08

U.S. Cl. 331-65

8 Claims



A metal-sensing oscillator and a DC-DC converter are fed from a source having one lead at a potential of one polarity and the other lead at a common or zero potential. Signals from the oscillator and the converter are fed to an output circuit comprising a bistable multivibrator. Output signal appear selectively at one or the other of two terminals of the output circuit and are at a polarity opposite that of the given potential.

3,521,185

## GENERATION OF BINOMIALLY DISTURBED PSEUDO-RANDOM ELECTRICAL SIGNALS

Anthony John Ley, Farnborough, England, assignor to The Solartron Electronic Group Limited, Farnborough, England, a corporation of the United Kingdom  
Filed Sept. 16, 1968, Ser. No. 759,937  
Claims priority, application Great Britain, Sept. 18, 1967,  
42,450/67

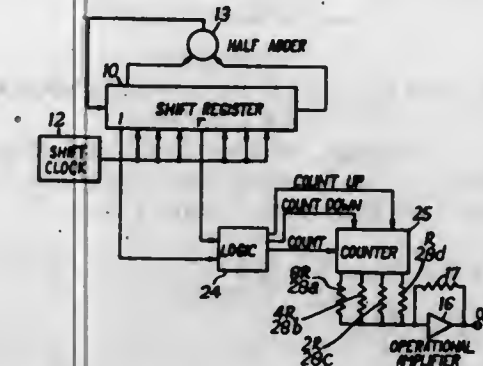
Int. Cl. H03b 19/00, 29/00

U.S. Cl. 331-78

7 Claims

Apparatus for generating a binomially distributed pseudo-random electrical signal comprises a store such as

a shift register with a feedback loop connected so as to generate a chain code, and a circuit which detects the states of two or more stages of the store and in response



to one combination of states adds one bit to a counter and in response to another combination subtracts one bit from the counter, the output signal being proportional to the number stored in the counter.

3,521,186

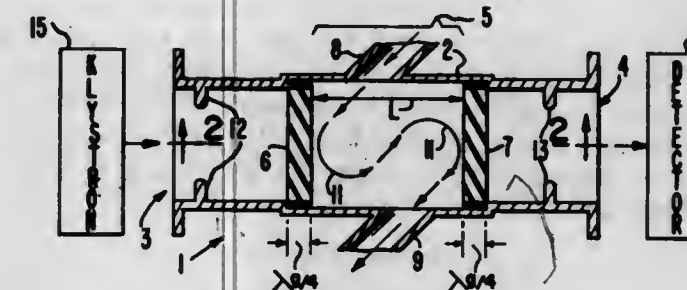
## HIGH POWER MICROWAVE ATTENUATOR EMPLOYING A FLOW OF LOSSY LIQUID

Maurice J. Sharpe, Santa Clara, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California  
Filed June 26, 1967, Ser. No. 648,908

Int. Cl. H01p 1/22

U.S. Cl. 333-81

7 Claims



A high power microwave attenuator is disclosed. The attenuator includes a transmission line having a pair of axially spaced quarter wave transformer radio frequency windows defining a loss section of the transmission line in the transmission line region between the windows. The loss section is filled, in use, with a lossy liquid such as water. The amount of attenuation is determined by the length of the loss section, for a given lossy liquid.

In a preferred embodiment, the windows are made of alumina or beryllia ceramic and the lossy liquid is water. The device may be employed for sampling the microwave power output of a high power device by connecting one port to the output of a high power device to be measured and connecting a microwave detector to the other port. The attenuator may also be employed as a double ended load for terminating two high power devices, such as a pair of high power klystron amplifiers.

3,521,187

## LASER MEDIA CONTAINING COUMARIN DYE SOLUTIONS

Benjamin B. Snively, Otis G. Peterson, and Raymond F. Reithel, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New York  
No Drawing. Filed Sept. 18, 1967, Ser. No. 668,710

Int. Cl. H01s 3/00

U.S. Cl. 331-94.5

12 Claims

An aqueous solution of a fluorescent coumarin dye is an effective laser medium for producing a laser beam having a wavelength in the blue region of the spectrum.

3,521,188

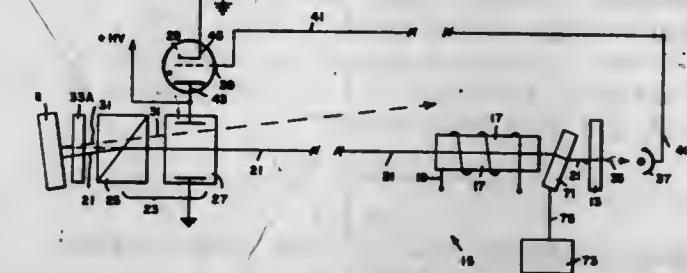
## DOUBLE Q-SWITCHED LASER WITH SELF-MODE LOCKED INTRACAVITY LOSS MODULATOR

Walter R. Sooy, Manhattan Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware  
Filed Oct. 19, 1966, Ser. No. 587,818

Int. Cl. H01s 3/11

U.S. Cl. 331-94.5

10 Claims



The invention is a laser having an excited active element disposed in the regenerative path of a regenerative laser cavity and also includes the function of two Q-switches and that of a self-mode locked intracavity loss modulator. One Q-switch holds back oscillation in the cavity until the active element is pumped to a highly inverted state at which time the modulator reacts with the circulating power to create sharp energy spikes of sub-nanosecond duration which build up to a predetermined magnitude. The other Q-switch then is operated to switch out of the cavity a single output pulse.

3,521,189

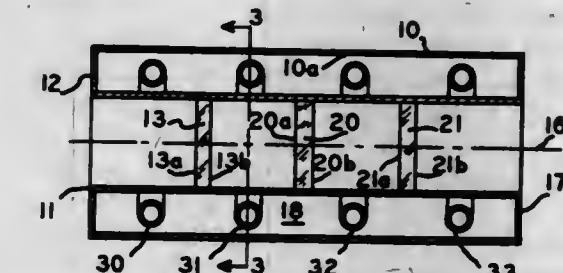
## MULTIPLE CRYSTAL HIGH POWER LASER DESIGN

Harold R. Koenig, Schenectady, N.Y., assignor, by means assignments, to the United States of America as represented by the Secretary of the Navy  
Filed Jan. 3, 1967, Ser. No. 607,358

Int. Cl. H01s 3/00

U.S. Cl. 331-94.5

5 Claims



This invention relates to a laser system and more particularly to a face pumped laser with an improved means for synchronous face pumping a plurality of spaced laser discs wherein the pump energy is filtered and diffused to pass only desired frequencies of electromagnetic radiation to the discs.

3,521,190

## LIQUID LENS LIQUID LASER CELL

Erhard J. Schimitschek and Edward R. Schumacher, San Diego, and Corey G. Cook, Imperial Beach, Calif., assignors to the United States of America as represented by the Secretary of the Navy  
Filed July 25, 1967, Ser. No. 656,631

Int. Cl. H01s 3/02

U.S. Cl. 331-94.5

4 Claims



The optical cavity of the present cell is formed principally of an elongate cylindrical casing which carries a



tubular insert, both of these numbers being formed of thin-walled light-transmissive material. Near each end portion of the tubular insert is a pair of cavity-partitioning means which divides the casing interior into a liquid lens chamber and lasing liquid reservoir, the latter being formed at the casing end portions. Preferably, the tubular insert projects through the partitioning means into open-ended liquid communication with the reservoir at each end portion. The liquid lens chamber is filled with a fluid material having a desired predetermined index of refraction. Further, all parts of the cell are removably mounted to permit ready substitutions of the lasing liquid, the lens material, and the tubular insert.

3,521,191

## Q-SWITCHING APPARATUS FOR A LASER DEVICE

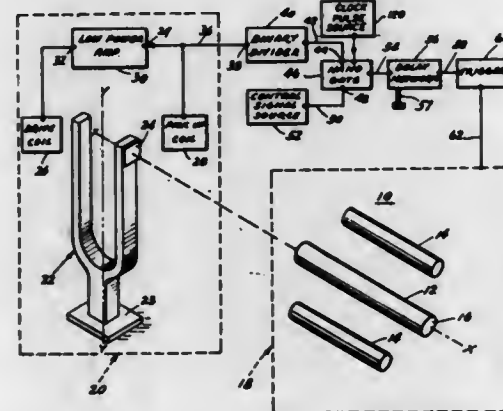
Edward J. Golden, Hamburg, and Roger J. Talish, Wayne, N.J., assignors to The Bendix Corporation, a corporation of Delaware

Filed Aug. 13, 1967, Ser. No. 660,682

Int. Cl. H01s 3/00; H03b 5/30

U.S. Cl. 331-94.5

12 Claims



A Q-switching apparatus for a laser device to periodically impair the optical path of a beam from the laser device and regulate radiation loss therein so as to delay the onset of laser oscillations for increasing the peak intensity of a laser pulse. An oscillating member having a reflector thereon in the optical path and provided with drive and pickup means to maintain oscillation of the reflector at a fixed frequency is aligned to reflect the beam to the laser for an instant of time of high stimulated emission from the laser which emission is triggered in response to the pick-up means.

3,521,192

## LASER PULSE SHAPING SYSTEM

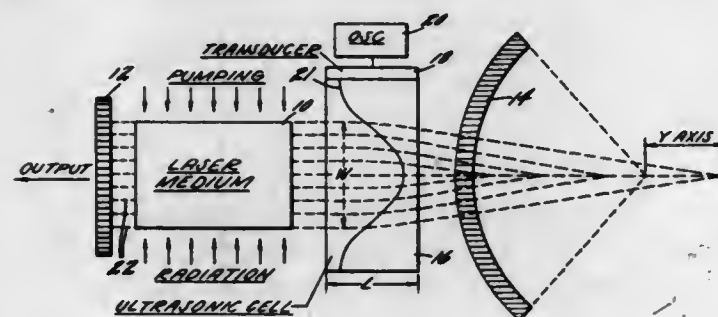
Anthony J. De Maria, West Hartford, and Ronald M. Gagosz, Farmington, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Aug. 25, 1967, Ser. No. 663,337

Int. Cl. H01s 3/00; G02d 1/28

U.S. Cl. 331-94.5

8 Claims



An acoustic cell is inserted between a laser medium and a detached external convex reflector, and when an acoustic

wave having a wavelength approximately equal to the width of the laser beam is propagated in the cell, feedback to the laser medium is selectively initiated to generate various output laser pulse shapes.

3,521,193

## MAGNETIC FIELD BEAM SCANNER FOR GAS LASERS

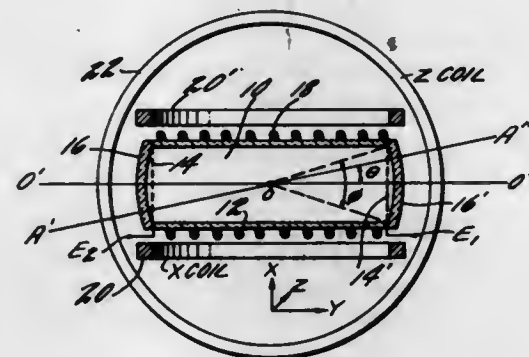
Edward C. Wingfield, Wethersfield, and Robert K. Erf, Glastonbury, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Nov. 29, 1967, Ser. No. 686,657

Int. Cl. H01s 3/05

U.S. Cl. 331-94.5

4 Claims



Three orthogonally directed magnetic fields are generated and applied to a gaseous laser to produce an axis of magnetic symmetry internal to the laser medium. The laser light beam is steered by the magnetic field and is propagated along the axis of symmetry. The position of the symmetry axis of the magnetic field may be electrically varied or programmed to cause the laser beam to scan a two-dimensional field of view.

3,521,194

## MULTIPLE TUNNEL DIODE COAXIAL MICROWAVE OSCILLATOR

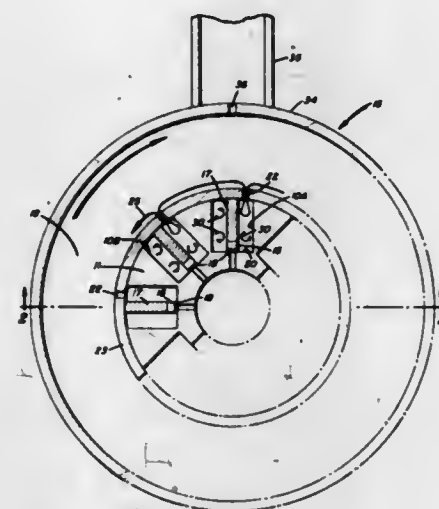
Frederick B. Lowe, York, Pa., assignor to The Bendix Corporation, a corporation of Delaware

Filed June 19, 1968, Ser. No. 738,185

Int. Cl. H03b 7/14

U.S. Cl. 331-101

9 Claims



A microwave oscillator wherein a plurality of tunnel diodes are coupled together to operate essentially as one oscillator so as to obtain enhanced power outputs. Each tunnel diode is biased to oscillate independently in its own cavity, the individual cavities being identical and

arranged circumferentially to form the center post of a main coaxial cavity. Slots in the outer walls of the individual cavities couple energy therein into the main cavity which is excited in the  $TE_{011}$  mode. A tuning ring allows the main cavity to be tuned.

## ERRATUM

For Class 332-16 see:  
Patent No. 3,521,151

3,521,195

## JUNCTION CIRCULATOR WHEREIN EACH ARM IS COUPLED TO THE FERROMAGNETIC BODY AT TWO PLACES

Hendrik Bosma, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

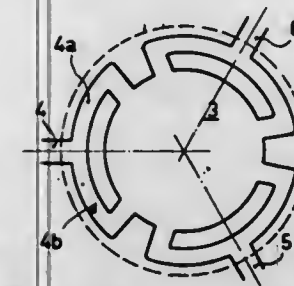
Filed Nov. 12, 1968, Ser. No. 775,024

Claims priority, application Netherlands, Nov. 23, 1967, 6715902

Int. Cl. H01p 1/32, 5/12

U.S. Cl. 333-1.1

1 Claim



A junction circulator using ferromagnetic discs has at least three input ports each coupled to at least two points of the circulator. The two points are a selected distance apart on the circulator. Thus, undesired modes within the circulator will be suppressed because of phase cancellation.

3,521,196

## MICROWAVE CIRCUITS UTILIZING FERRITE MODE TRANSFORMERS

Roger Salomon Afandari, Paris, and Robert Pauchard, Cachan, France, assignors to Compagnie Francaise Thomson-Houston-Hotchkiss Brandt, Paris, France, a Corporation of France

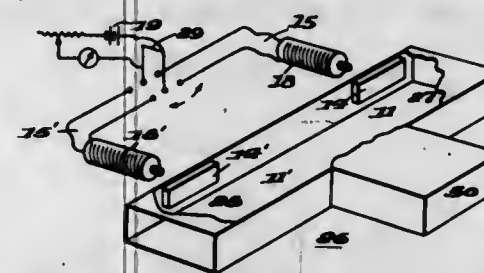
Continuation-in-part of abandoned application Ser. No. 116,101, June 9, 1961. This application May 19, 1965, Ser. No. 457,094

Claims priority, application France, June 9, 1960, 829,527, Patent 1,272,519

Int. Cl. H01p 1/16, 1/10, 1/20

U.S. Cl. 333-7

12 Claims



The invention relates to selective-action mode transformers or converters or microwave structures capable of converting the mode of microwaves traveling there-through from one type to another, and more precisely from a  $TE_{00}$  type mode to a  $TE_{01}$  mode and vice versa. The invention is based on the discovery of a mode conversion effect which was observed by the applicants to occur in wave guides upon a novel application of magnetized ferrite material therein. The imposition of a transverse magnetic field perpendicular to the plane of polarization of a guided U-H-F wave in a ferrite element posi-

tioned in the guide, transforms an incident  $TE_{00}$  wave into a  $TE_{01}$  (more broadly a  $TE_{0n}$  into a  $TE_{0p}$  wave) and vice versa. The effect may be reciprocal, i.e., hold for either direction of wave propagation or it may be non-reciprocal. The mode-conversion effect is found to occur when an elongated ferrite element is positioned in a wave guide with its major direction parallel to the direction of propagation of the waves through the guide and near a narrow wall of the guide, and when the element is exposed to a magnetic field essentially normal to the plane of polarization of the incident wave.

3,521,197

## HIGH FREQUENCY POWER LIMITER DEVICE FOR A WAVEGUIDE

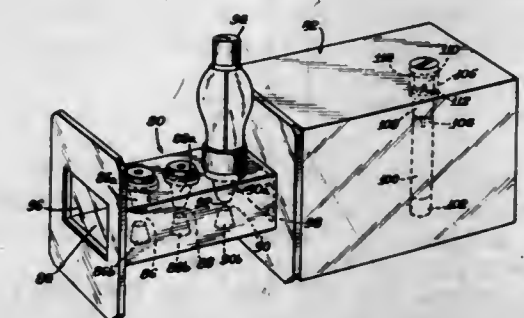
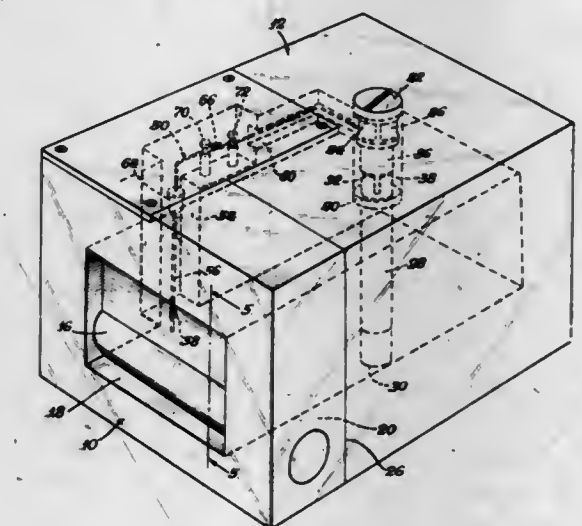
David C. Broderick, Beverly, Mass., assignor to Metcom, Inc., Salem, Mass., a corporation of Delaware

Continuation-in-part of application Ser. No. 547,056, May 2, 1966. This application Oct. 24, 1967, Ser. No. 681,056

Int. Cl. H01p 1/14; H01j 7/46

U.S. Cl. 333-13

8 Claims



A power limiter device having solid state means for limiting and attenuating the propagation of destructively high powered signals within a broad band of electrical signals.

3,521,198

## ELECTRONICALLY CONTROLLED DELAY LINE

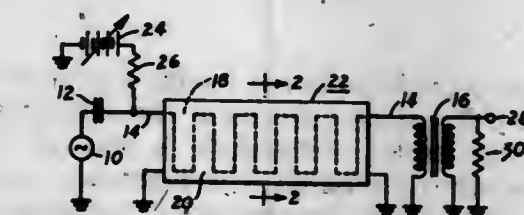
Rabah Shabbender, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Aug. 9, 1965, Ser. No. 478,346

Int. Cl. H03h 7/36

U.S. Cl. 333-29

5 Claims



A variable delay line including a ferrite material having a conductor embedded therein. A delay control signal



is passed through the conductor. A signal to be delayed is also applied to the conductor. The delayed signal and the control signal are fed to an output transformer in a manner to maintain the impedance match of the delay line and of the output means coupled to the transformer as the delay is varied. Alternatively, an auxiliary conductor is also embedded in the ferrite material and the delay control signal is caused to flow therethru, the signal being applied to the first-mentioned conductor.

3,521,199

# **TUNABLE BANDSTOP MICROWAVE SWITCH COMPRISING A PIN DIODE AND VARIABLE CAPACITANCE**

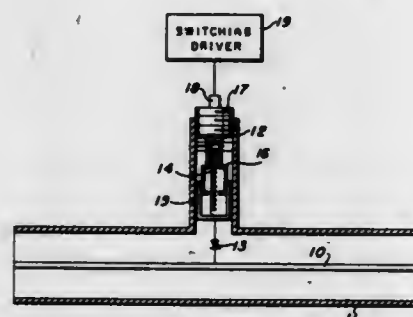
Donald R. Wehner, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Feb. 18, 1969, Ser. No. 800,210

Int. Cl. H01p 1/10, 1/20; H03b 7/10

U.S. Cl. 333-73

6 Claims



At least one PIN diode is connected to the central conductor of a coaxial line which is capable of transmitting microwave energy. A variable capacitor is connected in series between each of such diodes and the outside conductor of the coaxial lines. Additionally, a means is provided externally to the coaxial line for the series circuit including the each PIN diode and each variable capacitor to resonate at a bandwidth of frequencies which it is desired to substantially entirely attenuate.

3,521,200

# **COMBINED UNIT OF IMPEDANCE**

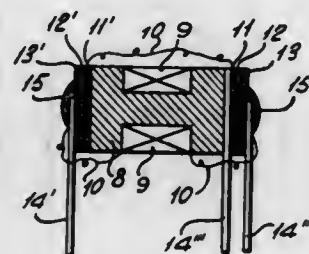
Mitsuo Matsushima and Shigeaki Ogawa, Akita-ken, Japan, assignors to Tokyo Denki Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan

Original application Apr. 17, 1962, Ser. No. 188,174, now Patent No. 3,295,056, dated Dec. 27, 1966. Divided and this application Aug. 22, 1966, Ser. No. 591,050

Int. Cl. H01h 7/08

U.S. Cl. 333-79

1 Claim



A compact impedance device having a generally cylindrical unitary ferrite core having a circumferentially extending radial recess intermediate a pair of enlarged ends and layers of relatively low resistance electrically conductive metal each disposed on a respective end of said core, said impedance device including at least one compactive impedance component defined by one of said

layers, a dielectric layer disposed on the outer surface of said layer, and an electrode disposed on the outer surface of said dielectric layer, and an inductive component defined by a coil winding disposed in said recess.

3,521,201

# **COAXIAL ATTENUATOR HAVING AT LEAST TWO REGIONS OF RESISTIVE MATERIAL**

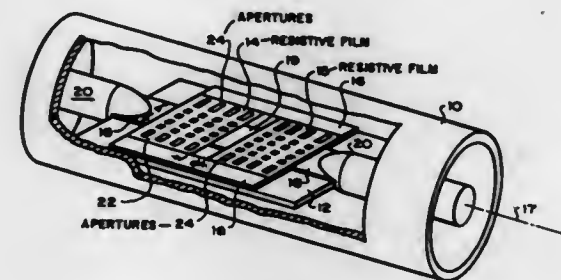
David R. Veteran, Los Altos, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Nov. 1, 1968, Ser. No. 772,713

Int. Cl. H01p 1/22; H01c 7/00

U.S. Cl. 333-81

5 Claims



A distributed network resistive film attenuator having a substantially constant attenuation over a broad frequency range is provided with two, aligned rectangular areas of resistive film disposed a selected distance apart on a substrate supported within an outer coaxial conductor, each area having small aligned rectangular apertures therein to provide selected values of resistivity per unit area within selected portions of the film. The resistive film areas are connected by a connecting electrode of a selected length which is less than one-half of the wavelengths of the electromagnetic wave energy being attenuated. A first pair of electrodes provides electrical contacts between the outer conductor and opposite edges of both rectangular areas of resistive film, and the second pair of electrodes provides electrical contacts between sections of a coaxial inner conductor and the resistive film areas, thereby interconnecting both areas between the coaxial inner conductor sections.

3,521,202

# **COMPRESSIONALLY-LOADED SPRING FORMING A DC CONNECTION TO THE CONDUCTOR OF AN RF TRANSMISSION LINE**

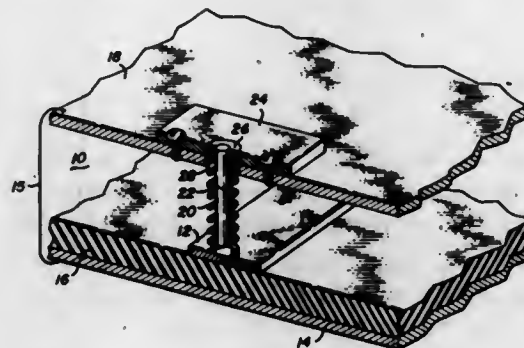
Thomas J. Russell, Sunnyvale, Calif., assignor, by mesne assignments, to The Singer Company, New York, N.Y., a corporation of New Jersey

Continuation-in-part of application Ser. No. 598,510, Dec. 1, 1966. This application Dec. 4, 1968, Ser. No. 781,211

Int. Cl. H01p 1/00

U.S. Cl. 333-97

6 Claims



An electrical connection formed by a conductive, helical coil compression spring to at least one of the two

spaced apart conductors of an RF transmission line and across the space between the conductors in which the axial integrity of the spring along its length is maintained by an internal core or external sleeve.

3,521,203

# **MAGNETIC MOUNTING FOR PILL-TYPE DIODES**

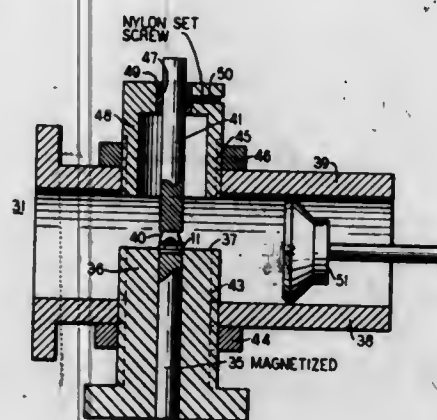
William M. Sharpless, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Nov. 14, 1967, Ser. No. 682,863

Int. Cl. B25b 11/00; H01l 7/60; H01p 7/00

U.S. Cl. 333-98

4 Claims



A pill-type diode is disclosed suitable for magnetic mounting within a waveguide. The end layers of the cylindrical pill, constituting the diode's terminals, are made of a magnetic material and are conductively bounded. The pill is secured within the guide by compression between two coaxial conducting rods inserted through opposite walls of the waveguide. One of the rods is magnetized so that the pill is held magnetically during the mounting process.

3,521,204

# **ELECTRONICALLY TUNED PUSHBUTTON RADIO HAVING STATION SELECTING COMPARISON MEANS**

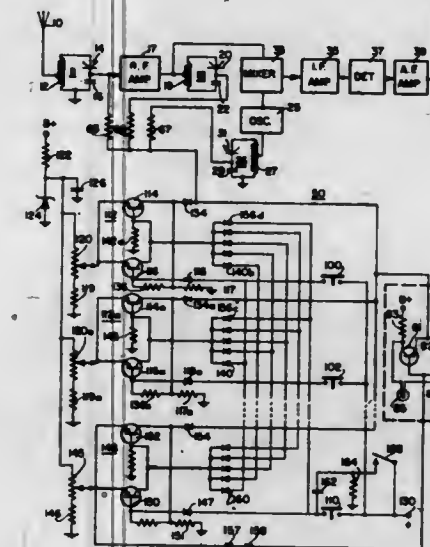
Ole K. Nilssen, Bensenville, and Kamil Y. Jabbar, River Grove, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Jan. 3, 1969, Ser. No. 788,767

Int. Cl. H03j 5/04, 5/32

U.S. Cl. 334-7

10 Claims



An electronic pushbutton tuning system is utilized to provide for tuning of a radio by varying the bias on voltage variable capacitors in the antenna, RF and local oscillator stages of the radio. A manual tuning control and a plurality of pushbutton circuits each include a potentiometer for selecting the desired voltage to be used in

tuning the voltage variable capacitors, and a switching circuit is employed to select the particular one of the tuning circuits which is used to control the bias voltage on the voltage variable capacitors. Whenever a desired station is selected by the manual tuning control, subsequent selection of a pushbutton tuning control circuit causes the output of the selected pushbutton potentiometer to be compared with the output of the manual tuning potentiometer in a comparator circuit; and the pushbutton potentiometer then may be adjusted until the comparator circuit indicates that the settings of the two potentiometers are the same. When this indication is reached, the pushbutton potentiometer is set to the same station previously selected by manual tuning; so that subsequent selection of this same pushbutton will provide for selection of that station.

3,521,205

# **SELECTOR SWITCHING MECHANISM**

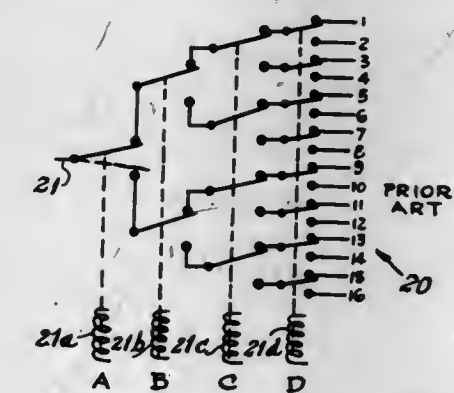
Angelo Vaccaro, Port Washington, N.Y., assignor to Columbia Controls Research Corporation, Glen Cove, N.Y., a corporation of New York

Filed May 9, 1968, Ser. No. 727,959

Int. Cl. H01h 67/04

U.S. Cl. 335-108

11 Claims



A selector switching mechanism having an input and a plurality of outputs in which the input is electrically connected to only the one desired output, with the latter being selected by binary operation of a plurality of restrictors, each of which blocks a different combination of output connections so that only the one desired output is the output that is not blocked by one or more restrictors.

3,521,206

# **HOLDING DEVICES FOR CENTERING MAGNETS OF CATHODE RAY TUBES**

Katsuyoshi Sugiyama, Hodogaya-ku, Japan, assignor to Denki Onkyo Co., Ltd., Tokyo, Japan, a corporation of Japan

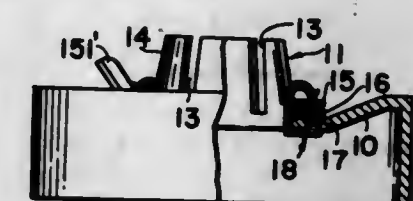
Filed Apr. 5, 1968, Ser. No. 719,063

Claims priority, application Japan, Dec. 13, 1967, 42/104,771; Jan. 20, 1968, 43/3,505

Int. Cl. H01f 1/00

U.S. Cl. 335-212

8 Claims



A holding device for a centering magnet of a cathode ray tube located on the periphery of a mounting member adapted to receive the neck of the cathode ray tube and in parallel with a supporting plate, a letter C shaped clip



of a resilient and flexible material is inserted through an opening in the mounting member to clamp the centering magnet.

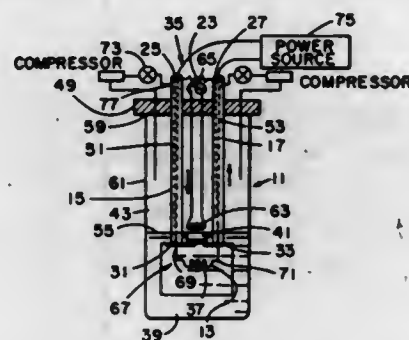
### 3,521,207 POWER SUPPLY FOR SUPERCONDUCTING MAGNET

Richard B. Britton, Setauket, and William B. Sampson, Bellport, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Sept. 27, 1968, Ser. No. 763,260  
Int. Cl. H01f 7/22

U.S. Cl. 335-216

4 Claims



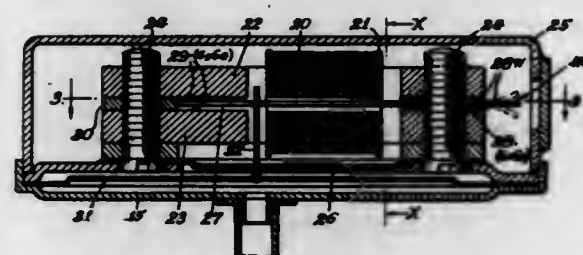
Power supply for a superconducting magnet connected to provide a smoothly increasing low cost energization of the magnetic and large magnetic fields therein with reduced flux jumps and reduced lead losses.

### 3,521,208 RELUCTANCE ADJUSTMENT IN ELECTRO-MAGNETIC DEVICES

Hugh S. Knowles, Glen Ellyn, Ill.  
(9400 Belmont Ave., Franklin Park, Ill. 60131)  
Filed Apr. 22, 1958, Ser. No. 730,082  
Int. Cl. H01f 7/08

U.S. Cl. 335-231

6 Claims



An electro-magnetic transducer comprising a magnet, a pole piece flux-conductively engaging each pole of the magnet, an elongated armature, means clamping one end of said armature in spaced relationship to the pole pieces, there being a bending line between the clamped end and the vibratable end of the armature, and a flux-conductive, bendable tab having one end flux-conductively mounted on one pole piece adjacent the clamping means and the other end extending adjacent the other pole piece for varying the reluctance in the air gap between the pole pieces at the fixed end of the armature.

### 3,521,209 ELECTROMAGNETIC LOAD LIFTING DEVICE

Lothar Fritz, 3 Waldstr., 5159 Kerpen, Bezirk, Cologne, Germany  
Filed Feb. 20, 1968, Ser. No. 706,963  
Claims priority, application Germany, Feb. 21, 1967, 1,286,725

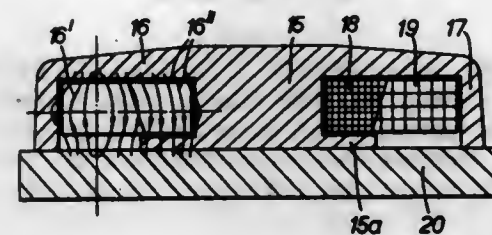
Int. Cl. H01f 7/20

U.S. Cl. 335-291

8 Claims

A load lifting electromagnet having a ferromagnetic housing and an excitation coil which is formed at least

partially by a coil made of ferromagnetic material. The magnetically conductive coil is so arranged relative to the



housing, that the magnetic cross section of the housing is increased, apart from the inherent excitation action of the magnetically conductive coil.

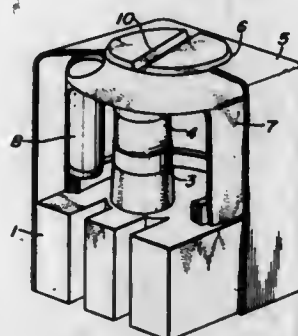
### 3,521,210 INTERMEDIATE FREQUENCY TRANSFORMER

Kazutomo Iwata, Neyagawa-shi, and Tatsuo Maeoka, Kobe, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed May 13, 1968, Ser. No. 728,558  
Int. Cl. H01f 21/06

U.S. Cl. 336-87

6 Claims



Intermediate frequency transformers wherein a core having a coil wound thereon is fixed to a terminal board, a movable core associated with said core is provided in the outer peripheral portion of a support member having an adjusting portion exposed from the top surface of a shield casing, said movable core is adapted for two-dimensional movement, said support member is mounted in such a manner that the axis of rotation thereof is deviated from the center axis of said coil, and the distance between the movable core and the coil is changed through the rotation of the support member so that the inductance of the coil is varied accordingly.

### 3,521,211 SWITCH AND DELAY MECHANISM

Robert H. Thorner, 8750-F W. Chicago Blvd., Detroit, Mich. 48204  
Continuation-in-part of application Ser. No. 544,960, Apr. 25, 1966, now Patent No. 3,399,541, dated Sept. 3, 1968. This application Aug. 22, 1968, Ser. No. 754,605

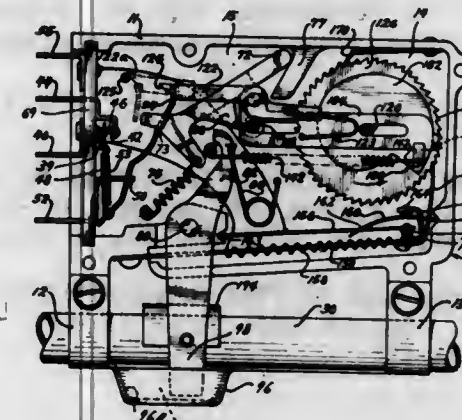
Int. Cl. H01h 37/02, 37/52, 37/62

U.S. Cl. 337-301

19 Claims

An electric switch delay mechanism is provided and a novel switch mechanism is adapted to be operated by the delay mechanism. A delay mechanism includes a latch or clutch member adapted to engage and hold the switch blade of a snap-action switch between its total travel to delay the initial or final action of the switch until released as a function of time or temperature, for

example. The novel switch includes a unique switch blade to cooperate with the delay mechanism to provide



the same action in a single switch as normally provided in two switches.

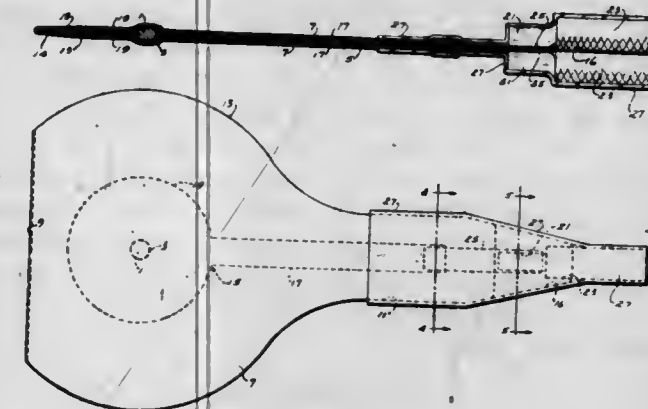
### 3,521,212 ELECTRIC MOTOR PROTECTION SENSOR

Joseph W. Wasleski, Jr., Mansfield, Francis P. Buiting, Plainville, and Lyle E. McBride, Jr., Norton, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 21, 1968, Ser. No. 739,048  
Int. Cl. H01c 7/04; H02h 5/04; G01k 7/22

U.S. Cl. 338-25

14 Claims



A small thermistor of low thermal inertia is carried in an opening in an inner thin layer of flexible high-temperature insulating material so as to expose portions of the thermistor on opposite sides of this layer. Outer thin layers of similar insulating material sandwich this inner layer and the thermistor. A vapor-deposited thin and flexible foil of copper is carried on the inside of each outer insulating layer and is soldered to an adjacent end of the thermistor. The copper foil serves as a conductor of heat and electricity to the thermistor. The inner and outer layers of the insulating material are bonded to one another around the foils to provide a protective seal around the foils. Each conductive foil is shaped with an enlarged head portion extending from the end of the thermistor and with a narrow stem for making electrical connections with terminals of signal-receiving leads from a control circuit for deexciting the motor when it approaches a damaging temperature. The three insulating layers are also formed with enlarged head portions surrounding head portions of the foils and with stems covering the foil stems. Their head portions, having extensive areas, make them good collectors of heat for delivery to the foil heads which in turn deliver this heat to the thermistor. A heat-shrunk insulating sleeve surrounds the connections between the stems and said terminals.

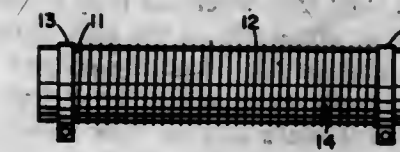
### 3,521,213 RESISTANCE DEVICE

Laverne H. Hardy, Tonawanda, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Apr. 22, 1968, Ser. No. 722,869  
Int. Cl. H01c 3/00

U.S. Cl. 338-296

3 Claims



A filament resistance element for use at high temperatures consisting of a nonconducting refractory body carrying at least one conductive refractory filament or refractory coated conductive filament.

### 3,521,214 HEATING ELEMENTS

Richard J. Bennett and Alex N. Oates, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,776  
Int. Cl. H01b 1/06; H01c 1/00

U.S. Cl. 338-322  
Electrically conductive compositions useful as heating elements are prepared by molding an arylene sulfide polymer such as polyphenylene sulfide and a conductive amount such as 4 to 50 weight percent of a finely-divided carbon black.

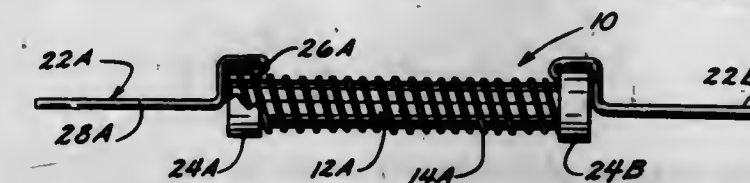
### 3,521,215 RESISTOR WITH END TERMINALS

James R. O'Keefe, Hastings, Nebr., assignor to Dale Electronics, Inc., Columbus, Nebr., a corporation of Nebraska

Filed Oct. 2, 1968, Ser. No. 764,421  
Int. Cl. H01c 1/14

U.S. Cl. 338-332

5 Claims



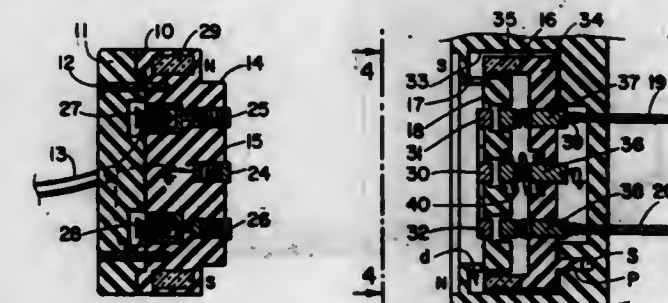
A resistor with an elongated core element having a resistance element on the outer surface thereof, and terminal wires secured to the ends of the resistor and engaging the outer periphery of the resistance element at the opposite ends thereof.

### 3,521,216 MAGNETIC PLUG AND SOCKET ASSEMBLY

Manuel Jernir Tolegian, 3960 Glenridge Drive, Sherman Oaks, Calif. 91403  
Filed June 19, 1968, Ser. No. 738,161  
Int. Cl. H01r 11/30

U.S. Cl. 339-12

7 Claims



A plug and socket assembly is provided with magnets in both the plug and socket polarized such as to attract the plug into the socket and effect electrical contact with



a source of electrical energy. The socket has a circular recess for receiving a cylindrical forwardly projecting portion on the plug. The floor or bottom of the recess includes arcuately shaped contact surfaces which are normally disconnected from the source of electrical energy. Within the socket body there are provided movable contacts connected to the source of electrical energy, the arrangement being such that when the plug is received in the recess, the magnetic attraction of the plug causes the movable contacts to engage the arcuately shaped contacts on the recess and thus effect the desired electrical connection. By this arrangement there are no "hot" contacts exposed in the socket. The magnets are polarized with their north and south poles in such positions as to assure that only certain contacts will be electrically engaged so that a consistent polarity is assured. The arcuate shapes are such that contact is maintained for several rotative positions. In addition, the arrangement of the circular recess cooperating with a cylindrical forward portion permits relative rotation of the plug in the socket so that by so rotating the plug, like poles of the magnets can be brought in to juxtaposition to repel the plug from the recess to facilitate disconnection. Because the movable contacts engage the arcuately shaped contacts wholly within the plug body as a consequence of magnetic movement, there is no exposed arcing.

3,521,217

**ELECTRIC RANGE CONNECTOR**

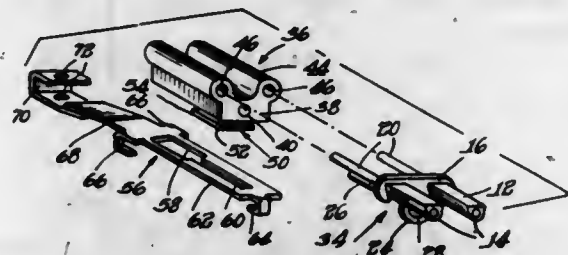
Robert W. Sebastian, Villa Park, Ill., assignor to Molex Products Company, Downers Grove, Ill., a corporation of Illinois

Filed Sept. 30, 1968, Ser. No. 763,549

Int. Cl. H01r 3/06, 13/60

U.S. Cl. 339-14

8 Claims



A separable plug-and-socket connector for the individual burners or heating elements of an electric range, the plug element of which is rigidly connected to the heating element, and the socket element of which is mounted by a bracket in semi-fixed position.

3,521,218

**ACCESSORY FOR HEAVY DUTY CONNECTORS**

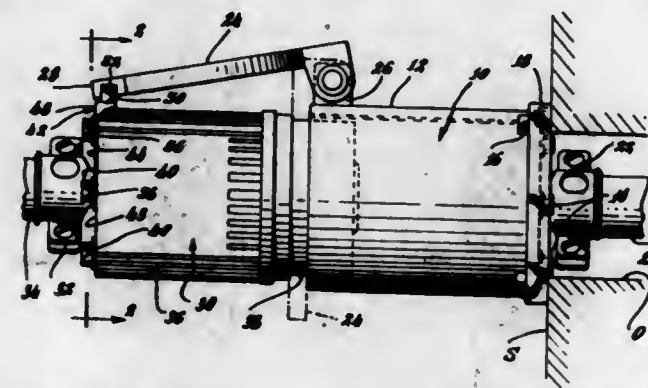
Vincent L. Carissimi, Fairfield, Conn., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut

Filed Sept. 26, 1967, Ser. No. 670,677

Int. Cl. H01r 13/32

U.S. Cl. 339-44

7 Claims



An accessory anti-rotation device for preventing relative rotation between a portable electric connector and

a fixed electrical receptacle having a hinged cover, the device including a planar body portion positionable upon the non-mating end of the connector and a flag portion extending radially outwardly from and in a plane normal to the body for cooperating with the raised cover and preventing rotation when the connector and receptacle are coupled.

3,521,219

**LAMP MOUNTING TERMINAL BLOCK**

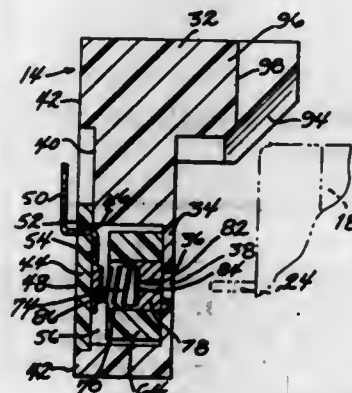
Hans Ege, Des Plaines, Ill., assignor to Underwriters Safety Device Co., Chicago, Ill., a corporation of Illinois

Filed Sept. 26, 1968, Ser. No. 762,779

Int. Cl. H01r 33/08, 13/62

U.S. Cl. 339-55

7 Claims



A terminal block for use in accurate positioning of electrical lamps having terminal pins extending axially from the ends thereof. The block includes at least one recess with partially circular side walls, at least one holder mounted in each recess for limited rotational movement, openings in the holder for supporting pin-receiving sockets, and pin openings extending through the front cover portion of the block, whereby the connector pins extend through the openings in the cover and into the sockets in the holder, and whereby the holder may move through an arc to accommodate slight rotational misalignment of the pins. The holders and the sockets are urged against the front cover by springs which also serve as electrical conductors and contacts.

3,521,220

**INTEGRAL PLUG AND STRAIN RELIEF CORD SET AND METHOD OF MANUFACTURE**

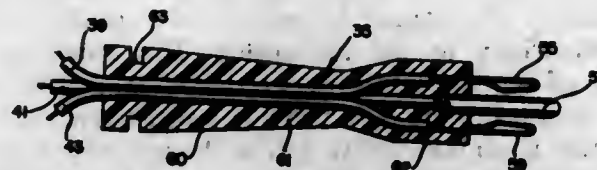
Edwin E. Clarke, Jr., Timonium, and Avram M. Mushulam, Baltimore, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland

Filed June 10, 1968, Ser. No. 735,789

Int. Cl. H01r 13/08

U.S. Cl. 339-62

10 Claims



The device disclosed herein is a portable power tool having an electric motor adapted to be powered from a conventional remote electric source. The tool includes a housing in which the motor is disposed and which has electrical conductors extending therefrom adapted to interconnect the motor and the electrical source. To protect the conductors, a novel, strain relief and plug construction is provided which provides the utmost in strength, simplicity and appearance and minimizes the cost of manufacture and assembly to the tool.

3,521,221

**INSULATION SLICING CONNECTOR**

George V. Lenzerts, London, Ontario, and Frank R. Campbell, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Feb. 21, 1968, Ser. No. 707,066

Int. Cl. H01r 11/20

U.S. Cl. 339-97

16 Claims



An insulation-slicing connector having a pair of adjacent legs having facing edges forming sidewalls of a conductor-receiving passageway consisting of three portions: an entrance portion, a conductor-centering portion and a conductor-gripping portion. The sidewalls of the conductor-centering portion intersect the sidewalls of the conductor-gripping portion to form opposed edges for slicing the insulation from the insulated conductor as it is forced into the conductor-gripping portion.

3,521,222

**CABLE CONNECTOR**

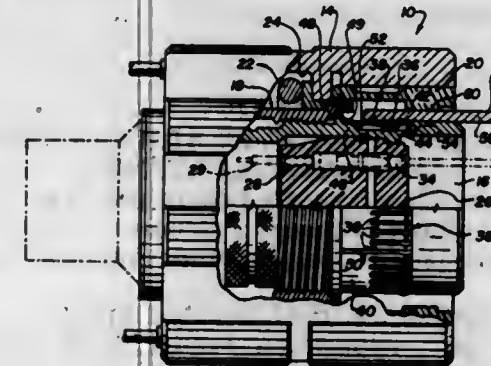
Robert L. Andrews, Simi, Calif., assignor to The Bunker-Ramo Corporation, Oak Brook, Ill., a corporation of Delaware

Filed Nov. 24, 1967, Ser. No. 685,649

Int. Cl. H01r 23/06

U.S. Cl. 339-143

1 Claim



An electrical connector of the multi-contact type wherein the plug and receptacle have conductive outer shells functioning as shielding for the contacts and conductors therein when used in installations where electromagnetic and electrostatic disturbances are encountered, the construction including multiple spring contact fingers arranged to establish secure electrical contact engagement between the shells of the plug and receptacle around their peripheries to minimize the disadvantageous effects of such disturbances.

3,521,223

**BATTERY TERMINAL CONNECTOR**

David M. Martinez, Sylmar, Calif., assignor of one-half to Estelle P. Murphy, Van Nuys, Calif.

Filed Apr. 12, 1968, Ser. No. 720,762

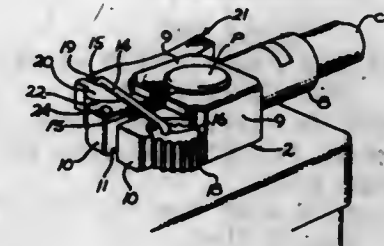
Int. Cl. H01r 7/06

U.S. Cl. 339-239

5 Claims

A quick detachable battery terminal post clamp suitable, for example, for connecting cables to storage batteries and embodying the operating means of applicant's

co-pending application hereinafter identified, and characterized by means preventing corrosion including a non-conductive component means which surrounds the post and cable connecting and conducting component except for the electrically conductive surfaces thereof and which



cooperates with the operating means to cause the conducting component to be conductively engaged with a battery terminal post and which, upon release of the operating means, assists in the disengagement of the conductor component from the battery terminal post.

3,521,224

**ELECTRICAL CONNECTOR HAVING A FERRULE PROVIDED WITH OVERLAPPING PORTIONS**

Martinus Johannes Albertus Spooren, 's-Hertogenbosch, Netherlands, assignor to AMP Incorporated, Harrisburg, Pa.

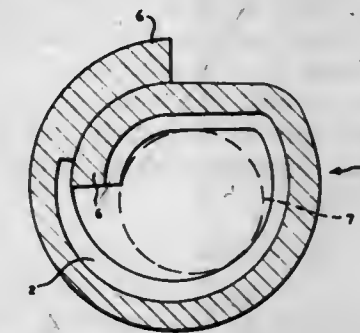
Filed July 27, 1967, Ser. No. 656,497

Claims priority, application Netherlands, July 19, 1966, 6610131

Int. Cl. H01r 11/28

U.S. Cl. 339-276

2 Claims



A ferrule of an electrical connector is provided with overlapping portions in an axial direction therealong thereby increasing the tensile strength when crimped onto an electrical wire or the like.

3,521,225

**UNDERWATER TRANSDUCER AND MOUNTING BRACKET ASSEMBLY**

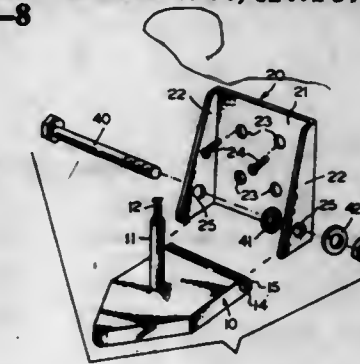
Jerome I. Kurzman, Merion Station, and Teddy L. Hansford, Philadelphia, Pa., assignors to Jetronic Industries, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed June 25, 1968, Ser. No. 739,670

Int. Cl. H04r 1/44; A47f 5/10

U.S. Cl. 340-8

9 Claims



An underwater transducer and mounting bracket assembly is disclosed, for mounting the transducer on the transom of a boat hull. A relationship of bracket and



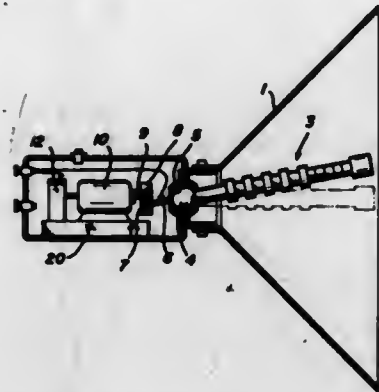
transducer is provided that permits various angle orientations between the transducer and bracket as required for different hull designs, while effectively maintaining a seal between these parts to prevent water from being forced upwardly therebetween in any significant quantity.

### 3,521,226 MECHANICALLY SCANNED ACOUSTIC TRANSDUCER

Daniel E. Andrews, Jr., 1563 Yost Drive 92109, and Arthur H. Roshon, Jr., 1746 Minden Drive 92111, both of San Diego, Calif.  
Filed Aug. 26, 1968, Ser. No. 755,279  
Int. Cl. H04r 1/40

U.S. Cl. 340-8

11 Claims



A directional transmitting-receiving transducer for sonar signals comprises a right circular conical reflector. A number of rings or discs of active elements, such as piezoelectric ceramics, are stacked to form a rod. The rod is mounted along the axis of the cone so that all acoustical wave energy radiated in radial directions from the rod is collimated by the reflector. By tilting the rod about a point at or near the apex of the reflector, the axis of the beam can be angularly deflected from the center line of the reflector without undue distortion of the shape of the beam.

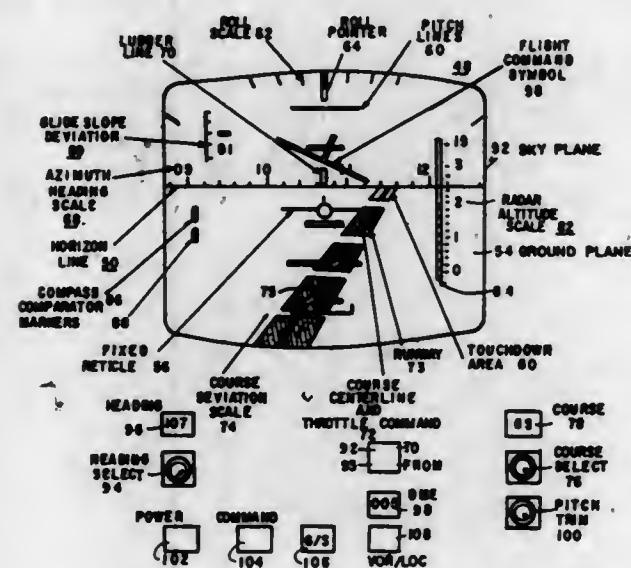
### 3,521,227 DISPLAY SYSTEM FOR PROVIDING INTEGRATED DISPLAY OF AIRCRAFT INFORMATION

Paul C. Congleton, Menlo Park, and Hideki D. Izumi and Charles L. McAfee, San Jose, and Charles K. Snyder, Cupertino, Calif., assignors to Kaiser Aerospace & Electronics Corporation, Oakland, Calif., a corporation of Nevada

Filed Oct. 10, 1966, Ser. No. 585,643  
Int. Cl. G08g 5/02

U.S. Cl. 340-27

26 Claims



A system for displaying command information, the horizontal situation and attitude information of a mobile unit on a single display which electronically generates

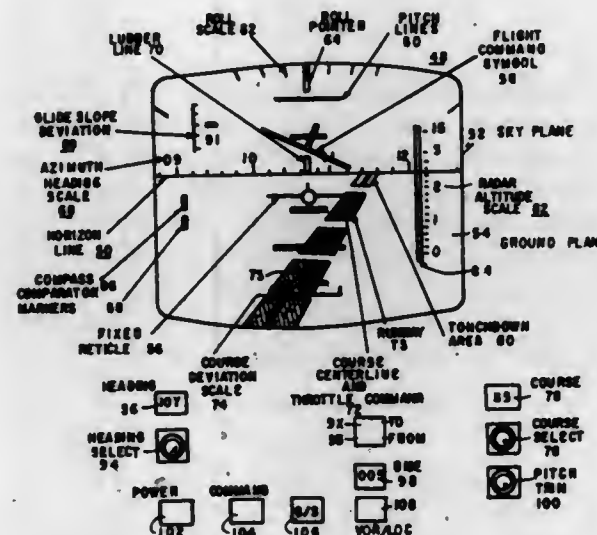
a command symbol, movable vertically, laterally and about its roll axis to indicate attitudes to be effected to achieve an optimum flight situation; and which electronically generates a line symbol to portray the displacement of an aircraft from a selected course and the difference between the heading of the aircraft and the selected course; and further provide symbols indicating actual aircraft attitudes.

### 3,521,228 COURSE CENTER LINE GENERATOR FOR AIRCRAFT DISPLAYS

Paul C. Congleton, Menlo Park, and Hideki D. Izumi, San Jose, Calif., assignors to Kaiser Aerospace & Electronics Corporation, a corporation of Nevada  
Filed Jan. 13, 1967, Ser. No. 609,109  
Int. Cl. G01s 7/22

U.S. Cl. 340-27

25 Claims



Electronic circuitry which generates signals to provide a display of horizontal situation information for an aircraft in response to input VOR/LOC signals and course error signals from sensor equipment.

### 3,521,229 SAFETY DEVICE FOR USE IN AIRCRAFT DURING AUTOMATIC LANDING

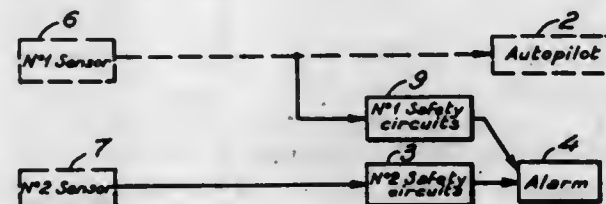
Jacques Charles Henri Joseph Lepers and Jean Christian Delprat, Toulouse, France, assignors to Sud-Aviation Société Nationale de Constructions Aeronautiques, Paris, France

Filed Feb. 16, 1967, Ser. No. 616,656  
Claims priority, application France, Sept. 2, 1966, 75,016

U.S. Cl. 340-27

Int. Cl. G08g 5/00

26 Claims



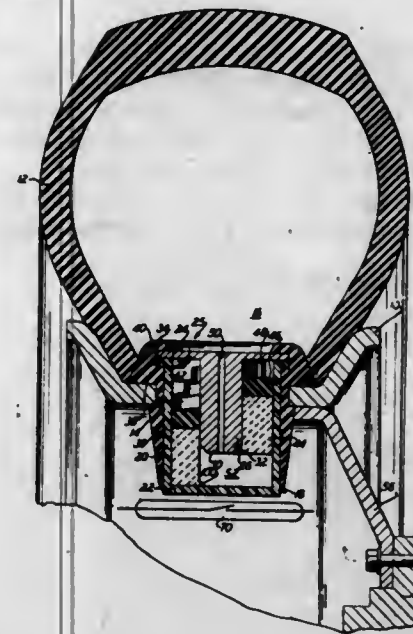
A safety device for use in aircraft comprises a first sensor for sensing deviation of an aircraft flight path from a radio guidance beam, a second sensor for sensing the angle of bank of the aircraft and a third sensor for sensing its rate of oscillation, the three sensors being connected to a warning system for actuation thereof when either the deviation of the flight path or the angle of bank exceeds a predetermined value, and to neutralize a servo-motor connected to an auto-pilot and optionally actuate the warning system when the oscillation rate of the aircraft exceeds a predetermined value.

### 3,521,230 LOW TIRE PRESSURE SENSING MECHANISM

Charles W. Poole, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Filed Nov. 7, 1967, Ser. No. 681,160  
Int. Cl. B60q 1/00

U.S. Cl. 340-58

10 Claims



A low tire pressure sensing or transducing mechanism in which a permanent magnet is variably positioned by the air pressure in the tire. When the air pressure in the tire is at its normal level, the permanent magnet is biased by the air pressure in the tire to a position where its magnetic field has insufficient force to close a normally open electromagnetically operated switch. When the air pressure in the tire falls to a predetermined or dangerously low level, means are provided to move the permanent magnet against the force provided by the low air pressure into a position where the normally open electromagnetically operated switch is subjected to a magnetic field of sufficient intensity to close the switch. Closure of the electromagnetically operated switch will cause a circuit to close which may in turn operate a warning device, for example, a warning lamp that will warn the operator of the vehicle that a low pressure condition exists in the tire. The low tire pressure sensing mechanism of the present invention preferably comprises an annular housing located in an aperture in the wheel rim on which the tire is mounted. The end of the housing located within the tire is closed by an annular keeper having a central aperture positioned therethrough so that the air pressure in the tire may apply a force to an annular magnet positioned around the keeper to bias it inwardly toward the tire rim and around the keeper against the bias of an annular spring. When the magnet is in this position, the keeper shunts the flux of the magnet. When the air pressure in the tire falls to a predetermined low level the magnet will move outwardly on the keeper so that its magnetic flux or field moves closer to the electromagnetically operated switch and is only partially shunted by the keeper. In this position the flux or magnetic field has sufficient force to close the electromagnetically operated switch.

### 3,521,231 TIRE PRESSURE DIFFERENTIAL SENSING AND INDICATING DEVICE

Carey W. Johnston, 591 Edgewood Road, Leonia, N.J. 07605

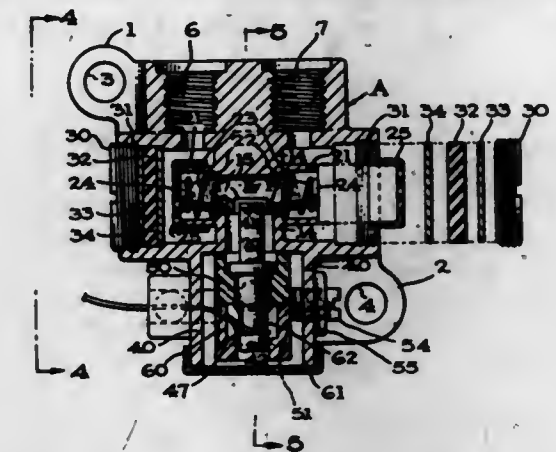
Filed Nov. 9, 1967, Ser. No. 681,652  
Int. Cl. B60q 1/00

U.S. Cl. 340-58

7 Claims

A tire pressure differential sensing device embodying a housing partitioned to define two chambers, the partition

being provided with a transverse bore for receiving a piston balanced by calibrated springs and subject to pressure of air from dual tires, the sliding balanced piston being slotted for association with a contact pin connected to a sig-



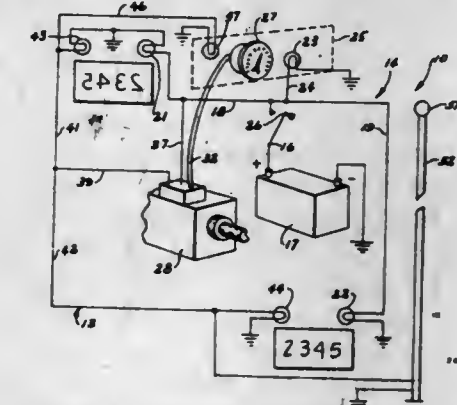
### 3,521,232 SPEED INDICATOR FOR VEHICLES

John W. Black, Prairieville Township, Barry County, Mich., assignor to Pemco Wheel Company, Kalamazoo, Mich., a corporation of Michigan

Filed Oct. 16, 1967, Ser. No. 675,506  
Int. Cl. B60q 1/00

U.S. Cl. 340-62

7 Claims



A speed-indicating system in a vehicle comprising electric lamps and a device for varying the frequency of changes in the intensity of such lamps in response to the speed of the vehicle. The lamps may be mounted both inside and outside of the vehicle. Similar systems may be mounted along the road at convenient intervals and at dangerous points in the road. The road-mounted systems are pulsed at constant rates so that the vehicle operator can control his speed by synchronizing the pulsations of the lamps in his car with the pulsations of the road systems.

### 3,521,233 BRAKE INDICATING APPARATUS FOR A MOTORIZED TWO WHEEL VEHICLE

Takeshi Inoue, Tokyo, Japan, assignor to Kabushiki Kaisha Honda Gijutsu Kenkyusho, Yamato-machi, Japan

Filed Mar. 21, 1968, Ser. No. 714,881  
Claims priority, application Japan, Mar. 28, 1967, 42/26,147

Int. Cl. B60q 1/44; B62j 5/00

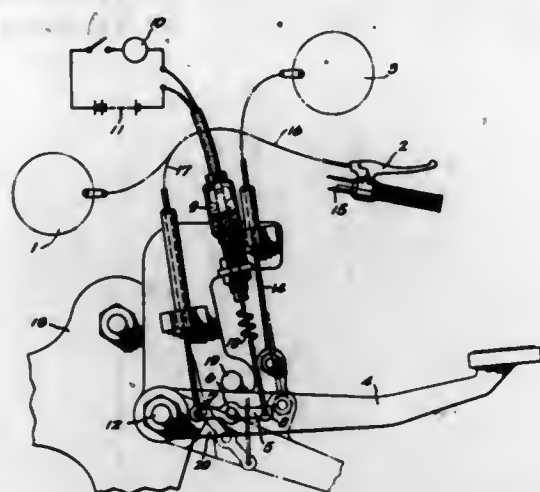
U.S. Cl. 340-71

9 Claims

A brake indicator includes a control lever pivotably connected to a pedal actuator for the brakes of one wheel of a motorized two wheel vehicle. A cable of a second



actuator for the brakes of the other wheel is connected to one end of the lever whereas a switch, which controls



an electrical circuit with an indicator, is connected to the other end of the lever via a spring.

3,521,234

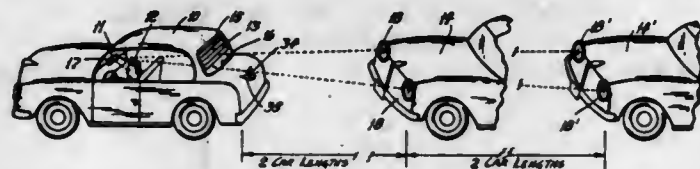
### MOTOR VEHICLE MIRROR TAILGATING OBSERVATION AND WARNING SYSTEM

John Joseph Davin, R.D. 2, Box 214, Troy, N.Y. 12184  
Continuation-in-part of application Ser. No. 670,474,  
Sept. 25, 1967. This application Jan. 13, 1969, Ser.  
No. 790,586

Int. Cl. B60q 1/46

U.S. Cl. 340—104

10 Claims



A device by which an operator of a motor vehicle can ascertain the distance between his vehicle and a second vehicle therebehind. A rear view mirror having thereon a plurality of horizontally spaced lines and a reference mark is carried by said vehicle. The operator after calibration, aligns the reference mark on said mirror with another reference guide carried by said vehicle and dependent on the relative horizontal position of the image of said another vehicle can ascertain the separation in either distance or car lengths between the vehicles. Additionally, a warning or indicating system is employed to alert the driver of the second vehicle that he is too close. Such a system in its simplest form includes a switch connected to cause illumination of a rearwardly directed light.

3,521,235

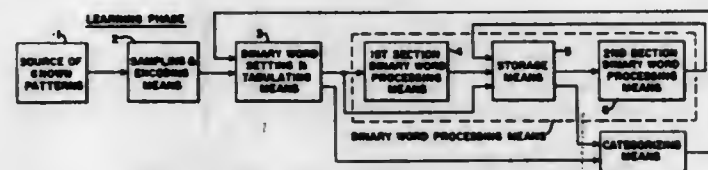
### PATTERN RECOGNITION SYSTEM

Peter W. Becker, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York  
Filed July 8, 1965, Ser. No. 470,379

Int. Cl. G06r 9/00

U.S. Cl. 340—146.3

13 Claims



A pattern recognition system including a learning phase and a recognition phase for identifying patterns, which may be electrical analog waveforms converted into corresponding digital codes. In the learning phase the tabulated frequencies of occurrence of selected binary words

occurring within said digital codes are employed to determine those binary words which best identify and distinguish said codes, and therefore the patterns. In the recognition phase, the distinguishing binary words are employed to identify and distinguish unknown patterns.

3,521,236

### ELECTRO-OPTICAL APPARATUS FOR RECOGNIZING PRINTED OR WRITTEN CHARACTERS

John R. Parks and Charles H. Davis, Teddington, England, assignors to National Research Development Corporation, a corporation of Great Britain

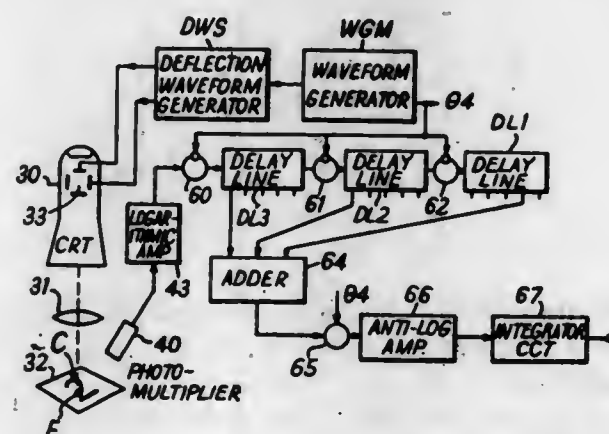
Filed Apr. 12, 1965, Ser. No. 447,180

Claims priority, application Great Britain, Apr. 13, 1964, 15,196/64

Int. Cl. G06k 9/06, 9/12

U.S. Cl. 340—146.3

4 Claims



Character recognition system in which the character area is scanned by a light spot moving along a raster scan path to develop, by photoelectric sensing and logarithmic amplifier means, an analogue-form electric signal representing on a logarithmic scale the differing optical characteristics of the character area along such scan path, in which different portions of said developed signal are brought into time coincidence by means of synchronous switching means or fixed value signal delay lines to form a plurality of separate analogue-form signals which represent respectively the logarithmic scale values of the optical characteristics of the character area along each of a plurality of parallel and widely spaced examination lines within such character area, said separate signals being each supplied to a separate multi-tapped delay line, in which selected groups of outputs from said delay lines, after combination in adding circuit means, are each converted by an anti-logarithmic amplifier to an auto correlation function signal, the various auto correlation function signals being then applied to amplitude sensing decision means to provide output recognition signals.

3,521,237

### HIGH-SPEED DATA-DIRECTED INFORMATION PROCESSING SYSTEM

Thomas J. Chinlund, Glen Ellyn, Ill., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Continuation-in-part of application Ser. No. 572,822,

Aug. 16, 1966. This application May 11, 1967, Ser.

No. 637,789

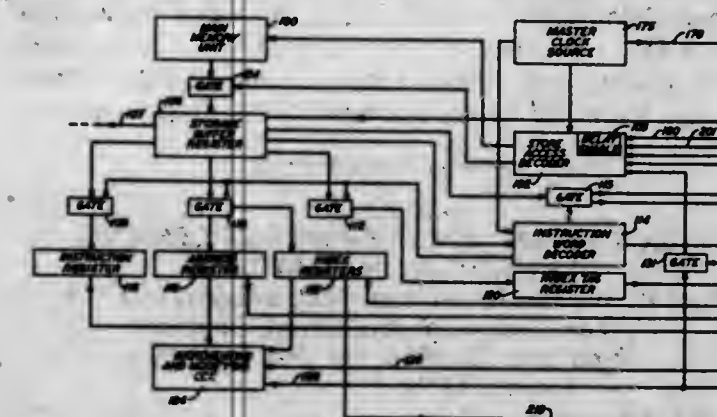
Int. Cl. G06f 7/00

U.S. Cl. 340—172.5

28 Claims

A general-purpose computer operates in a high-speed data-directed mode. The computer includes fast access registers for storing compactly encoded selection information signals that directly control the state of a program instruction location counter. By rapidly decoding the selection information, a determination is made in a small

portion of each of successive computer cycles as to which instructions of stored sets of instructions are to be ref-



erenced by the counter for accessing, decoding and execution.

3,521,238

### MULTI-PROCESSOR COMPUTING APPARATUS

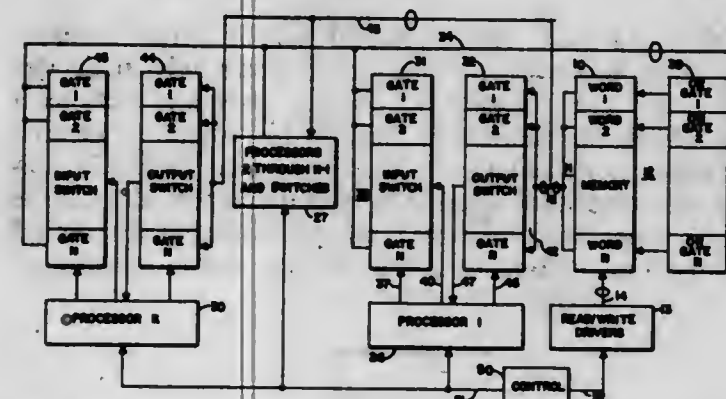
Dale C. Gunderson, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 13, 1967, Ser. No. 653,263

Int. Cl. G06f 15/16

U.S. Cl. 340—172.5

14 Claims



A multi-processor computing system is shown wherein each processor has access to a central memory independent of the other processors. The system memory may be either location addressable or content addressable (associative).

3,521,239

### TOTALIZING MEMORY FOR MULTICHANNEL ANALYZERS WITH INCREASED CAPACITY

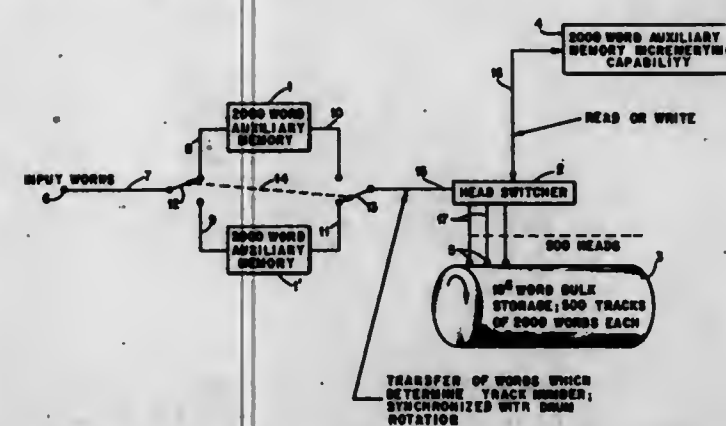
Walter R. Burrus, Oak Ridge, Tenn., assignor to the United States Atomic Energy Commission

Filed Jan. 16, 1968, Ser. No. 698,338

Int. Cl. G11b 5/00

U.S. Cl. 340—172.5

5 Claims



An incrementing memory system for data rates of  $10^4$  words per second utilizes a large capacity magnetic storage unit together with a controller and appropriate auxiliaries

whereby up to several hundred words of data are batched and counted within two revolutions of the storage unit in contrast to one word at a time. A "totalizing digital memory" counts the number of random occurrences of a data word, rather than storing the word itself as in a conventional digital memory.

3,521,240

### SYNCHRONIZED STORAGE CONTROL APPARATUS FOR A MULTIPROGRAMMED DATA PROCESSING SYSTEM

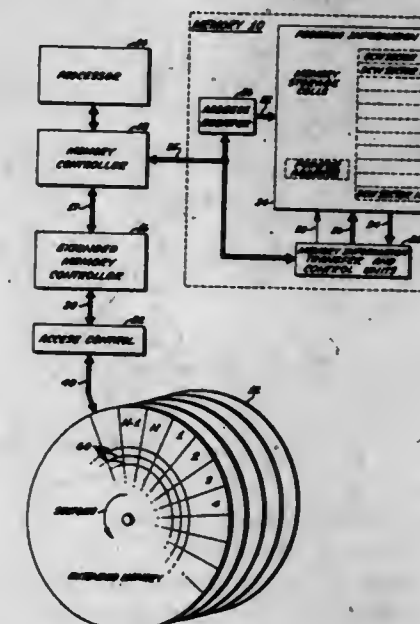
David L. Baker, Liverpool, N.Y., John F. Coulter, Dallas, Tex., and Richard L. Ruth, Scottsdale, Ariz., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts, and General Electric Company, Schenectady, N.Y., a corporation of New York

Filed Mar. 6, 1968, Ser. No. 710,996

Int. Cl. G06f 9/18

U.S. Cl. 340—172.5

30 Claims



A multiprogrammed data processing system wherein control apparatus controls the transfer of information between a working store and a sequential access circulating auxiliary store and wherein the control apparatus further retrieves control information from the working store in synchronism with the time of access to information stored in the auxiliary store and maintains the control information in an order corresponding to the time of access for controlling the transfer of information during successive cycles of circulation thereby implementing the flow of information at the speed required by the system.

3,521,241

### TWO-DIMENSIONAL DATA COMPRESSION

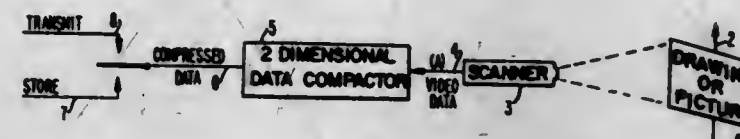
Dale H. Rumble, Saugerties, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation of application Ser. No. 606,890, Jan. 3, 1967. This application Jan. 14, 1969, Ser. No. 793,235

Int. Cl. G06f 7/00; H04b 1/64

U.S. Cl. 340—172.5

32 Claims

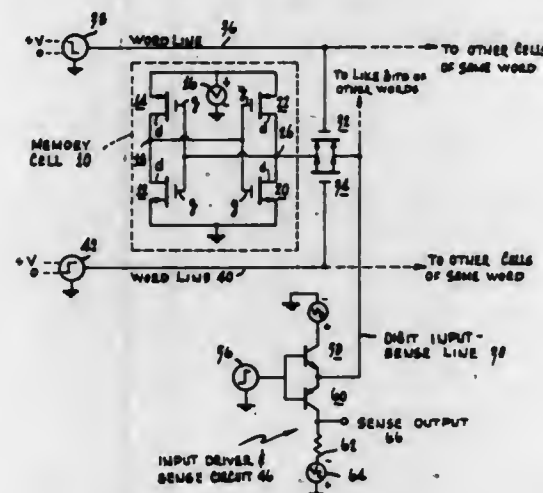


An apparatus for compressing data in two dimensions, said data having been obtained by unidirectional scans of a document or picture. Data enters a horizontal compression unit where it is run-length encoded, in bit-by-bit



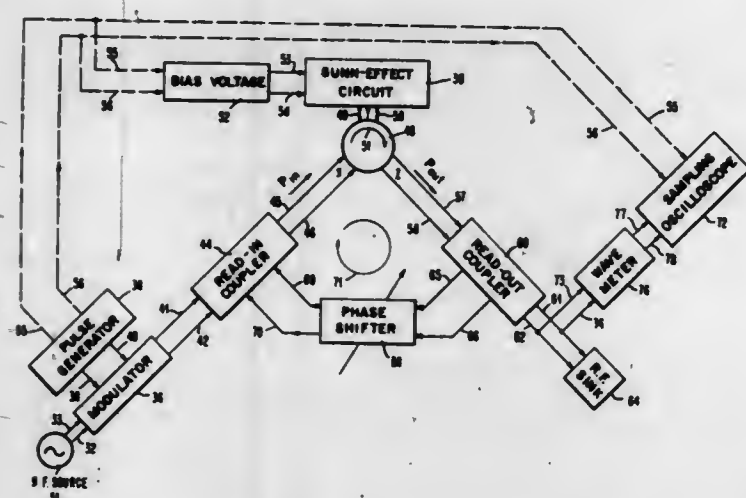
fashion, to reduce redundancy which exists along the scan direction. This compressed data is then entered into a buffer where it represents a pseudo-image of the original document. Data is read out of this buffer into a vertical compression unit, where it is compressed on a word-by-word basis to reduce redundancy which existed in a direction transverse to the scan direction.

**3,521,242**  
**COMPLEMENTARY TRANSISTOR WRITE AND READ FOR MEMORY CELL**  
Stanley Katz, East Brunswick, N.J., assignor to RCA Corporation, a corporation of Delaware  
Filed May 2, 1967, Ser. No. 635,591  
Int. Cl. G11c 11/40; H03k 3/286; H011 11/14  
U.S. Cl. 340-173 8 Claims



Various active memory cell arrangements, each of which includes a four transistor flip-flop with negligible impedance cross-coupling. In each case, at least one transmission gate transistor is connected between a common input/output point of the flip-flop and a common digit input-sense output line. The gate transistor is employed both for write-in and read-out, and current sensing is employed on the input-sense line during read-out.

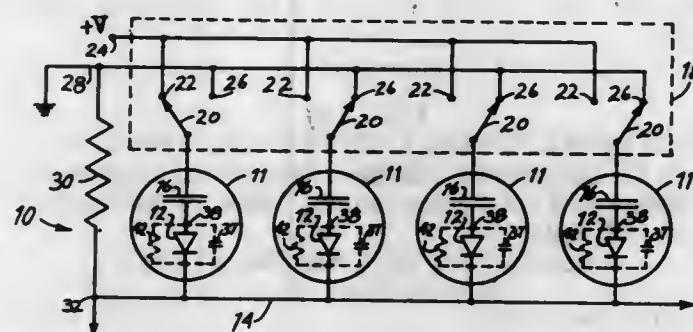
**3,521,243**  
**FREQUENCY MEMORY USING A GUNN-EFFECT DEVICE IN A FEEDBACK LOOP**  
Paul L. Fleming, Peekskill, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Aug. 1, 1968, Ser. No. 749,361  
Int. Cl. G11c 27/00  
U.S. Cl. 340-173 3 Claims



This disclosure provides a frequency memory for a received electromagnetic wave. The frequency memory includes a Gunn-effect device in a feedback loop to provide

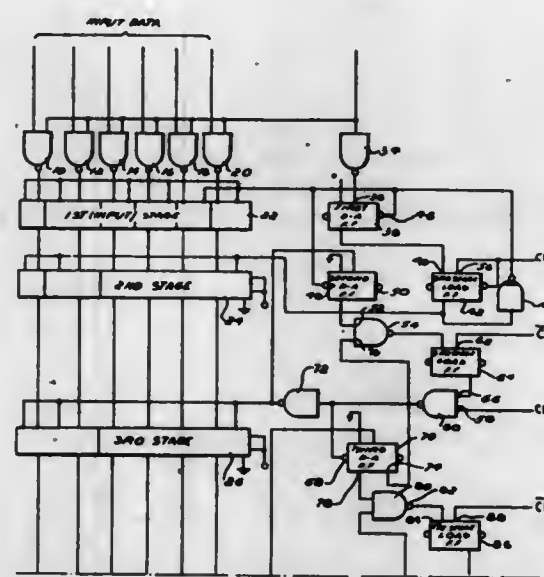
for functions of amplifying, limiting, and expanding a portion of the received wave. The feedback loop includes its inherent delay and a tunable delay provided by a phase shifter. The frequency of the received wave is recorded with respect to a particular natural mode of the feedback loop, i.e., the mode which overlaps the received frequency.

**3,521,244**  
**ELECTRICAL CIRCUIT FOR PROCESSING PERIODIC SIGNAL PULSES**  
Paul K. Welmer, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware  
Filed Oct. 23, 1968, Ser. No. 769,850  
Int. Cl. G11c 11/36, 11/42  
U.S. Cl. 340-173 26 Claims



This solid state electro-optical sensor array includes a set of photodiodes, each of which alternately integrates the light flux at an element of the array and acts as a switch when the element is sampled to provide an electrical output representative of the integrated light. Capacitance means serially coupled to each diode provides charge storage. The array may be randomly sampled for digital memory applications, or it may be scanned in an ordered manner for image translation.

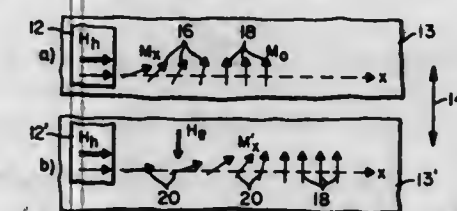
**3,521,245**  
**SHIFT REGISTER WITH VARIABLE TRANSFER RATE**  
William Paul Rogers, Collingswood, N.J., assignor to Ultronic Systems Corporation, a corporation of Delaware  
Filed Nov. 1, 1968, Ser. No. 772,480  
Int. Cl. G11c 19/00  
U.S. Cl. 340-173 6 Claims



An information storage device having a plurality of individual storage stages or registers connected in cascade. Information in the form of digital electrical signals supplied to the input of the device and is successively shifted, under the control of clock pulses and with the use of control circuitry, through each of the stages to the output

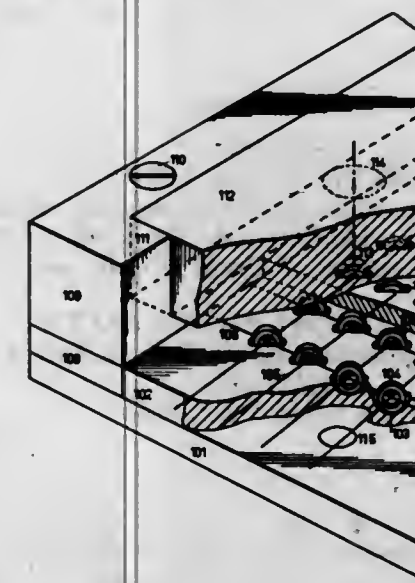
of the device. The rates at which information is supplied to and transferred from the device are variable. The device, in accommodating itself to these variable rates, exhibits a variable rate of internal transfer of information from its input to its output. To this end, information is transferred between any two adjacent stages only when the first of these two stages contains stored information and a selected one of the stages (such as the next stage) following the second of these two stages is empty.

**3,521,246**  
**FAST MAGNETIC FILM LOGIC AND STORAGE SYSTEM UTILIZING A ROTATIONAL MODE OF MAGNETIC REVERSAL**  
Andre A. Jaecklin, Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California  
Filed Apr. 5, 1967, Ser. No. 628,768  
Int. Cl. G11c 11/14, 19/00  
U.S. Cl. 340-174 12 Claims



System of fast logic and storage utilizing thin magnetic films and propagating a magnetic reversal by a rotational mode. Reversal is generally provided by homogeneously applying a small easy axis field opposite in polarity to the magnetization of the thin film and thereafter locally applying a hard axis field to the film whereupon the rotated portion of the magnetic film tends to expand laterally due to magnetostatic interaction. The reversal can be detected during the time of propagation to provide readout.

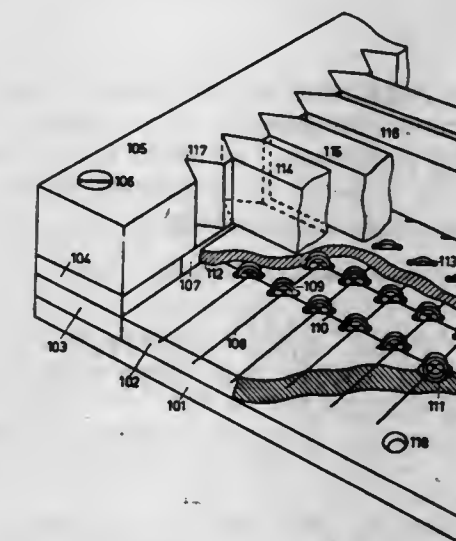
**3,521,247**  
**SELECTIVE INHIBITING APPARATUS FOR A MAGNETIC CORE MATRIX**  
Gerhardus Bernardus Vlaschedijk, Hengelo, Netherlands, assignor to N.V. Hollandse Signaalapparaten, Hengelo, Overijssel, Netherlands  
Filed Dec. 29, 1964, Ser. No. 421,953  
Claims priority, application Netherlands, Dec. 30, 1963, 302,787  
Int. Cl. G11c 5/04, 11/02, 17/00  
U.S. Cl. 340-174 7 Claims



A magnetic memory assembly including a core matrix in a resilient magnetically permeable layer where a magnetically permeable plate magnetically polarized in selected areas is urged against the cores to inhibit the cores

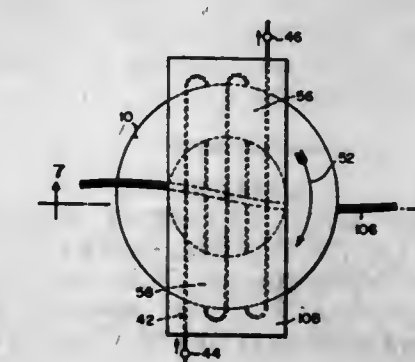
adjacent the polarized areas of the plate from providing an output on an associated "read" line when the core is switched from a first to a second magnetic state.

**3,521,248**  
**SEMI-PERMANENT MAGNETIC CORE STORAGE DEVICES**  
Gerhardus Bernardus Vlaschedijk, Hengelo, Netherlands, assignor to N.V. Hollandse Signaalapparaten, Hengelo, Netherlands, a firm of the Netherlands  
Filed Jan. 26, 1965, Ser. No. 428,068  
Claims priority, application Netherlands, Jan. 27, 1964, 6400600  
Int. Cl. G11c 5/04, 17/00  
U.S. Cl. 340-174 9 Claims



A magnetic core storage matrix mounted in a resilient permeable layer and having a bar of magnetizable material above each row of a matrix. The bars have discrete magnetically polarized areas above selected cores in a row to prevent these selected cores from magnetically reversing their state.

**3,521,249**  
**MAGNETIC MEMORY ARRANGEMENT HAVING IMPROVED STORAGE AND READOUT CAPABILITY**  
Robert M. Tillman, Willow Grove, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan  
Application May 17, 1960, Ser. No. 30,057, now Patent No. 3,214,741, dated Oct. 26, 1965, which is a continuation-in-part of application Ser. No. 818,298, June 5, 1959. Divided and this application Mar. 30, 1965, Ser. No. 443,825  
Int. Cl. G11c 5/02, 11/06  
U.S. Cl. 340-174 29 Claims

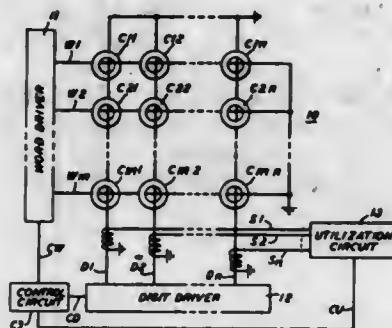


The present disclosure describes various techniques, including the use of magnetic bias and low reluctance material in a magnetic non-destructive readout memory configuration to facilitate the storage of information therein and to provide increased amplitude readout signals.



3,521,250

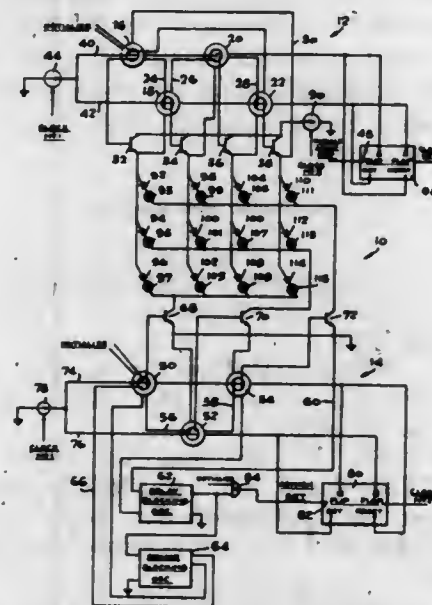
**THIN FILM MAGNETIC TOROID**  
 Andrew H. Bobeck, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York  
 Filed June 23, 1966, Ser. No. 559,776  
 Int. Cl. G11c 5/02, 11/06, 11/14  
 U.S. Cl. 340—174 9 Claims



An electrically conductive toroid encompassed by an anisotropic magnetic film provides flux closure paths in both hard and easy directions. The toroid is operated in a rotational mode in response to coincident pulses in an electrical conductor and a flux carrying rod.

3,521,251

**MAGNETIC CORE RING COUNTER WITH TRANSISTOR SWITCHES FOR DRIVING A MEMORY ARRAY**  
 Richard Paul Shively and Joseph F. Vallino, Los Angeles, Calif., assignors to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland  
 Filed Mar. 21, 1967, Ser. No. 624,918  
 Int. Cl. G11c 7/00, 11/06; H03k 23/32  
 U.S. Cl. 340—174 5 Claims



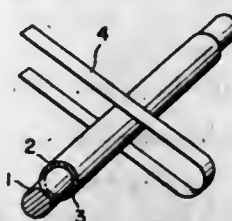
A circuit in which current is channeled from a current source sequentially to circuits, such as the lines of a matrix or computer memory, through transistor switches which are controlled by the stepping of a magnetic core ring counter or shift register.

3,521,252

**MAGNETIC MEMORY ELEMENT HAVING TWO THIN FILMS OF DIFFERING COERCIVE FORCE**  
 Shintaro Oshima, Musashino-shi, Tokyo-to, and Kikutaro Amano, Sagami-hara-shi, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Chiyoda-ku, Tokyo-to, Japan  
 Filed Aug. 9, 1966, Ser. No. 571,274  
 Claims priority, application Japan, Aug. 16, 1965, 40/49,566  
 Int. Cl. G11c 11/14 6 Claims

A non-destructive magnetic memory element using a first conductor with a film of ferromagnetic material and

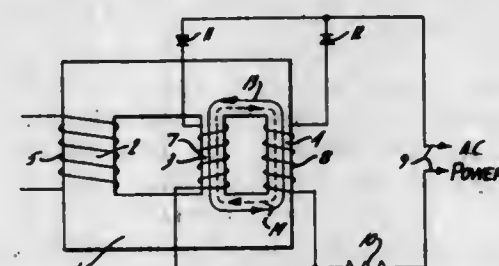
a second conductor arranged close to and insulated from the first conductor so as to be orthogonal to the first conductor, where the film of ferromagnetic material comprises two thin films, each of which is deposited on substantially half the surface of the first conductor along



the lengthwise direction thereof, and which are connected serially and intimately at overlapped joints extending lengthwise of the first conductor to form a closed magnetic circuit with a low magnetic resistance, one of the two magnetic thin films having a larger coercive force than the other.

3,521,253

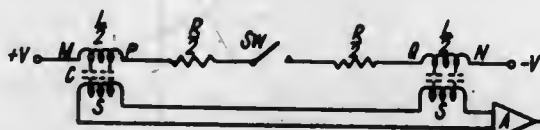
**MAGNETIC CONTROL DEVICE**  
 Charles F. Strawn, Arlington, Tex., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin  
 Filed Dec. 28, 1966, Ser. No. 605,445  
 Int. Cl. H03k 17/64; G11c 11/08  
 U.S. Cl. 340—174 7 Claims



The present disclosure includes a square loop core having a pair of apertures defining three legs and including a main memory magnetic path including all three legs and a secondary gating path including only two legs. A control winding is coupled to the main path and a separate gate winding is coupled to each of the gate legs. The gate windings are connected to an alternating power supply through a pair of diodes to establish oppositely directed fluxes about the two gate legs and the bridging portion of the core. A feedback circuit connects the load circuit and the set source for the control winding, such that the control winding is energized in accordance with the difference in the input signal and the voltage in the output voltage signal.

3,521,254

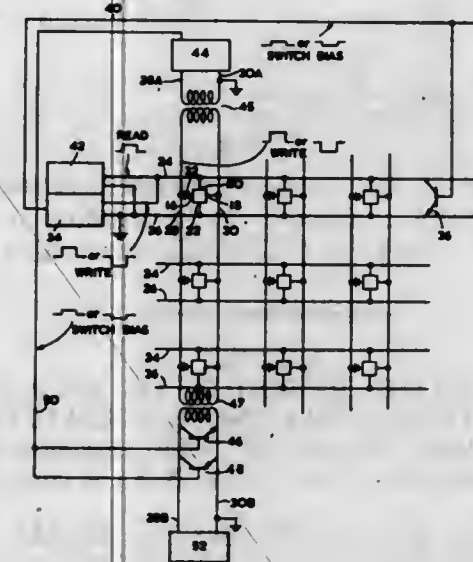
**MAGNETIC CORE STORES**  
 William John Cox, Crowthorne, England, assignor to Ferranti, Limited, Hollinwood, England, a company of the United Kingdom of Great Britain and Northern Ireland  
 Filed July 17, 1967, Ser. No. 653,736  
 Claims priority, application Great Britain, July 21, 1966, 32,811/66  
 Int. Cl. G11c 5/02, 5/08  
 U.S. Cl. 340—174 10 Claims



A multiple-plane coincident-current magnetic core store having the inhibit wire of each plane switched at its midpoint.

3,521,255

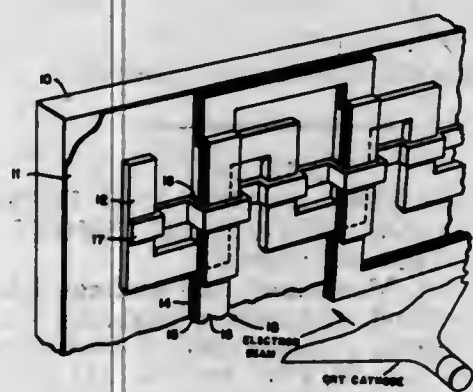
**NONDESTRUCTIVE MEMORY WITH HALL VOLTAGE READOUT**  
 Horst Arndt, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada  
 Filed July 25, 1967, Ser. No. 655,793  
 Int. Cl. G11c 11/18, 7/00  
 U.S. Cl. 340—174 11 Claims



The invention describes a Hall probe element used as a nondestructive memory device where a pair of conductors is used firstly to provide magnetization impulses to the field producing member affecting the Hall probe element and secondly to carry the "read" or "sense" to such element. Another pair of conductors is provided for each Hall probe element to carry the other of the "read" or "sense" signals. Preferably field switching will require the magnetizing effect of both pairs of conductors. Preferably the Hall probe elements are arranged in rectangular array, with a pair of such conductors for each row and a pair of such conductors for each column.

3,521,256

**FIGURE 8 MEMORY CORE**  
 Jack L. Metz, Des Plaines, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware  
 Filed Oct. 11, 1967, Ser. No. 674,620  
 Int. Cl. G11c 11/06, 5/02  
 U.S. Cl. 340—174 10 Claims

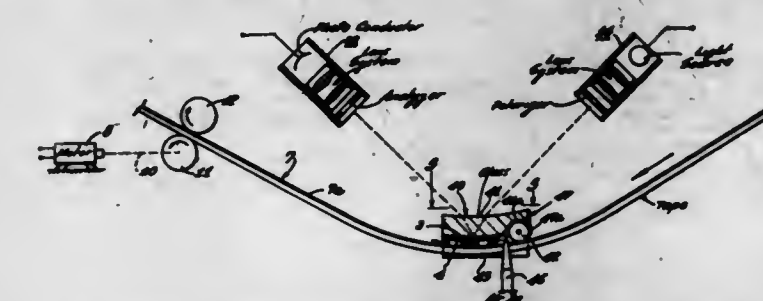


An 8-shaped memory core cell including a glass substrate, a conductive layer covering one side of the substrate, a square wave shaped length of magnetic material mounted on the conductive layer, a compound strip comprised of a layer of insulation, a layer of conductive, non-magnetic material and another layer of insulation extending along the square wave shaped length of magnetic material and covering the upwardly extending legs thereof and a straight length of magnetic material extending along

the longitudinal center of the square wave shaped length of magnetic material and magnetically connected to the downwardly extending legs thereof.

3,521,257

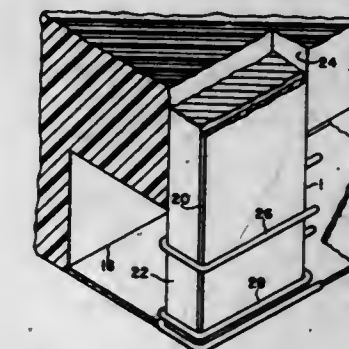
**MAGNETO-OPTICAL TRANSDUCER**  
 Alfred M. Nelson, Redondo Beach, Calif., assignor to The Magnavox Company, Torrance, Calif., a corporation of Delaware  
 Filed July 17, 1961, Ser. No. 124,676  
 Int. Cl. G11c 11/14, 11/42, 11/10  
 U.S. Cl. 340—174.1 6 Claims



A magneto-optical transducer for optical read out of magnetic records by analyzing the Kerr effect or Faraday effect rotation of a polarized light beam which uses a thin film enhancement layer into which the information to be read is transferred. The enhancement layer may be cylindrical. Air bearing support may also be provided.

3,521,258

**TRANSDUCER WITH THIN MAGNETIC STRIP, DRIVE WINDING AND SENSE WINDING**  
 John G. Hurt, Jr., Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed June 7, 1963, Ser. No. 286,348  
 Int. Cl. G11b 5/28, 5/30  
 U.S. Cl. 340—174.1 6 Claims



The transducer consisting of thin magnetic strip with a longitudinal axis and a drive and a sense winding. The magnetic strip has a certain flux operating point which is influenced by the magnetic field of the magnetically encoded member which is to be read. After a drive pulse is provided to the drive winding, the sense winding will provide an output indicative of the change of flux operating point which in turn is dependent upon the magnetic polarity of the record.

3,521,259

**ERROR CORRECTION UTILIZING PLURAL COUNTERS**  
 John A. Werek, Jr., Lyndhurst, Ohio, assignor to TRW Inc., a corporation of Ohio  
 Continuation of application Ser. No. 287,868, June 14, 1963. This application Nov. 21, 1966, Ser. No. 602,443  
 Int. Cl. G11b 5/04, 5/44  
 U.S. Cl. 340—174.1 3 Claims

A data transcribing system having means for developing a data burst having a frequency which corresponds to desired information. A fixed frequency is applied to a

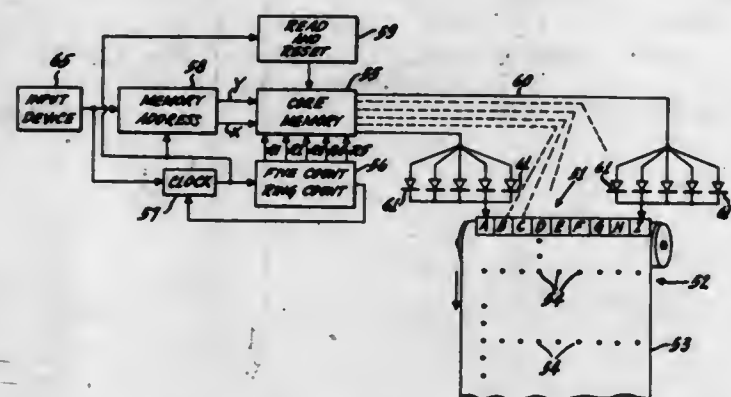






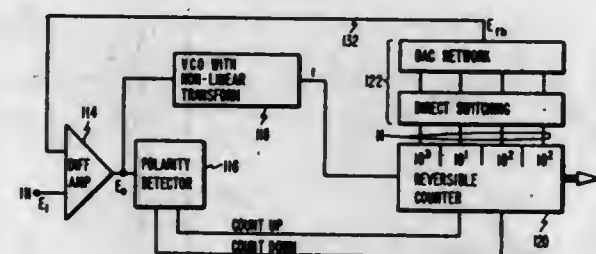
signal to produce two different types of control signals and a responsive receiver involving means for demodulating the carrier signals and control means selectively responsive to the demodulated signals.

**3,521,268**  
**DATA CONVERSION AND DISPLAY APPARATUS**  
James C. Miller, Pennington, and Charles M. Wine, Princeton, N.J., assignors to RCA Corporation, a corporation of Delaware  
Filed Oct. 17, 1966, Ser. No. 587,246  
Int. Cl. G09f 9/30; H03k 13/247  
U.S. Cl. 340—324 10 Claims



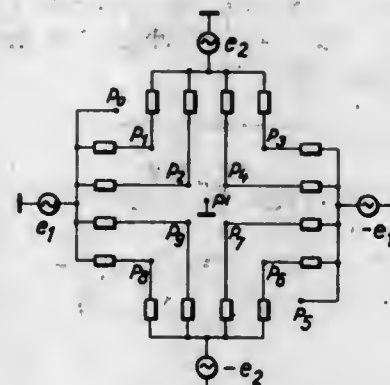
A data handling system having a core matrix addressed by a coded signal to repetitively switch a selected core. Signals developed from the core switching are summed with concurrent sequential display energizing signals to provide a display actuating signal which is routed on grouped sensing wires to a respective display producing means for forming successive display elements.

**3,521,269**  
**TRACKING ANALOG TO DIGITAL CONVERTER**  
Everett G. Brooks and John S. Gentella, Rochester, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Dec. 20, 1965, Ser. No. 514,874  
Int. Cl. H03k 13/02  
U.S. Cl. 340—347 11 Claims



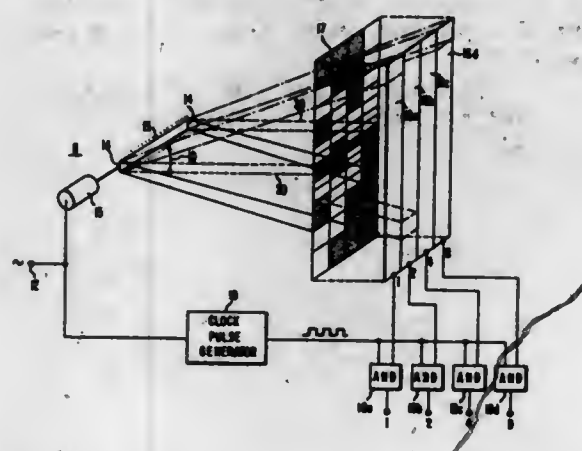
An analog to digital converter has a voltage-controlled, variable-frequency oscillator for producing pulses to increment a low-order stage of a counter for storing digital values. The counter output is converted to a first analog signal by a digital to analog converter. This analog signal is subtracted from the analog input signal to produce a second analog signal. The polarity of the second signal controls the direction in which the counter is incremented, while its magnitude controls the frequency of the oscillator. To improve convergence speed, the oscillator frequency is made a nonlinear function of the difference between the analog input signal and the counter output representation. In a first embodiment, this nonlinearity is introduced by making the oscillator frequency nonlinear with respect to the second analog signal. In a second embodiment, the first analog signal is made nonlinear with respect to the counter output representation by means of a plurality of delays incorporated in the digital to analog converter.

**3,521,270**  
**METHOD AND APPARATUS FOR THE INTERPOLATION OF A PERIODIC SEQUENCE OF INFORMATION**  
Klaus Heinecke, Knut Heilmann, Werner H. K. Holle, and Eckart Schneider, Wetzlar, Germany, assignors to Ernst Leitz, G.m.b.H., Wetzlar (Lahn), Germany  
Filed Apr. 4, 1966, Ser. No. 540,034  
Claims priority, application Germany, Apr. 13, 1965, L 50,450; Jan. 28, 1966, L 52,699  
Int. Cl. H03k 13/02  
U.S. Cl. 340—347 22 Claims



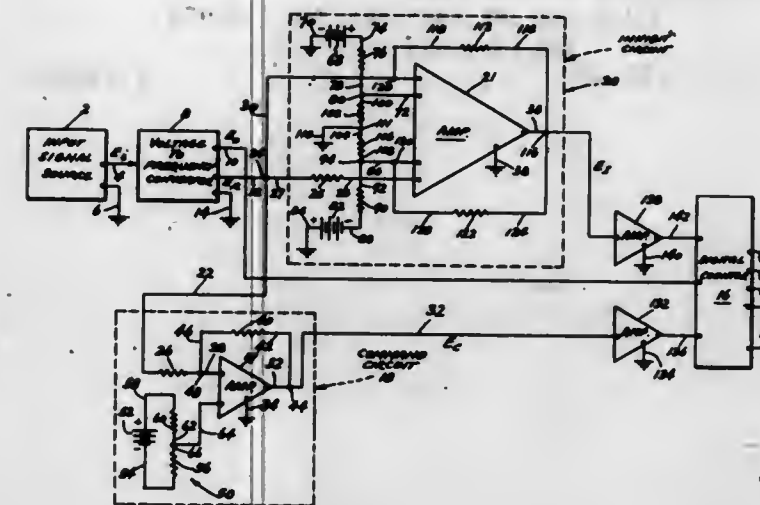
Method and apparatus for interpolating between the salient features of periodic signals which are periodic functions of displacement or other variables. Such signals may, for instance, be the signals produced by photoelectric position determining systems of the moire grating type which are used in conjunction with machine tool carriages and the like. The results of interpolation may be displayed in digital form, recorded by digital recording means, or both. The periodic signals are compared with phase displaced versions of themselves in balancing circuits the null output of which indicates that the periodic signals have reached corresponding predetermined phase positions.

**3,521,271**  
**ELECTRO-OPTICAL ANALOG TO DIGITAL CONVERTER**  
Richard A. Rappaport, Henrietta, N.Y., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware  
Filed July 15, 1966, Ser. No. 565,596  
Int. Cl. G08c 9/06  
U.S. Cl. 340—347 3 Claims



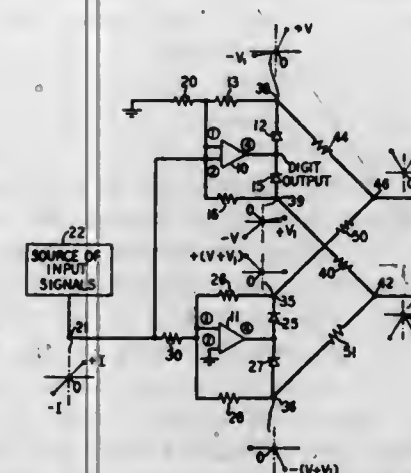
Electro-optical apparatus is disclosed wherein an analog signal is applied to a motor circuit that pivotally rotates a beam of radiation by an angle corresponding to the amplitude of the analog signal. The beam of radiation is directed through a digital mask and is detected and gated to provide the digital signal.

**3,521,272**  
**CONTROL NETWORK FOR A DIGITAL COUNTER**  
Robert L. James, Bloomfield, N.J., assignor to The Bendix Corporation, a corporation of Delaware  
Filed Aug. 5, 1966, Ser. No. 570,643  
Int. Cl. H03k 21/30, 13/20  
U.S. Cl. 340—347 7 Claims



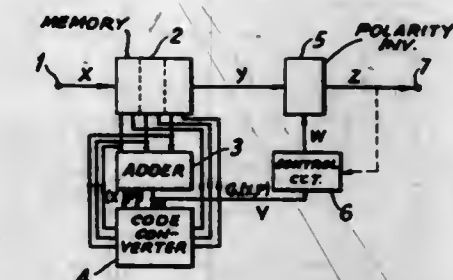
A control network apparatus for controlling digital counters, particularly for controlling the counting direction of the counter, and for inhibiting the counter from counting while the counting direction is changing.

**3,521,273**  
**FIRST ENCODING STAGE FOR A STAGE BY STAGE ENCODER**  
Veikko R. Saari, Old Bridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York  
Filed Dec. 1, 1966, Ser. No. 598,318  
Int. Cl. G08e 5/00, 9/00, 11/00  
U.S. Cl. 340—347 4 Claims



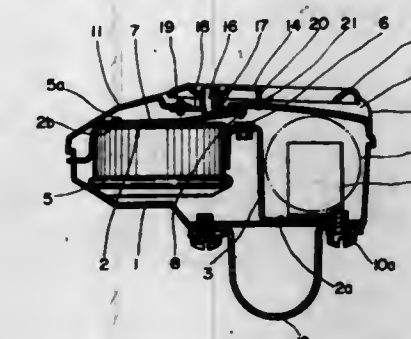
A first encoding stage for a stage by stage encoder using a noninverting operational amplifier and an inverting operational amplifier each directly connected to receive the signal to be encoded. Each amplifier has two feedback circuits with each such feedback circuit employing a resistor and a nonlinear device. The devices are poled in opposite directions with respect to one another and the junction of the first such device and its associated feedback resistor is connected to a first analog output terminal and the junction of the second such device and its associated resistor is connected to a second analog output terminal. As a result, V-shaped and inverted V-shaped output signals currents are produced at the output terminals in response to one complete traversal of the input current range. In addition, a digital output signal is produced at the output of one amplifier.

**3,521,274**  
**MULTILEVEL CODE SIGNAL TRANSMISSION SYSTEM**  
Akira Sawai, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo-40, Japan  
Filed Dec. 20, 1967, Ser. No. 692,087  
Claims priority, application Japan, Dec. 29, 1966, 42/976  
Int. Cl. G08c 19/28; H04l 3/00  
U.S. Cl. 340—349 3 Claims



A multilevel code is transmitted with high transmission efficiency, a balancing of the direct-current component, and within a short time interval, by converting an  $n$ -digit  $m$ -level (or  $m$ -ary) input code into an  $n$ -digit  $m+1$ -level nonnegative polarity codeword and then by appropriately performing the polarity inversion of the code, where  $m$  is an integer greater than two and  $n$  is a positive integer.

**3,521,275**  
**ALARM BUZZER FOR BICYCLES HAVING PIVOTED ACTUATING KNOB**  
Hisashi Saito, Nagoya, Japan, assignor to Kabushiki Kaisha Saikosa Seisakusho Nishitakayama-cho, Kasugai, Aichi-Prefecture, Japan, a corporation of Japan  
Filed Jan. 13, 1969, Ser. No. 790,676  
Claims priority, application Japan, May 22, 1968, 43/42,120  
Int. Cl. G08b 3/00  
U.S. Cl. 340—384 1 Claim



An alarm buzzer for bicycles with an improved reliability, which has a pivoted actuating knob whose operating portion is substantially longer than the thumb of a bicycle driver. The alarm buzzer has a casing containing a buzzer element, a dry cell, and an electric switch for making and breaking an electric circuit through the dry cell and the buzzer element. The actuating knob is pivoted on a lid of the casing and biased away from the casing by a spring. By depressing of the knob toward the casing at any part of the operating portion of the actuating knob, the switch is closed to actuate the buzzer element.

**3,521,276**  
**SUPERVISED ALARM CIRCUIT**  
Samuel Raber, Allendale, N.J., assignor to Pyrotechnics, Inc., Union, N.J.  
Filed Apr. 6, 1967, Ser. No. 628,924  
Int. Cl. G08b 29/00, 17/10  
U.S. Cl. 340—409 10 Claims

An alternating current alarm circuit is supervised for continuity, grounds, and short circuits with direct current



provided through a rectifier. In FIG. 1 a double pole, double throw switch normally controls direct current to the alarm circuit for the supervision. Alarm bells are connected across the circuit in series with diodes poled so that the bells are not operative on the direct current. Upon actuation of the alarm relay, in the circuit of

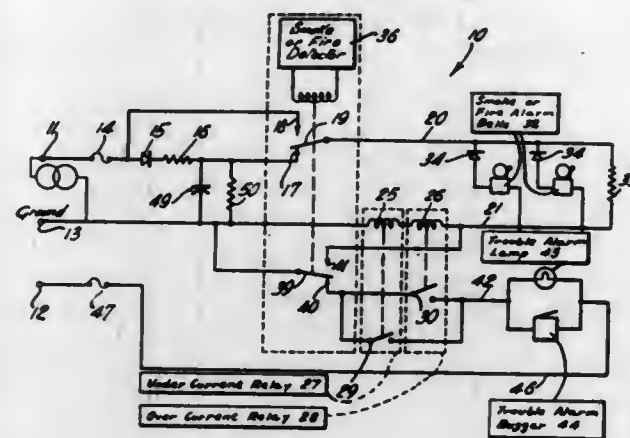


FIG. 1, the double throw switch is actuated so that the supervisory current is disconnected and alternating current is supplied which actuates the alarm bells. In FIG. 2 direct current is supplied to the alarm circuit through a series connected rectifier. Upon actuation of the alarm relay a single pole switch bypasses the rectifier to supply alternating current to the circuit.

3,521,277

## DATA PROCESSOR

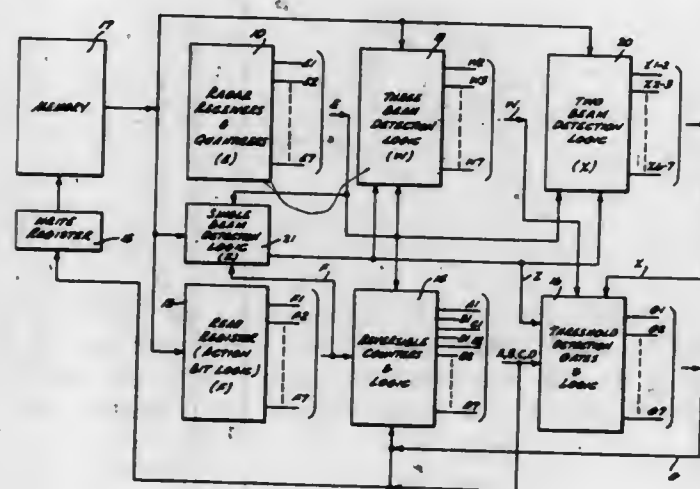
Norol T. Evans, San Pedro, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Nov. 9, 1966, Ser. No. 593,011

Int. Cl. G01s 9/02

U.S. Cl. 343-5

9 Claims



A system for determining the relative position of a valid target within a selected one of a plurality of stacked radar beam lobes wherein, in one embodiment, data input circuitry receives, quantizes and stores the radar video returns from each lobe in memory circuitry in an address location corresponding to the range bin of the radar video returns. Recirculating circuitry updates the data stored in each address location of the memory circuitry. A circuit is coupled to the memory circuitry for determining the relative position of the valid target detected on a particular radar beam lobe by comparing the contents of the address locations which are adjacent to that ad-

dress location corresponding to the radar lobe containing the valid target.

3,521,278

# SYNCHRONIZED VORTAC/TACAN CAS SYSTEM

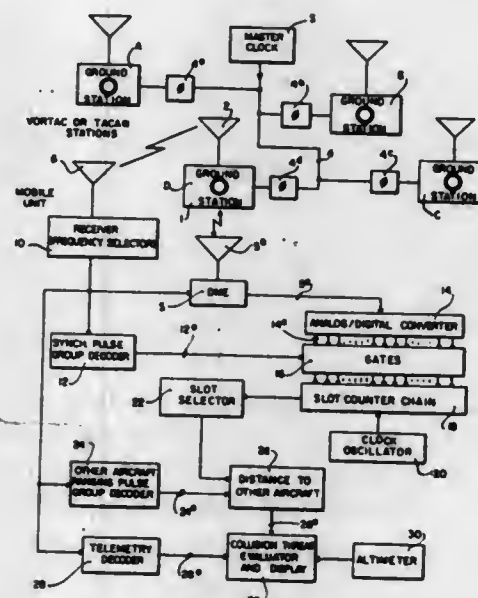
Lewis Michnik, Buffalo, and Johannes W. Prast, Grand Island, N.Y., assignors to Sierra Research Corporation, a corporation of New York

Filed Aug. 20, 1968, Ser. No. 754,074

Int. Cl. G01s 9/00, 9/02

U.S. Cl. 343-6

3 Claims



In the context of a collision avoidance system (CAS) involving mobile units such as aircraft operating in time slots and accurately synchronized to an established CAS-worldwide time kept by ground station units, the illustrative embodiment shows a system in which the ground stations comprise VOR/DME, VORTAC or TACAN units which have been augmented by the addition of accurate time clocks such as atomic clocks all synchronized to said worldwide time, thereby permitting all of these ground stations to transmit mutually synchronized pulse groups. The system further provides means for permitting the various mobile units to participate in the synchronized collision avoidance system by using their ordinary distance measuring equipment (DME) to measure ranges to selected ground stations, and then to insert these measured ranges into their clock corrective systems to accurately synchronize them to the fixed stations' next CAS synchronization pulse groups, using the inserted ranges to correct for transit times of the transmitted pulse groups from the fixed station to the various mobile units. The embodiment permits the aircraft, when synchronized via the DME, to use CAS ranging pulse groups transmitted by other aircraft in the latter's own time slots to evaluate threat of collision therewith.

3,521,279

# MOBILE CLOCK SYNCHRONIZATION TECHNIQUES

Lewis Michnik, Buffalo, N.Y., assignor to Sierra Research Corporation, a corporation of New York

Filed Aug. 20, 1968, Ser. No. 754,073

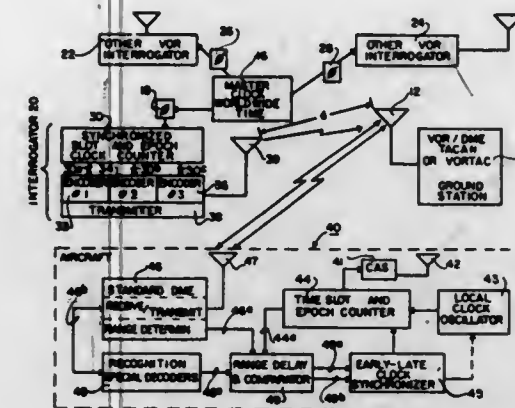
Int. Cl. G01s 9/56

U.S. Cl. 343-6.5

10 Claims

The accurate synchronization of mobile unit time clocks with an established worldwide time which is divided into cyclic epochs of repeating time slots, the invention including novel fixed-position interrogators associated with specific transponder ground stations of the

VOR/DME, TACAN or VORTAC type, each interrogator being synchronized to said worldwide time and interrogating one or more transponder ground stations to cause its replies to be synchronized to said worldwide time and therefore useful to said mobile units as special synchronization signals, the mobile units having means



for identifying those special synchronization signals and using them to correct their local time clocks, the propagation time of the special signals from the ground station to the mobile unit being compensated for by using the ordinary DME capability of the aircraft cooperating with the DME feature of the ground station selected by it.

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# CODING LABELS

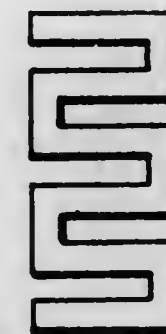
Maurice Janco, Arnold T. Nordsieck, and Charles W. Perkins, Santa Barbara, Calif., assignor to General Research Corporation, Santa Barbara, Calif., a corporation of California

Filed Jan. 16, 1969, Ser. No. 791,676

Int. Cl. G01s 9/56

U.S. Cl. 343-6.5

5 Claims



A system of coding objects such as packages or vehicles with identification, routing and other information. A label suitable for application directly on the object or by means of an adhesive sticker or the like. A microwave system with a label in the form of a plurality of resonators of different resonant frequencies. The presence or absence of a resonator for a particular frequency provides a bit of information. A resonator may be physically present but inactivated by punching out or burning out a portion of it and thus make it effectively absent. A transmitter for producing an output having the frequencies of the various resonators and a receiver for operation over the range of the resonant frequencies, with the receiver providing an output when the receiver input signal differs substantially from the background signal, as when a particular resonator is being excited by energy of its resonant frequency. A variable frequency transmitter with the output frequency being swept over the range of the resonant frequencies of the resonators.

3,521,281

# SUPERVISORY APPARATUS

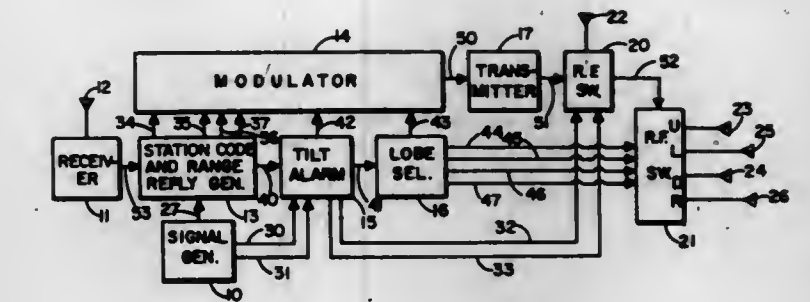
Harold S. Jewitt, Los Angeles, Calif., and Delbert E. Marker, Seattle, Wash., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Nov. 13, 1968, Ser. No. 775,360

Int. Cl. G01s 9/56; F41g 7/00

U.S. Cl. 343-6.8

11 Claims



Apparatus for interrupting the transmission of radio signals from a radiator, if the radiator becomes physically displaced from a predetermined angular orientation. The radiator includes an omnidirectional antenna, energized alternately with an array of directional antennas defining a path in space. Tilt responsive switch means is provided to prevent radiation from the directional antennas, while not affecting the radiation from the omnidirectional antenna, but in fact adding thereto a further signal indicative of a tilt situation.

3,521,282

# OBJECT LOCATOR SYSTEM

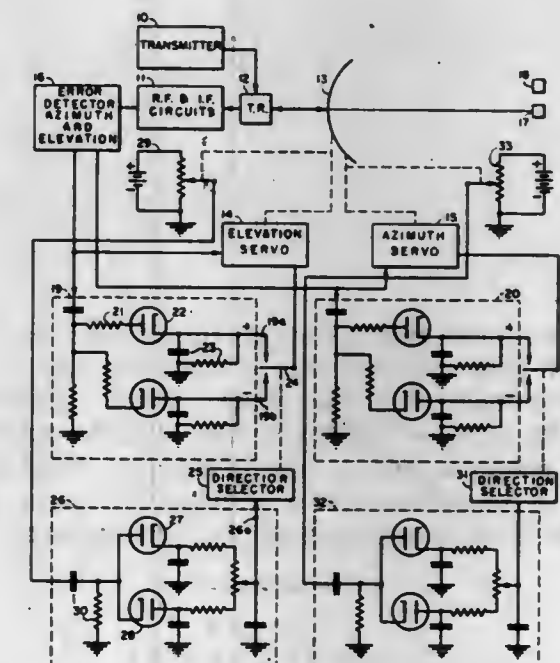
Dean D. Howard, 8914 Oak Lane, Oxon Hill, Md. 20022, and Bernard L. Lewis, Winter Park, Fla. (1239 Seminole Drive, Satellite Beach, Fla. 32935)

Filed Apr. 13, 1959, Ser. No. 806,191

Int. Cl. G01s 9/02; H01q 3/08

U.S. Cl. 343-7.4

7 Claims



The RMS value of the target noise is used to develop a bias signal which is applied to the antenna drive system to move the tracking point from an average location to a specific target when a plurality of targets are present within the radar beam.



3,521,283

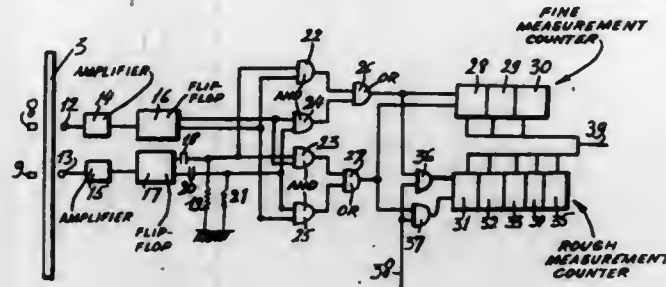
## TELEMETRIC STATION

Philippe Angelle, Nantes, France, assignor to Societe d'Etudes et Constructions Electroniques (Sercel), Mont-rouge, France, a corporation of France  
Filed Feb. 19, 1968, Ser. No. 706,602  
Claims priority, application France, Mar. 1, 1967, 96,930

Int. Cl. G01s 9/23

U.S. Cl. 343-14

5 Claims



A method for cutting out the initial value of the phase in telemeters of the type disclosed in U.S. Pat. 3,360,797 consisting in measuring a substantially zero distance upon insertion of a reflector between the transmitter and the receiver, performing a first sweep in frequency and executing a preliminary measurement with the fast indicator on a remote target before the return sweep is performed. The indicator means are also improved by causing photo-cells to be subjected to illuminating pulses produced by the notches provided at the periphery of a disc driven by the phase-measuring means at the receiver end.

3,521,284

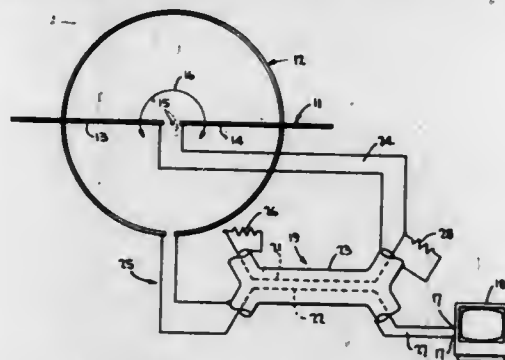
## ANTENNA WITH PATTERN DIRECTIVITY CONTROL

John Paul Shelton, Jr., Bethesda, Md. (6727 Baron Road, McLean, Va. 22102), and Leland D. Strom, 1830 Massachusetts Ave., McLean, Va. 22102  
Filed Jan. 12, 1968, Ser. No. 697,392

Int. Cl. H01q 1/24, 21/00

U.S. Cl. 343-702

20 Claims



A wide band antenna array, for minimizing the effect of multi-path radiation on a television image, has an omnidirectional, loop-like pattern and a dipole-like pattern. The array is excited so the separate patterns produce a resultant pattern having a broad, substantial null behind a main lobe and a constant frequency response over the VHF television band for both patterns.

3,521,285

## ANTENNA MOUNT

Edward J. Mautner, Harbor Island, North Bay Village, Fla. (7937 West Drive, Miami Beach, Fla. 33141)  
Filed May 9, 1968, Ser. No. 727,852

Int. Cl. H01q 1/08, 1/34, 3/02

U.S. Cl. 343-709

5 Claims

An improved antenna mount including an elongate tapered mast, a pedestal to support the mast and pivot means effective to accommodate swinging movement of

the mast of the antenna from a collapsed position to an upright position and means to hold the upper portion of



the antenna and yieldable to release the antenna to fall to a collapsed position in response to a sharp impact upon the upper portion of the antenna.

3,521,286

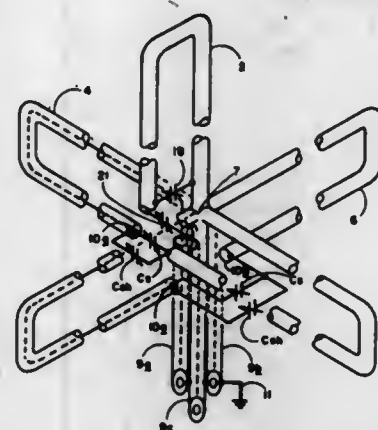
## ORTHOGONAL ARRAY ANTENNA SYSTEM

John A. Kuecken, Pittsford, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware  
Filed Apr. 21, 1967, Ser. No. 632,780

Int. Cl. H01q 1/00, 9/16

U.S. Cl. 343-730

5 Claims



An orthogonal antenna system having a plurality of distinct and separately tuned channels is described. The antenna comprises at least three mutually orthogonal radiating elements, with the first being a vertical radiator and the second and third being horizontal radiators.

3,521,287

## WAVEGUIDE SIDE WALL SLOT RADIATOR

Maurice L. Fee, Lakewood, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware  
Filed Nov. 12, 1968, Ser. No. 774,837

Int. Cl. H01q 13/10

U.S. Cl. 343-771

3 Claims

A radiating element in accordance with the present invention constitutes a slot cut transversely in the narrow side wall of a rectangular waveguide with the ends of the slot extending into the broad wall of the waveguide. One end of the slot extends into the broad wall a greater distance than the corresponding opposite end whereby the slot is excited with a sense of excitation determined by the broad wall into which the slot extension has increased. In

3,521,289

## HELICAL DIPOLE ANTENNA ELEMENT

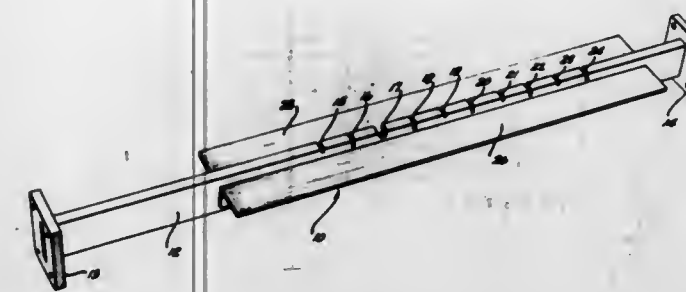
Paul E. Mayes, Champaign, Ill., and David T. Stephenson, Ames, Iowa, assignors to University of Illinois Foundation, Urbana, Ill.

Continuation-in-part of application Ser. No. 488,402, Sept. 20, 1965. This application Nov. 13, 1967, Ser. No. 687,414

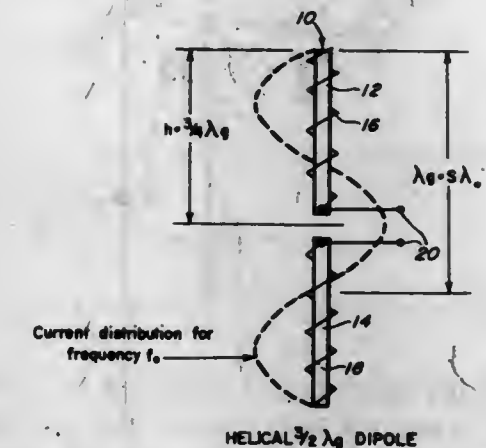
Int. Cl. H01g 1/36, 9/16

U.S. Cl. 343-806

7 Claims



be used; for heavy coupling, non-resonant slots are used to permit the slot to extend further into the broad wall. These slots may be used in conjunction with longitudinal shunt slots to provide a circularly polarized planar antenna.

HELICAL  $\frac{1}{2} \lambda_0$  DIPOLE

3,521,288

## ANTENNA ARRAY EMPLOYING BEAM WAVEGUIDE FEED

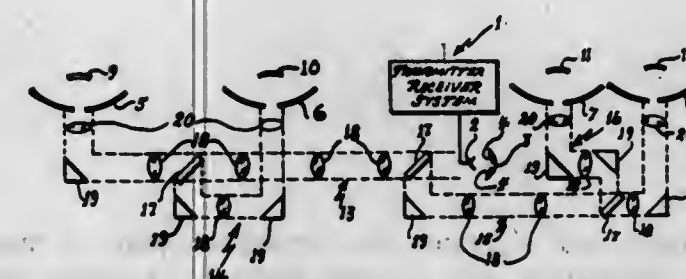
Allan C. Schell, Winchester, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Filed July 10, 1968, Ser. No. 743,808

Int. Cl. H01q 21/00; H01p 3/12

U.S. Cl. 343-781

7 Claims



This invention comprehends a high efficiency, broad-band antenna system for operation in millimeter wavelength regions. It includes a mode converter adapted to generate and control millimeter electromagnetic wave modes, a plurality of reflector elements, and a beam waveguide system that terminates at each reflector element and at the mode converter. A system of power junctions and reflectors disposed within the beam waveguide system provides appropriate combination and division of electromagnetic wave power. The power junctions and reflectors are spaced to permit in-phase combination of received electromagnetic energy, and broad-band operation is achieved by making the electromagnetic wave path lengths between reflectors and mode converter equal. A condensing lens is provided for coupling each reflector element with the beam waveguide. A particular feature of the invention is the use of quartz sheet power junctions to effect low-loss power splitting within the beam waveguide system.

3,521,290

## SELF-ERECTING REFLECTOR

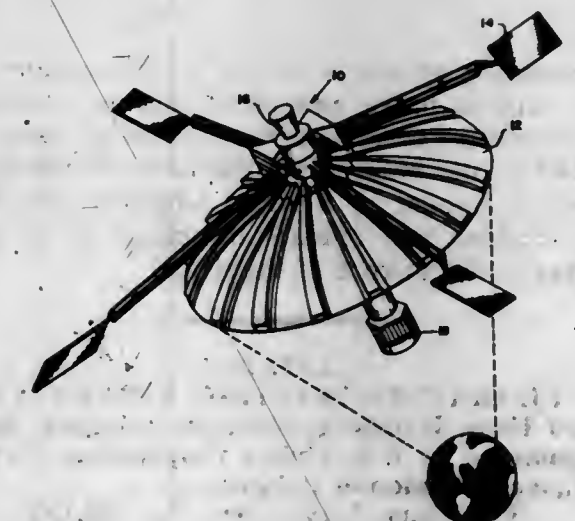
Hossein Bahiman, Hyattsville, John D. Gates, Laurel, and William Korvin, Odenton, Md., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed June 16, 1967, Ser. No. 647,298

Int. Cl. H01q 15/20

U.S. Cl. 343-915

6 Claims

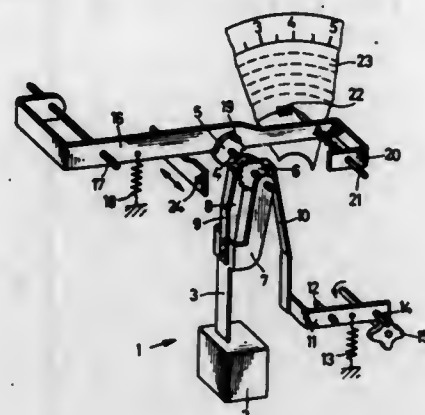


A collapsible antenna structure having a reflector of a continuous high modulus mesh with a plurality of radially extending mesh ribs integrally attached to the convex side thereof.



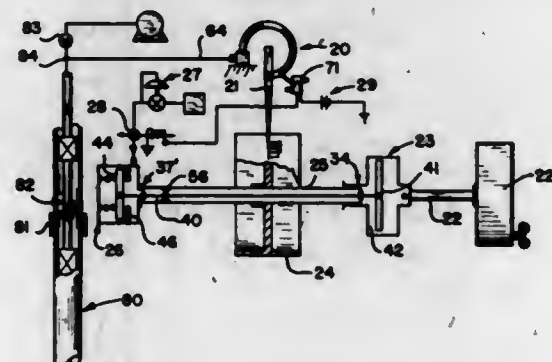
**3,521,291**  
**RECORDING APPARATUS FOR A MOTORCAR**  
 Norbert Helmschrott, Schwemningen, and Karl Vögtlin,  
 Villingen, Germany, assignors to Kienzle Apparate  
 GmbH, Villingen, Black Forest, Germany  
 Filed Jan. 31, 1969, Ser. No. 795,567  
 Claims priority, application Germany, Feb. 3, 1968,  
 1,574,557

Int. Cl. G01d 9/12  
 U.S. Cl. 346—7 10 Claims



A vibratory pendulum is oscillated by vibrations of a motorcar to stepwise turn a wheel driving a cam by which recording means are oscillated to record a zigzag line on a moving record carrier. The number of cam lobes is selected so that the oscillation frequency of the recording means is lower than the oscillation frequency of the pendulum, or of other speed responsive actuating means by which the wheel and cam are driven.

**3,521,292**  
**INTERMITTENTLY ACTUATED RECORDER**  
 Harry Boucher, Odessa, Tex., assignor to Vance Systems  
 Engineering, Inc., a corporation of Texas  
 Filed Nov. 17, 1969, Ser. No. 877,410  
 Int. Cl. G01d 9/10, 15/26  
 U.S. Cl. 346—72 11 Claims

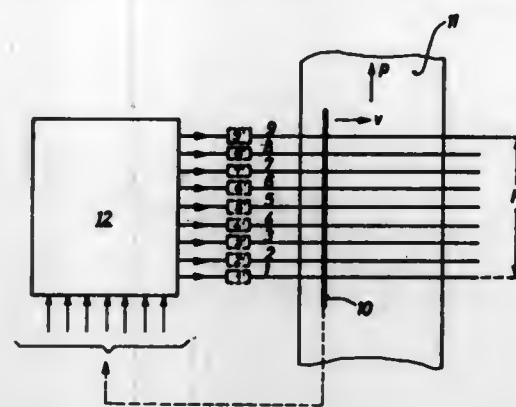


A recording apparatus having a scribe means, a chart means, with a brake and clutch means attached to a chart drive means. An actuator engages the clutch means and releases the brake when the scribe is moved a predetermined amount by a signal which is sensed by the scribe actuator, and releases the clutch while engaging the brake in the absence of the signal.

**3,521,293**  
**CHARACTER PRINTING APPARATUS**  
 Gerhard Haas, Hamburg, Germany, assignor, by mesne  
 assignments, to U.S. Philips Corporation, New York,  
 N.Y., a corporation of Delaware  
 Filed Aug. 7, 1964, Ser. No. 388,182  
 Claims priority, application Germany, Aug. 8, 1963,  
 P 32,360  
 Int. Cl. G01d 15/06; H04l 15/34  
 U.S. Cl. 346—74 11 Claims

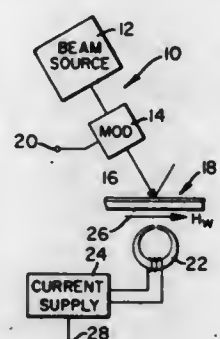
Character printing apparatus of the type where the impressions caused by several moving electrodes form a

character. Delay elements progressively increasing from the electrode forming the bottom to the electrode forming



the top of the character are selectively introduced to change the type character into italicized letters.

**3,521,294**  
**MAGNETO THERMAL RECORDING PROCESS AND APPARATUS**  
 David Treves, Palo Alto, Calif., assignor to Ampex  
 Corporation, Redwood City, Calif., a corporation  
 of California  
 Filed Mar. 13, 1967, Ser. No. 622,795  
 Int. Cl. G01d 15/12; G11b 5/00  
 U.S. Cl. 346—74 7 Claims

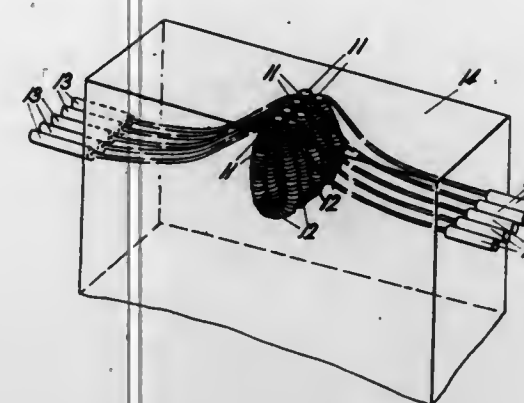


Process and apparatus for thermal recording of magnetic information on a selected magnetic recording medium, wherein writing is achieved by locally heating the medium to a temperature region substantially below the Curie temperature of the medium material, such as for example the coercive force, with respect to the applied temperature, whereby the magnetization in the medium may be selectively reversed to represent information.

**3,521,295**  
**HIGH DENSITY MULTIHEAD RECORDING DEVICE**  
 Leslie John Poole, Potters Bar, and John Bernard Cottrill,  
 Harlow, England, assignors to International Standard  
 Electric Corporation, New York, N.Y., a corporation  
 of Delaware  
 Filed Apr. 18, 1967, Ser. No. 631,696  
 Claims priority, application Great Britain, May 31, 1966,  
 24,191/66  
 Int. Cl. G11b 5/20, 5/28, 5/42  
 U.S. Cl. 346—74 3 Claims

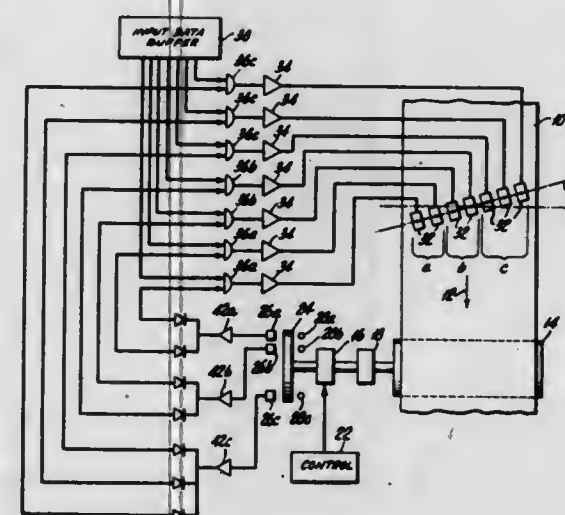
An electro-magnetic recording device including a plurality of looped cores of magnetizable material and an energizing winding surrounding each core, the windings and cores being embedded in a non-magnetic support block. In addition, there is provided a method of making

the device including the steps of winding the energizing windings on the cores, locating the free ends of the cores in a fixture, embedding the cores and windings in a non-



magnetic material, and removing the locating member and the free ends of the cores, so that the core ends and the end turns of the windings are substantially flush with the surface of the non-magnetic material.

**3,521,296**  
**SKEW COMPENSATION FOR INCREMENTAL MAGNETIC TAPE TRANSPORT**  
 Robert E. Schoeneman, East Setauket, N.Y., assignor to  
 Potter Instrument Company, Inc., Plainview, N.Y., a  
 corporation of New York  
 Filed Oct. 19, 1967, Ser. No. 676,438  
 Int. Cl. G11b 15/12  
 U.S. Cl. 346—74 3 Claims

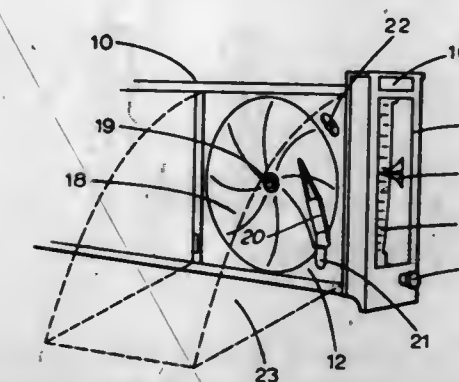


In this incremental tape transport, a tone wheel is coupled to the capstan. Two or more sensors are used in combination with the tone wheel to generate pulses which are phase displaced and which are used respectively to clock information in various channels in order to compensate for static skew.

**3,521,297**  
**PNEUMATIC INDICATOR-RECORDER**  
 Hoel L. Bowditch, Foxboro, Mass., assignor to The Fox-  
 boro Company, Foxboro, Mass., a corporation of  
 Massachusetts  
 Filed Nov. 1, 1968, Ser. No. 772,682  
 Int. Cl. G01d 15/00  
 U.S. Cl. 346—139 3 Claims

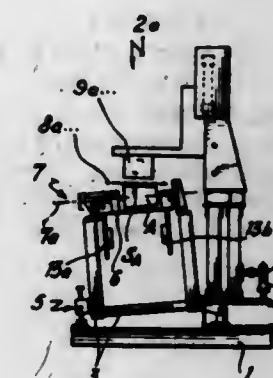
In instrumentation for process and/or energy control,

a combination indicator-recorder with the indicator on the front, the recorder on the side at 90° to the indicator,



both indicator arm and recorder pen being driven from a single pneumatic signal.

**3,521,298**  
**SILK SCREEN PRINTING MACHINE FOR DECORATING CONICAL ARTICLES**  
 Jean Marcel Ernest Morel and Michel Jean Robert  
 Hubert, Reims, Marne, France, assignors to Societe  
 dite: Verreries Mecaniques Champenoises, Reims,  
 Marne, France, a company of France  
 Filed Nov. 21, 1967, Ser. No. 684,786  
 Claims priority, application France, Nov. 30, 1966,  
 85,541  
 Int. Cl. B41f 17/28  
 U.S. Cl. 101—40 3 Claims



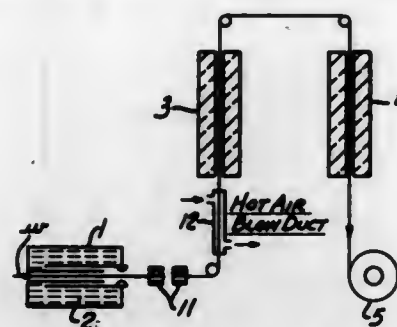
An endless conveyor carrying spaced-apart work holders moves beneath a series of stationary screen printing stations. Articles in the work holders are axially rotatable, and the squeegees above the screens are reciprocable, in synchronism with movement of the conveyor. The conveyor is tiltable to make the tangential plane of the articles parallel to the screen.

**3,521,299**  
**METHOD OF MANUFACTURING ELECTRIC CONDUCTOR INSULATED BY FOAMED CRYSTALLINE POLYMER**  
 Chisato Kawazoe, Tokyo-to, Terumichi Ichiba, Kamakura-  
 shi, and Seichi Iwakura and Hiroshi Shimba, Yoko-  
 hama-shi, Japan, assignors to Sumitomo Electric In-  
 dustries, Ltd., Osaka, Japan, a company of Japan  
 Filed May 31, 1966, Ser. No. 554,146  
 Claims priority, application Japan, June 1, 1965,  
 40/32,588, 40/32,589  
 Int. Cl. B44d 1/42

A method of accelerating the clouding phenomenon of a heated crystalline polymer solution coating on a conductor preliminary to foaming the conductor by the application of heat wherein the coated conductor is passed through water heated at a temperature of at least 50° C. to accelerate the separation of aggregated polymer particles in the coating. The coated conductor is thereafter dried to remove the polymer solvent remaining on the



coating surface and in the interstices among the aggregated polymer particles. An additional step to be executed just prior to drying may be added whereby either air is blown at a temperature of at least 35° C. onto the coated conductor or it is passed through a liquid which is compatible with the solvent.

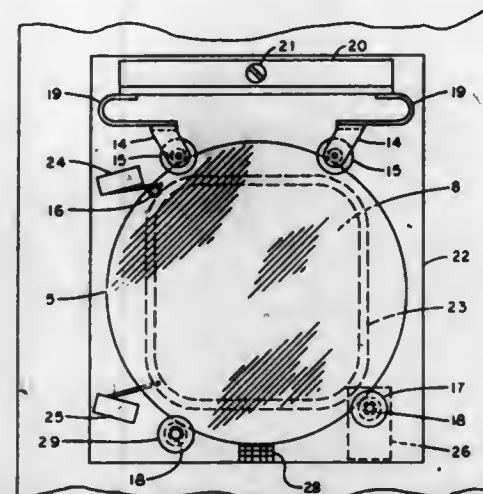


cutted just prior to drying may be added whereby either air is blown at a temperature of at least 35° C. onto the coated conductor or it is passed through a liquid which is compatible with the solvent.

**3,521,300**  
**AUTOMATIC ELECTRIC SELF-SYNCHRONIZING POLARIZING WINDOWS**  
Alvin Weiss, 342 N. Cordova, Burbank, Calif. 91505  
Filed Aug. 11, 1967, Ser. No. 660,115  
Int. Cl. G02f 1/18; H01j 39/12

U.S. Cl. 250-225 4 Claims  
A first polarizing window element is positioned over a window opening in the wall of an aircraft cabin and

fixedly attached to the cabin wall. A second polarizing window element is positioned over this opening in overlying relationship to the first element, this second element being supported for rotation relative to the first. The rotatable element is circular and is rotatably driven

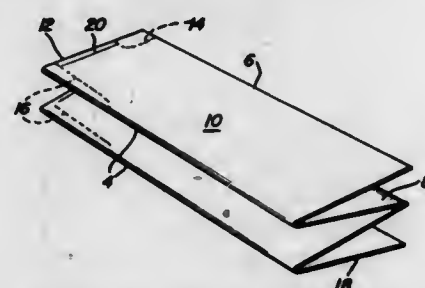


by means of a friction roller drive which engages the rim thereof. The amount of light entering the cabin through the window is controlled by rotating the rotatable element relative to the fixed element, either by means of a manual control or in response to a light sensitive detector.

## GENERAL AND MECHANICAL

**3,521,301**  
**DISPOSABLE EXAMINATION AND X-RAY GARMENTS**  
Samuel H. Cowen, Detroit, Mich., assignor to W. R. Grace & Co., a corporation of Connecticut  
Continuation of application Ser. No. 695,710, Jan. 4, 1968. This application Aug. 22, 1969, Ser. No. 853,617  
Int. Cl. A41d 9/00

U.S. Cl. 2-114 3 Claims

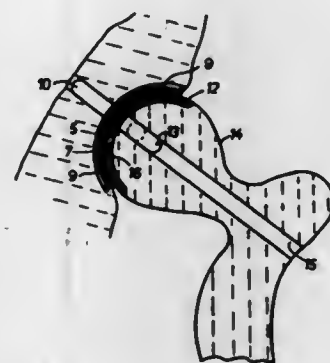


Disposable, reversible, two-way garments for clinical and X-ray examination are formed from a tissue paper-polyethylene film laminate. The edges of a sheet are folded across the middle portion to form the general shape of the garment, central and side openings are formed in the folded sheet for the neck and arms, respectively, and the sheet is heat sealed along the shoulders to form the garment.

**3,521,302**  
**PROSTHETIC IMPLANT JOINT HAVING COMPRESSIBLE SLIDE MEMBERS TO PROMOTE JOINT LUBRICATION**  
Maurice E. Müller, Bern, Switzerland, assignor to Sulzer Brothers, Ltd., Winterthur, Switzerland, a corporation of Switzerland  
Filed Sept. 1, 1967, Ser. No. 665,146  
Claims priority, application Switzerland, Sept. 2, 1966, 12,768/66  
Int. Cl. A61f 1/24

U.S. Cl. 3-1 15 Claims  
The artificial joint is formed by a pair of substantially complementary shaped prosthetic members which have a

resiliently compressible slide member disposed between them. The resiliently compressible slide member maintains the prosthetic members in spaced relation when in

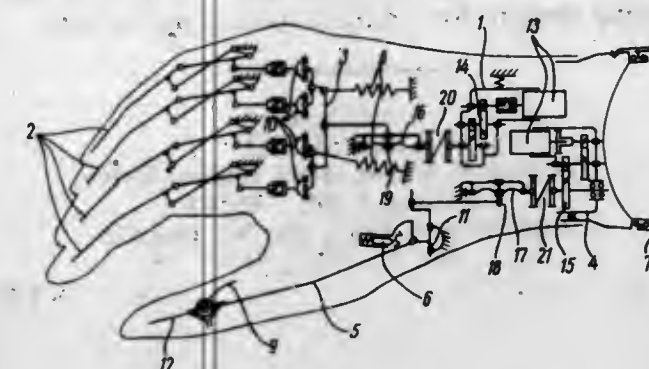


an unladen state but allows the prosthetic members to contact each other when in a laden state. In the latter state, the slide member is compressed within a recess within one of the prosthetic members.

**3,521,303**  
**ARTIFICIAL HAND FOR PROSTHESES WITH BIOELECTRICAL CONTROL**  
Yakov Savilevich Yakobson, 2 Neglany pereulok 5, kv. 8; Vitaly Moiseevich Bernshteyn, Ulitsa Vavilova 36, korpus 4, kv. 48; and Edm Pinkhasovich Polyan, Ulitsa Morisa Torenza 26/1, kv. 469, all of Moscow, U.S.S.R.  
Filed July 12, 1967, Ser. No. 652,881  
Int. Cl. A61f 1/06

U.S. Cl. 3-1.1 3 Claims  
An artificial hand comprises a lever-joint unit for the thumb having two degrees of freedom and a lever-joint system for the remaining four fingers constituted by individual levers articulated in pairs respectively driven by a pair of rocker units in turn connected with a com-

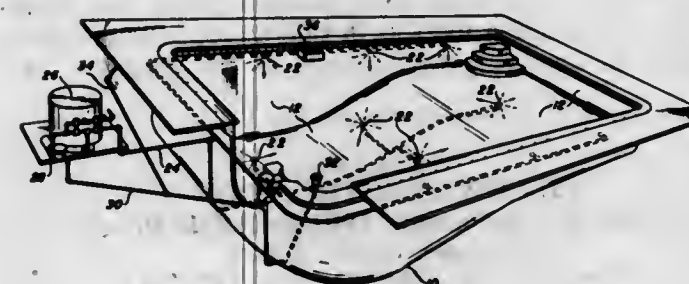
mon control rocker which is driven from a drive unit. An independent drive unit operates the thumb unit in ends, respectively, connected to the bowl discharge outlet and a vertical or horizontal soil pipe inlet and having the



pivotal extension, whereas a further drive unit serves for turning of the thumb unit with respect to its axis.

**3,521,304**  
**SWIMMING POOL CLEANING SYSTEM**  
George J. Ghiz, 221 E. Hayward, Phoenix, Ariz. 85020  
Filed Sept. 11, 1967, Ser. No. 666,595  
Int. Cl. E04h 3/18

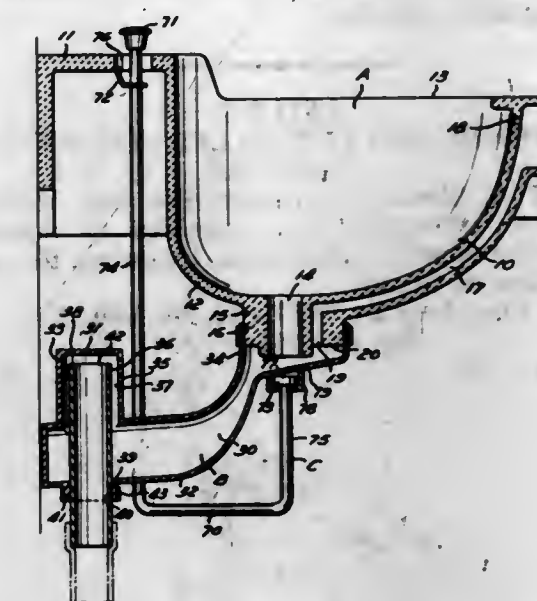
U.S. Cl. 4-172.16 7 Claims



A swimming pool cleaning system comprising a pool structure having inner surfaces, and a plurality of rotating jet delivery means adapted to deliver jet streams of water substantially parallel to and in adjacent relation with the inner surfaces of the pool for washing and cleaning said inner surfaces; said means also provided with jet nozzles disposed at an acute angle to the rotating axis of the rotary jet delivery means to maintain deleterious matter in suspension in the water so that it may be carried away by the pool circulation system.

**3,521,305**  
**DEFORMABLE DRAINPIPE AND TRAP AND A STOPPER MEANS FOR A PLUMBING FIXTURE**  
Howard A. Fulton and Vaughn D. Flanner, Big Prairie, Ohio, assignors to Mansfield Sanitary, Inc.  
Filed Aug. 9, 1967, Ser. No. 659,368  
Int. Cl. A47k 1/14; E03c 1/22

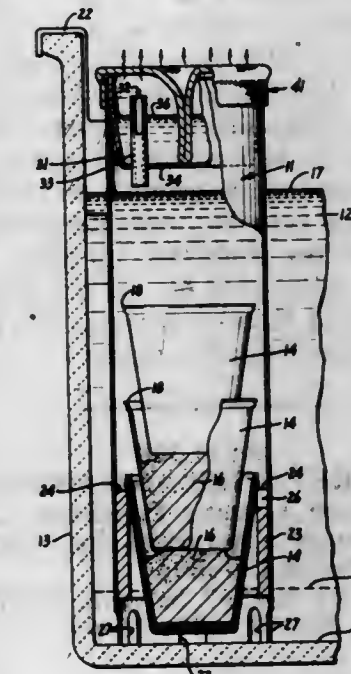
U.S. Cl. 4-203 8 Claims  
A plumbing drainpipe and water seal trap embodied therein made of a deformable solvent resistant plastic material for a trapless lavatory bowl having the drainpipe



wall portion of said drainpipe adjacent said bowl discharge outlet in combination with a waste water control unit of said bowl comprising a stopper for said bowl.

**3,521,306**  
**DISPENSERS FOR FLUSH TANK TOILET FIXTURES**  
Edward C. Jacobs, San Carlos, Calif., assignor of one-half to Vincent Cilla, South San Francisco, Calif.  
Filed June 6, 1967, Ser. No. 649,407  
Int. Cl. E03d 9/02

U.S. Cl. 4-228 11 Claims



A device for dispensing toilet fixture conditioning chemicals and fragrance adapted to fit into a toilet flush tank having an operative change in water level during use, said device comprising an elongated plastic tube formed for immersion in upright position in the flush tank, a plurality of thin-walled tapered cups formed to fit closely in telescopic relation in said housing, with each cup containing water soluble conditioning material and with the tube being formed with internally projecting shoulders to intercept and support the lowermost of said cups whereby dissolving of the contents of said cups will cause said stack to settle with the empty cups telescoping together and allowing accommodation of additional cups at the upper end thereof, said tube being



formed with sufficient weight, and/or attachment to maintain the tube in the desired upright position against cross-currents of water, a tub in said housing above the water level in the flush tank and adapted to contain volatile liquid fragrance material.

3,521,307

### CUSPIDOR AND CUP FILLER FOR DENTAL CONSOLE

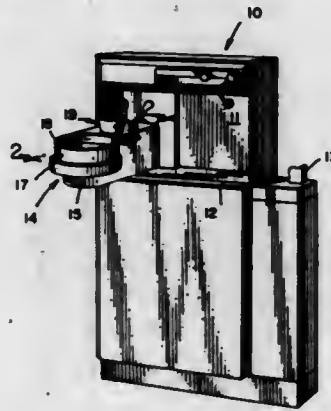
Richard A. Slouka, Carpentersville, and Milton R. Nielsen, Wheaton, Ill., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois

Filed May 24, 1967, Ser. No. 640,989

Int. Cl. A61c 17/04

U.S. Cl. 4-264

6 Claims



A retractable cuspidor and cup filler arm assembly for a dental console including a stationary receptacle intermediate an elongated arm for receiving disposable cups. The receptacle is mounted adjacent a moveable filling spout which is spring-biased to assume an off position permitting unrestricted access to a cup in the receptacle. When the spout is rotated to a position with its mouth immediately above the receptacle, water is turned on for filling a cup held by the receptacle. When released, the spout returns to its normal position thereby shutting the filling water off. A cuspidor is provided at the extended end of the assembly with means for continuously rinsing the bowl with water. A horizontal drain conduit is provided for receiving both the rinse water from the cuspidor and any overflow from the cup filler. The cup filler drain provides a relief path for air trapped in the cuspidor rinse water and thereby prevents the gurgling noise associated with conventional cuspidors.

3,521,308

### MATTRESS RETAINER AND SHEET CLAMP

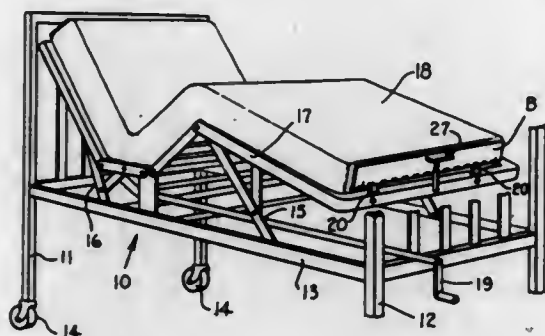
Sam B. Fowler and Lanning P. Risher, Camden, S.C., assignors to Timely Enterprises, Inc., Camden, S.C., a corporation of South Carolina

Filed Oct. 9, 1967, Ser. No. 673,753

Int. Cl. A47c 21/00

U.S. Cl. 5-320

1 Claim



A device mounted on the frame upon which a mattress of a bed rests which restricts the movement of the mattress on the bed, as well as clamps the ends of the sheet to hold

such in position on the bed. The inner jaws of the clamping device have a gripping surface of a high coefficient of friction which holds the sheet between the jaws of the clamping element for aiding in making up the bed.

3,521,309

### CRIB SHEET

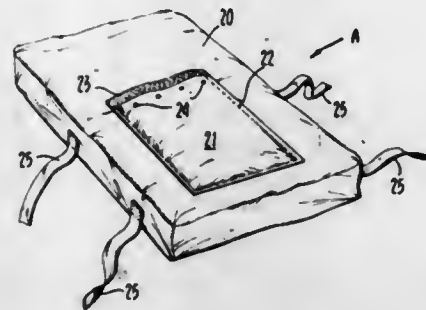
Dwayne P. Evans, 4496 Walnut Drive, Eureka, Calif. 95501

Filed Dec. 4, 1967, Ser. No. 687,835

Int. Cl. A47g 9/00

U.S. Cl. 5-336

3 Claims



A crib sheet including a base member adapted for contour disposition with respect to a mattress, a rectangular pocket having three sides secured to the base member, and means along the fourth side thereof for attaching a blanket in overlying relationship to the pocket.

3,521,310

### PILLOW CONSTRUCTION

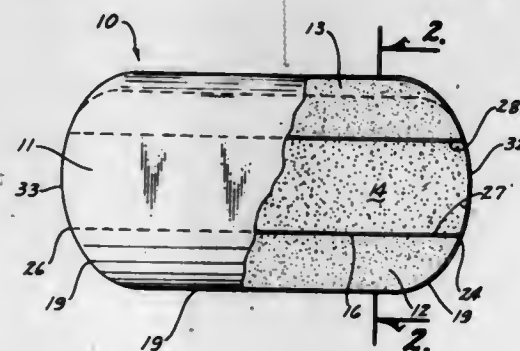
Monte H. Greenawalt, 1901 Rockdale Road, Dubuque, Iowa 52001

Filed July 25, 1968, Ser. No. 747,722

Int. Cl. A47g 9/00

U.S. Cl. 5-337

8 Claims



This invention relates to a pillow constructed to provide firm support to the neck portion of an individual while providing less firm support to the head portion, the pillow comprising a pair of firm outer members and a less firm intermediate member, the upper and lower surfaces of the intermediate member being coextensive with the upper and lower surfaces of the outer members respectively, the upper and lower surfaces of the outer members tapering laterally away from the intermediate member to form a convexly curved outer edge.

3,521,311

### MATTRESS

Paul P. Cohen, 1629 Rodeo Road, Arcadia, Calif. 91006

Filed Mar. 1, 1968, Ser. No. 709,641

Int. Cl. A47

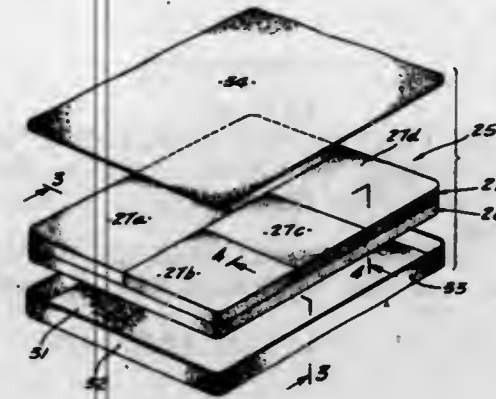
U.S. Cl. 5-345

7 Claims

A mattress including an inner member of generally rectangular configuration, formed of resilient, open-celled synthetic elastomeric material which is characterized by density in the approximate range of two to four pounds

per cubic foot, cell density in the approximate range of fifty to two hundreds cells per lineal inch, and capable

and the ring gear and die holder driven thereby, to be rotated in opposite directions by connecting a rotating power source to either end of the worm gear drive shaft. The gear



of 75% deflection without significant thickness loss; and a generally rectangular ticking bag which fully encloses the member in a snug-fitting relationship.

3,521,312

### SWIM SHOE AND SWIM FIN ASSEMBLY

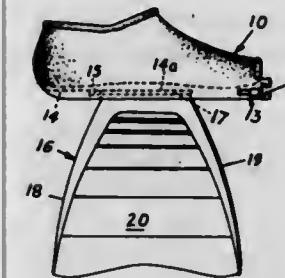
Vitan M. Ganev, Calle Labra 159, Santurce, Puerto Rico 00915

Filed Nov. 5, 1968, Ser. No. 773,486

Int. Cl. A63b 31/10

U.S. Cl. 9-309

9 Claims



There is provided a molded shoe that has a swim fin attached to its bottom so as to extend normal to the bottom of the shoe. This is particularly useful for breast stroke swimmers wherein there is a frog-like kick movement of the legs and more propelling force is afforded. A molded swim shoe is also provided with a transversely extending slotway at its blunt front end and a slotway lengthwise of its bottom. Within these slotways is selectively and slidably received a rib on an end of a swim fin so as to position the swim fin at the front of the shoe generally in line with the bottom of the shoe for up and down leg kick movement or in an attitude normal to the bottom of the shoe for breast stroke leg kick movement. Suitable retractable catch or holding members are provided on the shoe at the slotways to hold the fin in its slotway and to permit its removal.

3,521,313

### POWERED THREAD CUTTER

Slade H. Baker, 104 N. Broad St., Mankato, Minn. 56001

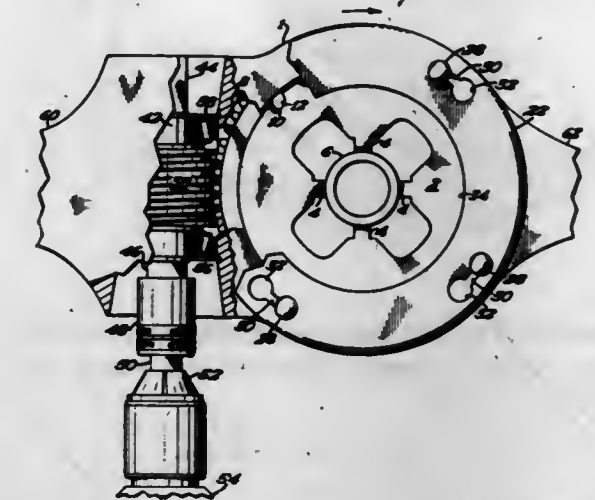
Filed Dec. 13, 1967, Ser. No. 690,324

Int. Cl. B21k 1/56; B23g 1/24

U.S. Cl. 10-89

5 Claims

A thread cutter having a ring gear and interconnected die holder concentrically mounted for rotational movement within an outer casing is provided with a worm gear rotatably mounted for driving engagement with said ring gear, and with outwardly extending handles located on opposite sides of the casing. A coupling device on both ends of the worm gear drive shaft permits the worm gear,



drive arrangement and the casing handles serve as alternative means for turning the thread-cutter on a pipe or rod on which threads are to be formed.

3,521,314

### TORQUE LIMITING TOOL HOLDER

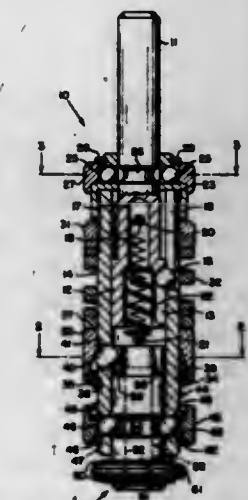
Rudolph Steiner, Rochester, N.Y., assignor to Numertap, Inc., Rochester, N.Y., a corporation of New York

Filed Sept. 19, 1967, Ser. No. 668,853

Int. Cl. B23g 5/14, 5/16

U.S. Cl. 10-135

11 Claims



The holder has a shank to be driven by a machine spindle, an axially reciprocable sleeve on the shank, and an adapter releasably coupled at one end of the sleeve, and adapted to carry a tool in its opposite end. When the tool binds, spring-loaded ball couplers carried by the sleeve are forced radially out of cooperating recesses in the adapter to interrupt the drive thereto. The balls are unevenly spaced around the adapter so that after interruption of the drive, it requires at least one revolution of the sleeve before the coupling is reengaged. A locking ring can be rotated to fix the shank and sleeve axially to one another during drilling or reaming operations.

3,521,315

### SHOE LAST

Theodore Chatzimikes, 14 Rue Theophile Roussel, 75 Paris, 12eme, France

Filed Oct. 24, 1968, Ser. No. 770,262

Int. Cl. A43d 3/00

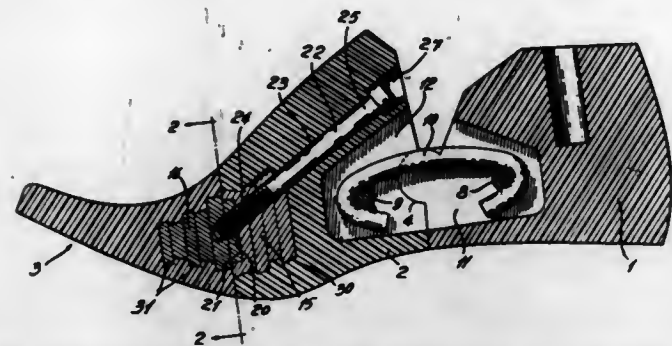
U.S. Cl. 12-136

1 Claim

This invention relates to an improved form of shoe last, particularly of the molded type, wherein the im-



provement resides in the provision of an interchangeable front or toe portion whereby to permit an instantaneous



ous conversion of the last configuration to conform with prevailing fashion trends affecting the shape or profile of the front of shoes.

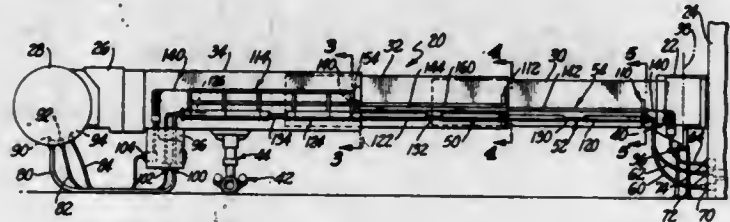
3,521,316

# AIRPLANE LOADING RAMP STRUCTURE SUPPLY-ING UTILITIES TO THE AIRPLANE

George J. Adams, Santa Monica, and Hans F. Kjerulf, Los Angeles, Calif., assignors to Stantair Corporation, Chicago, Ill., a corporation of Delaware  
Filed Nov. 5, 1968, Ser. No. 773,473  
Int. Cl. B65g 11/00

U.S. Cl. 14—71

11 Claims



An apparatus for transferring passengers between a terminal and an airplane and for supplying utilities to the airplane, including a telescoping passenger loading and unloading ramp having an inner end adjacent and communicating with the terminal and having an outer end engageable with the airplane around a doorway therein, and further including utility supply systems which are carried by the telescoping ramp and which are extensible and contractible with the telescoping ramp as it is extended and contracted in moving the outer end thereof toward and away from the airplane. The inner ends of the utility supply systems are connected to suitable utility sources at the terminal, such as a source of temperature and humidity conditioned air for delivery to the cabin of the airplane, a source of compressed air for engine starting, a source of electrical power, and the like. The apparatus includes means for respectively connecting the outer ends of the various utility supply systems to corresponding utility inlets on the airplane.

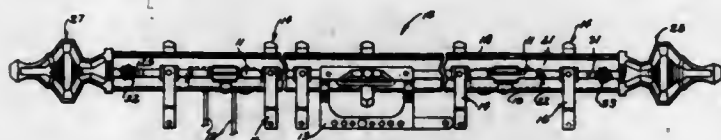
3,521,317

# UNITARY PULLEY HOUSING

James A. Ford, Sturgis, Mich., assignor to Kirsch Company, Sturgis, Mich., a corporation of Michigan  
Filed Feb. 27, 1968, Ser. No. 709,596  
Int. Cl. A47h 15/00; E05d 13/02

U.S. Cl. 16—93

5 Claims



A molded plastic pulley housing securable inside a traverse rod and spaced from the ends thereof, said housing having first, second and third parallel walls of which

the first and third walls are resiliently flexible out of parallel relationship with the second wall. The pulley housing includes pulley holding means secured to said second and third walls and rotatably support pulley members thereon.

3,521,318

# CAFE TRAVERSE ROD GLIDE RING

Kenneth M. Johnson, Kensington, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut  
Original application Apr. 26, 1966, Ser. No. 545,380.  
Divided and this application Mar. 8, 1968, Ser. No. 731,352  
Int. Cl. A47h 15/00; E05d 13/02

U.S. Cl. 16—93

5 Claims



This invention relates to cafe traverse rod assemblies for supporting a flexible, downwardly depending panel and more particularly concerns pull cord operated cafe traverse rod assemblies formed with channels to receive glides for supporting such panels or draperies.

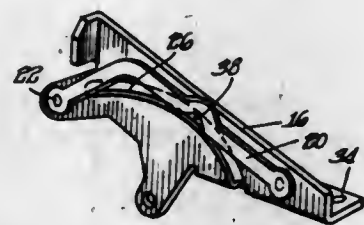
3,521,319

# DOOR POSITIONER

Julian Vernon Fisher, Carpentersville, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware  
Filed Feb. 12, 1968, Ser. No. 704,770  
Int. Cl. E05d 11/08

U.S. Cl. 16—141

10 Claims



The present invention relates generally to improvements in devices for maintaining or positioning tiltable doors, as for example the tiltable doors commonly employed on the front side of an automatic clothes dryer, in a predetermined angle of tilt with respect to the front surface of the dryer. One embodiment of the present invention disclosed in the accompanying drawings consists of a plate-like member having flange means for fixed attachment to a vertical section of a door supporting frame, said plate-like member having a lug or protuberance projecting laterally from the plane of the member into an arcuate slot of a second plate-like member having flange means for attachment thereof to the marginal section of a tiltable door frame. It is often desirable to position door members of the type contemplated hereby in a position of tilt which is intermediate the completely open horizontal position of the door and its normal vertical closed position. To accomplish this, an elongate member or arm is interposed between the opposed extremities of the tiltable plate member and is so shaped that as the tiltable plate member is shifted, the underside or edge of the elongate member will ride along and frictionally engage the upper surface of the protuberance or lug. A recess or indentation provided along the underside of the elongate member is adapted to receive and interlock with the protuberance to secure the pivotable

plate and the door member associated therewith in a predetermined desired position of tilt. The location of indentations as well as the number thereof along the underside of the elongate member will determine the variation in degree of tilt or inclination which may be occupied by the door.

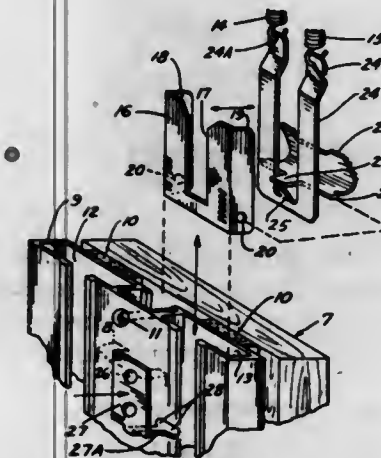
3,521,320

# ANCHOR FOR TILTABLE SASH BALANCER

James G. Perry, 12981 Capital Ave., Oak Park, Mich. 48237  
Filed Dec. 4, 1968, Ser. No. 781,073  
Int. Cl. E05d 17/00

U.S. Cl. 16—197

5 Claims



The application discloses an anchor for the balance spring, or springs, of a tilt type window sash. The invention resides in the construction, arrangement and functioning of the anchor assembly. The anchor consists of a channel shaped carrier element, with a slot in its web portion and having an arcuate member pivoted in the side walls. The arcuate member has a lip extending through said web slot. An elongated U-shaped member, having hooks at the upper end and having a lip extending through said web slot, is slidable in said channel, with the lip of said U-shaped member positioned below the lip of said arcuate member. The tiltable sash carries an L-shaped bracket, the short leg of which rides on the lip of said arcuate member. So long as the weight of the sash, through said brackets, rests on the lip of the arcuate member, the anchor assembly remains unlocked and free to travel in the weather strip channel, under the influence of the balancer springs. When the sash is tilted for removal, a cam member on the bracket removes the weight of the sash from the lip of the arcuate member, so that the arcuate member is free to rock on its pivots under the upward pull of the springs and the lip of the sliding U-shaped member, causing the arcuate member to contact the inside wall of the weather strip to lock the anchor assembly against further movement. When the weight of the sash is again placed on the lip of the arcuate member, it is rocked out of locking position and the anchor assembly is again free to travel up and down with the spring balancers.

3,521,321

# MEAT TENDERISING MACHINE

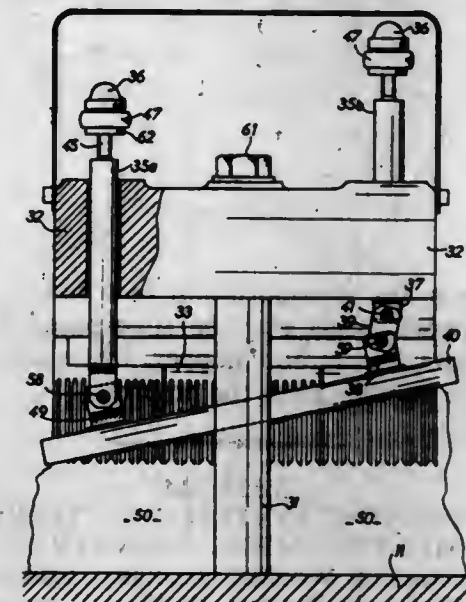
Fernand Stanislas Alliquant, 53 Avenue Le Notre, 92 Sceaux, France  
Filed May 8, 1968, Ser. No. 727,498  
Claims priority, application France, May 9, 1967, 105,766  
Int. Cl. A22c 9/00

U.S. Cl. 17—25

4 Claims

The invention relates to a meat tenderising machine in which a piece of meat may be placed on a stationary table, a substantially horizontal grid connected to and supported by vertical rods and made of parallel bars is

allowed to press upon the piece of meat, and a block of vertical blade plates each of which passes between two successive bars may be lowered so that the blades can penetrate into the piece of meat. According to the invention, the grid is connected to the supporting rods through



deformable linking means. It can therefore tilt about the horizontal and assume a position corresponding to the shape of the piece of meat, in which no large portion of any blade lies unprotected between the grid and the piece of meat.

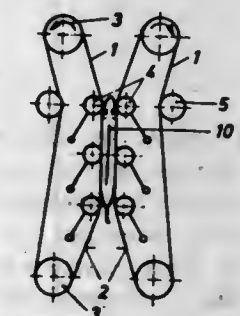
3,521,322

# CONVEYOR BELT FOR GRIPPING AND CARRYING FISH

Johannes Michael, Harmsdorf Ueber Ratzeburg, and Werner Wenzel, Lubeck, Germany, assignors to Nordischer Maschinenbau Rud. Bader, Lubeck, Germany  
Filed Mar. 8, 1967, Ser. No. 621,683  
Int. Cl. A22c 25/08

U.S. Cl. 17—55

8 Claims



A conveyor belt for the slip-free gripping of the skin of a fish having a gripping surface consisting of a large number of gripping points disposed in several superposed rows so arranged as to seize the fish in the scale pockets and carry it along, the points preferably being inclined in the moving direction of the belt.

3,521,323

# PLANT FOR PRODUCING FIBERBOARD PLATES AND THE LIKE

Rolf Hesch, Hals, Krefeld, Germany, assignor to G. Siempelkamp & Co., Krefeld, Germany, a corporation of Germany  
Filed Aug. 28, 1967, Ser. No. 663,576  
Claims priority, application Germany, Aug. 27, 1966, S 105,557  
Int. Cl. B29c 3/04; B30b 9/28

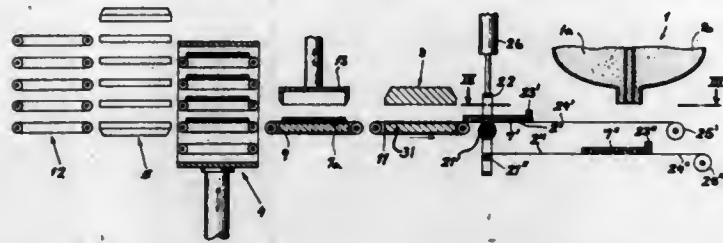
U.S. Cl. 18—4

5 Claims

In producing plates of the pressed-board type, the particulate starting material such as sawdust, woodchips and/or cellulosic fibers is piled upon a reciprocable flexible



support sheet for delivery to a prepress equipped with an endless conveyor which receives the pile from the support sheet and, after compression, passes it on to a fur-



ther conveyor for transportation to a heated final press. Several support sheets may be superposed for alternate charging from a common hopper, one sheet receiving a charge while another feeds the prepress.

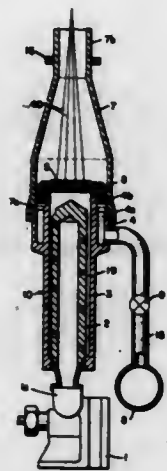
3,521,324

### WET-SPINNING SYSTEM FOR FIBERS WITH MULTIPLE-HOLE SPINNERETS

Walter Hartmann, Wolfen, Germany, assignor to VEB Filmfabrik Wolfen, Wolfen, Germany  
Filed Nov. 16, 1967, Ser. No. 683,654  
Int. Cl. D01d 3/00

U.S. Cl. 18-8

5 Claims



A wet-spinning system for the spinning of fibers with multiple-hole spinnerets, comprising a delivery pump for the spinning solution, a filtering device vertically arranged on said pump, a casing for housing said filtering device, a jacket at least partly enclosing said casing, a detachable rotatable and vertically slidable tube for receiving a precipitating bath for said spinning solution, for fiber formation therefrom upon emergence of the spinning solution from the spinneret.

3,521,325

### INDUCTIVELY HEATED EXTRUSION DIE

Heinz Schippers, Remscheid-Lennep, Germany, assignor to Barmag Barmer Maschinenfabrik Aktiengesellschaft, Wuppertal, Germany

Filed Feb. 6, 1968, Ser. No. 703,300  
Claims priority, application Germany, Feb. 15, 1967, B 91,189

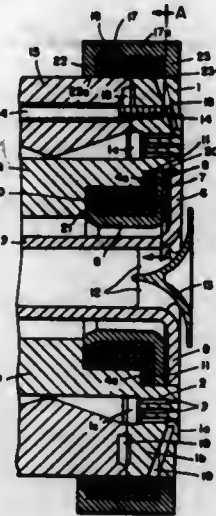
Int. Cl. B29f 3/04, 3/08

U.S. Cl. 18-12

9 Claims

Inductively heated extrusion die for thermoplastic polymers in which one induction coil is mounted around the outer circumferential surface of the nozzle plate adjacent the face thereof from which the polymer is extruded, and the nozzle plate containing one or more extrusion channels or bores has at least one annular gap space or air gap with its outer circumference beginning at a point axially intermediate the two ends of the

induction coil core and extending inwardly so that its inner diameter is immediately adjacent the extrusion channels or bores, such gap spaces being arranged to deflect or concentrate the applied lines of force from the



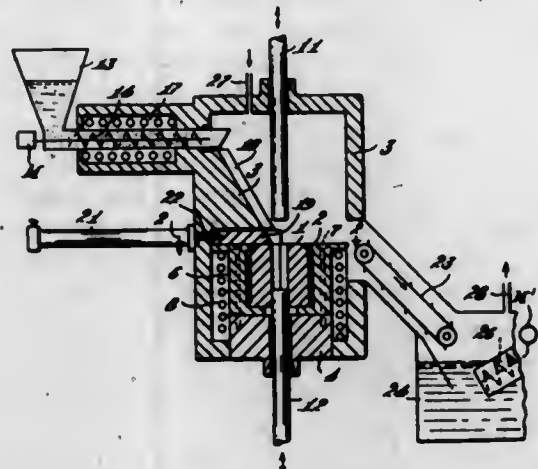
induction coil in that portion of the nozzle plate immediately surrounding the extrusion channels or bores and/or their outlet openings. This construction is particularly useful in water-cooled granulators.

3,521,326

POWDER METALLURGY PRESS APPARATUS  
Richard E. Rice, Arlington, and George Warren Webb, Revere, Mass., assignors to Comstock & Wescott, Inc., Cambridge, Mass., a corporation of Massachusetts  
Original application Apr. 26, 1967, Ser. No. 633,781, now Patent No. 3,386,821, dated June 4, 1968. Divided and this application Apr. 8, 1968, Ser. No. 719,414  
Int. Cl. B29c 3/00, 25/00

U.S. Cl. 18-16.5

4 Claims



Apparatus for making articles of powdered iron which involves only a single pressing at moderate temperature with inexpensive powder containing no carbon, quick quenching and no sintering.

3,521,327

### APPARATUS FOR FORMING BOTTOM TO SHOE UPPERS BY INJECTION MOLDING

Lothar Fink, Baden, and Friedrich Koch, Achim, Germany, assignors to Desma-Werke GmbH  
Filed Mar. 1, 1968, Ser. No. 709,723

Claims priority, application Germany, Apr. 21, 1967, D 52,874

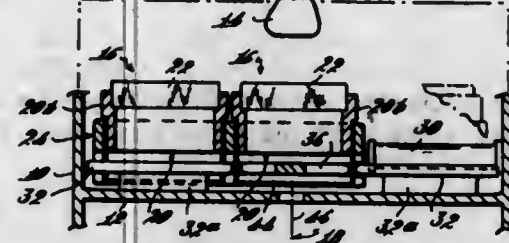
Int. Cl. B29h 5/12; B29c 3/02

U.S. Cl. 18-17

15 Claims

A last upon which a shoe upper is adapted to be supported and two open top bottom mold assemblies supported below the last for lateral movement to place one or the other in confronting relation to the bottom of the last, each mold assembly having a ring and sole plate,

a motor for raising and lowering each mold assembly in turn when located in confronting relation to the bottom of the last toward and from the bottom of the last,



and a motor for raising and lowering the sole plate relative to the ring at said position confronting the bottom of the last.

3,521,328

### PROCESS FOR CARDING MICROCELLULAR FIBERS

Willard Hallam Bonner, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 23, 1966, Ser. No. 559,979

Int. Cl. D01g 13/00

U.S. Cl. 19-145.7

1 Claim

The process of improving the cardability of microcellular fibers comprising combining said microcellular fibers with dense, substantially non-cellular staple fibers, in relative amounts by weight of from 1 to 80% and from 99 to 20%, respectively, said microcellular fibers being composed of a synthetic organic polymer and being characterized by having substantially all of the polymer present as filmy elements of a thickness less than 2 microns.

3,521,329

### HOLDER AND KEY ASSEMBLY

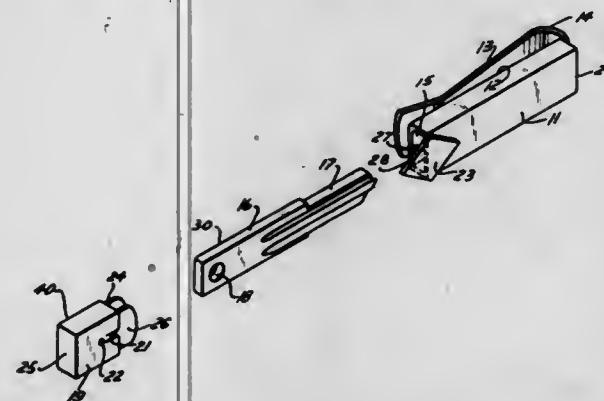
David Gruber, Rego Park, and Gustav Greenfield, Bronx, N.Y. (both of 13 E. 37th St., New York, N.Y. 10016)

Filed Oct. 25, 1968, Ser. No. 770,700

Int. Cl. A41d 25/04

U.S. Cl. 24-49

13 Claims



A holder and key assembly suitable for use as a money clip or tie holder include an interchangeable key blank having a forwardly extending shank for insertion into the chamber of an open ended bar. An end cap provided with a laterally extending channel and a notch positioned substantially at the head of the channel is adapted to fit snugly over the rear of the key blank. A locking plate is carried by the front panel of the bar and extends beyond the open end. The locking plate is provided with an inwardly protruding detent so that when the holder and key are assembled, the detent first engages the channel of the end cap and then engages the notch. By applying a slight outward pressure on the end cap, the key can be retrieved from the bar for use. This assembly permits the wearer to carry a key on his person in a recessed, convenient, out of sight position.

3,521,330

### TOOTHED LEVER TENSION DEVICE PARTICULARLY FOR MOUNTAIN AND SKI-BOOTS

Adalberto Sussman Steinberg, Via Frassinetti 25, Milan, Italy

Filed Feb. 9, 1968, Ser. No. 704,351

Claims priority, application Italy, July 31, 1967, 19,025/67

Int. Cl. A43c 11/14

U.S. Cl. 24-70

8 Claims



A lever tension device, particularly for mountain and ski-boots, comprising two elements, each of which is applied on one of the borders to be joined, one of said elements being formed of a toothed lever and the other of a tension ring, wherein the lever having at least one outer toothing is loosely pivoted on two parallel shoulders projecting from the base plate, from which also a spring projects for coacting with the resistant arm of the lever, the pressing action of the spring operating to steadily hold said lever at either of the two end positions, by acting on one of the sides of prominence, respectively, particularly for ensuring the closing position.

3,521,331

### CLASP FOR A METALLIC BRACELET

Jean-Pierre Gay, Geneva, Switzerland, assignor to Gay Freres S.A., Geneva, Switzerland, a company of Switzerland

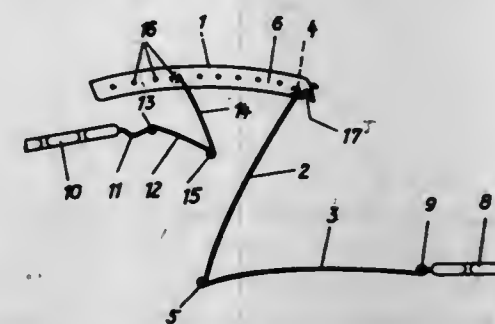
Filed July 1, 1968, Ser. No. 741,685

Claims priority, application Switzerland, Nov. 10, 1967, 15,703/67

Int. Cl. A44c 5/00, 5/04, 5/24

U.S. Cl. 24-71

6 Claims



A clasp for a metallic bracelet, particularly a wrist watch strap, includes the conventional cover and two links that fold beneath the cover into superposed relationship to permit opening and closing the bracelet when taking it off the wrist or putting it on the wrist. In addition, between the other end of the bracelet and the cover, a second set of two folding links, shorter than the first, is pivotally interconnected to the cover to provide two quickly adjusted lengths of the bracelet, for example if the bracelet is or is not to be worn over a garment such as a skin-diving suit.

3,521,332

### DOUBLE ENDED CLIP

Roy G. Kramer, 1342 Signal Drive, Pomona, Calif. 91767

Filed Mar. 4, 1968, Ser. No. 710,268

Int. Cl. A44b 21/00

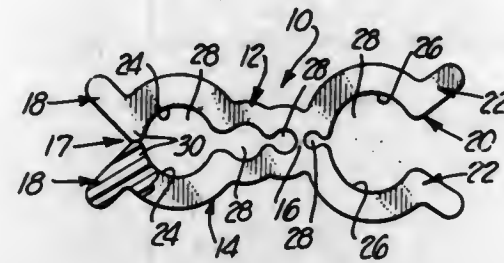
U.S. Cl. 24-81

2 Claims

A double ended clip having a pair of arms disposed side by side and pivotally joined intermediate their ends by resilient fulcrum means which yieldably retain in gripping relation two separate pairs of gripping jaws



located at opposite ends, respectively, of the arms. The gripping faces of the confronting gripping jaws are recessed to define graduated work receiving openings in



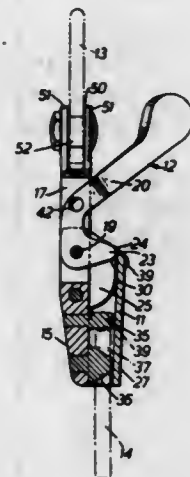
the jaws, such that either of the jaws may be used individually or both of the jaws may be used simultaneously to grip a number of articles in side by side relation.

### 3,521,333 RELEASABLE FASTENERS

James A. Dunster, Camberley, England, assignor to Aerolex Products Limited, Surrey, England  
Filed May 8, 1968, Ser. No. 727,590  
Int. Cl. A44b 11/25

U.S. Cl. 24-230

10 Claims



This application discloses a releasable fastener for use particularly in parachute harness. The fastener includes a body having a frusto-conical stud to locate another part having a cooperating hole therein, a shroud being pivoted to the body to move between positions in which the plate can be retained and released, and a locking lever e.g. of bell-crank form being provided for moving the shroud to the retaining position against the action of a leaf spring.

### 3,521,334 HOSE CLAMP

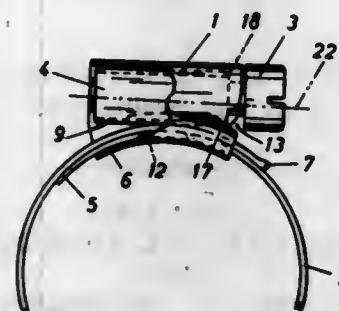
Karl Erik L. Bergström, Scheelegatan 28, Stockholm, Sweden  
Filed Nov. 26, 1968, Ser. No. 779,067  
Claims priority, application Sweden, Dec. 4, 1967, 16,589/67  
Int. Cl. B65d 63/00

U.S. Cl. 24-274

2 Claims

This invention relates to a hose clamp of the kind comprising a steel band bent to form a ring and having end portions overlapping each other, the radially outer end having external and transversal threads meshing with the threads of a screw provided with a head and a groove inside the latter, said screw being carried for rotation but axially undisable in a sleeve which has one portion partly enclosing the screw and being shaped essentially as half a hollow-cylinder and one portion enclosing the

two band ends and having a substantially rectangular cross section, the inner band end adapted to be arranged at the bottom of the rectangular sleeve portion, the latter having a space rendering possible the displacement of the outer steel band end between the inner band end and the screw by means of a rotation of the latter. The main object of the invention is to provide a clamp of this kind which is easily manufactured and in which the screw is retained with safety and screw will be ensured a meshing with the screw threads of the other band end. This has



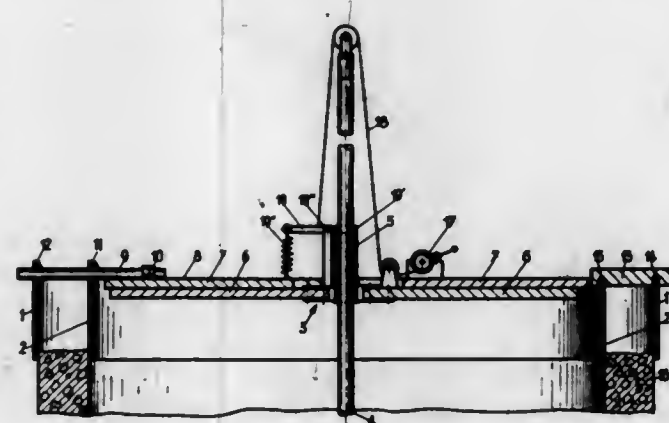
been achieved by providing the sleeve at the end turned towards the screw head with cuttings at the places where the hollow-cylindrical sleeve portion continues in the rectangular sleeve portion, the free ends of the tongues of the hollow-cylindrical portion thus freed from the rectangular portion being bent inwards and into the groove in the screw, these ends further being bent in such a way that the sleeve end situated closest to the screw head near the tongues will be less projecting than at the portion of this sleeve end situated farthest from the sleeve bottom.

### 3,521,335 ASSEMBLY FOR FORMING SILOS

Otto Heinze, Gotzis, Austria, assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin  
Filed Oct. 9, 1967, Ser. No. 673,864  
Claims priority, application Austria, Oct. 11, 1966, A 9,494/66  
Int. Cl. E04g 11/22

U.S. Cl. 25-131

4 Claims



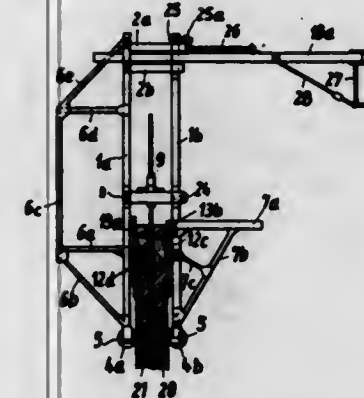
An assembly for forming silos or like vertically elongated containers involves a segmented scaffold slidably supported on at least one centrally disposed guide rod and a circumferential casting shell formed of inner and outer shell pieces which are supported by the scaffold via rod and suspension eye units that permit limited horizontal movement between the rod and eye elements. The inner and outer shells are vertically slotted to permit size alteration and release from a layer of cast concrete and repositioning for a new layer at the next higher step in the upwardly progressive formation of the concrete container.

### 3,521,336 GUIDE ASSEMBLAGE FOR SLIDING SHUTTERING FOR BUILDING CONCRETE STRUCTURES

Gunter Rohlf, Düsseldorf, Germany, assignor to Gleitschneibau Gesellschaft mit beschränkter Haftung, Düsseldorf, Germany  
Continuation-in-part of application Ser. No. 473,773, July 25, 1965. This application Aug. 7, 1968, Ser. No. 750,897  
Claims priority, application Germany, Apr. 10, 1965, 1,534,944  
Int. Cl. B28b 7/02

U.S. Cl. 25-131

5 Claims



A guide assemblage for sliding shuttering for building concrete structures including mechanical or hydraulic lifting means in which the shuttering plates are horizontally displaceable at the margin of a horizontally mounted grid. The guide members are defined by substantially parallel limbs on the inner facing sides of which the shuttering plates are fixed with the limbs overlapping an area in front of the grid as far as the area of the hardened concrete present below the plates. The guide members are supported at the lower ends thereof against the concrete by sliders and the members are jointly displaceable in relation to the grid and with one of the guide members being displaceable with respect to the other guide member.

### 3,521,337 UNIVERSAL ASSEMBLING MACHINE FOR THE MANUFACTURE OF STACKS OF SLATS FOR VENETIAN BLINDS

Hubertus Lodewijk Petrus Peeters, Rotterdam, Netherlands, assignor to Hunter Douglas International Ltd., Pointe Claire, Quebec, Canada  
Filed Jan. 18, 1968, Ser. No. 698,932  
Claims priority, application Netherlands, Jan. 23, 1967, 6701043  
Int. Cl. B23p 19/04

U.S. Cl. 29-24.5

9 Claims



A universal assembling machine for the automatic assembling of Venetian blinds with slats carried by ladder means, said machine being adapted to be quickly readjustable for manufacturing blinds with different slat width, as well as with ladder tape or ladder cord according to choice. Also it may be adjusted for different mutual distance of the ladder carrier means along the blind and/or for different overlapping distance of the slats in a closed blind. This universality is obtained among others by the

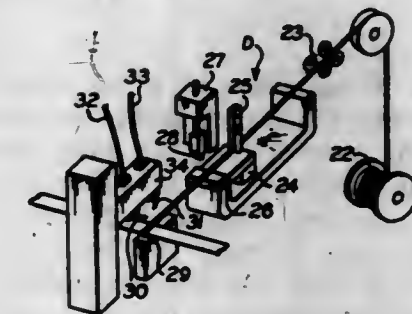
provision of a setting and regulating mechanism and of interchangeable or indexable units, elements, mechanisms etc.

### 3,521,338 AUTOMATIC MACHINE FOR WINDING PLASTIC FILM CAPACITORS

Carlo San Pietro, Milan, Italy, assignor to Mial S.p.A., Milan, Italy  
Filed Feb. 28, 1967, Ser. No. 619,448  
Claims priority, application Italy, Mar. 4, 1966, 4,890/66  
Int. Cl. H01g 13/00

U.S. Cl. 29-25.42

6 Claims



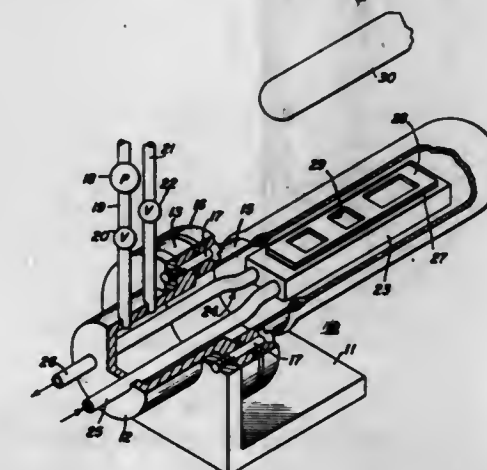
A capacitor winding machine having a rotatable turret on which are slidably and rotatably mounted two pair of semi-mandrels on which capacitors are wound. Automatic means are included for feeding foil bands in interleaved relation with dielectric bands to form the capacitors, and automatic means for forming terminals from wire and for welding terminals to the foil are provided.

### 3,521,339 METHOD OF MAKING CAPACITORS

Archibald N. Wright, Schenectady, and Richard C. Merrill, Glens Falls, N.Y., assignors to General Electric Company, a corporation of New York  
Continuation-in-part of application Ser. No. 530,813, Mar. 1, 1966. This application Apr. 1, 1969, Ser. No. 822,788  
The portion of the term of the patent subsequent to June 3, 1986, has been disclaimed  
Int. Cl. H01g 13/00

U.S. Cl. 29-25.42

13 Claims



A method for making a capacitor is provided by photo-polymerizing a gaseous perhalogenated organic material in contact with the surface of a first electrode to produce a continuous, impermeable adherent dielectric film thereon, and thereafter employing a second electrode in association with the resulting dielectric film-first electrode composite.



### 3,521,340 FLUID BEARING ROLL WITH VIBRATION DAMPING MEANS

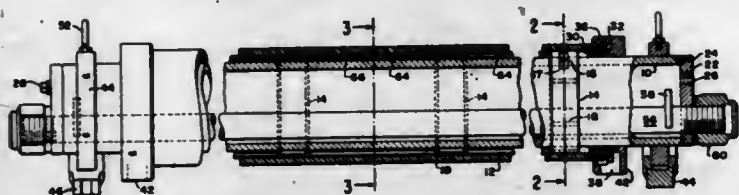
James O. Gallant, Rehoboth, and George P. Knapp, Waban, Mass., assignors to Mount Hope Machine Company, Incorporated, Taunton, Mass., a corporation of Massachusetts

Filed Apr. 3, 1968, Ser. No. 718,393

Int. Cl. B21b 13/02; F16f 15/10

U.S. Cl. 29—116

3 Claims



To dampen the vibrations of a roll comprising an annular roller sleeve which is rotatably mounted by means of fluid bearing spaced along an axle, either the axle or the sleeve has a non-circular cross-section to form projections into fluid-filled annular clearance spaces extending around the axle between the fluid bearings. These spaces bleed fluid from the bearings toward the ends of the axle. These projections divide the clearance spaces into small pockets to prevent the wave action which causes vibration. The projections may take the form of fins. Annular dams may also be provided at the ends of the sleeve, in conjunction with the fins or as an alternative measure, to define small passages for the escape of fluid; this keeps the clearance spaces full of fluid and so reduces wave action, a major source of vibration.

### 3,521,341 METHOD OF ASSEMBLING AND FORMING AN EXTENSIBLE COLUMN

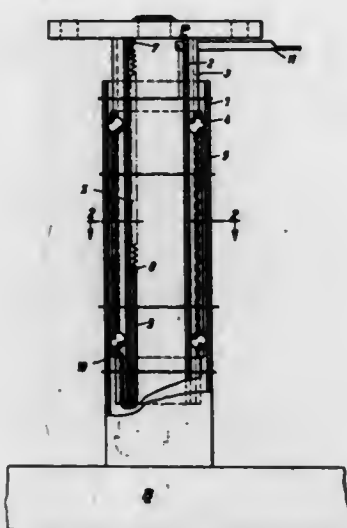
Reinhard Hörnlein and Otto Tacke, Holzminden, Germany, assignors to Reinhard Hörnlein KG., Holzminden, Germany

Filed June 17, 1968, Ser. No. 737,733

Int. Cl. B23p 11/00

U.S. Cl. 29—148.4

7 Claims



A method of assembling an extensible column wherein the corner zones of a rectangular inner tube which is telescoped into a rectangular outer tube are provided with longitudinally extending grooves for rows of balls which are mounted in a cage of rectangular outline. The cage is coupled to one of the tubes by way of one or more springs, cables, weights or the like so that it is held against uncontrolled downward movement in response to reciprocation of the tubes with reference to each other. These portions of surfaces of the tubes which engage the balls are provided with tracks which are formed by oversized

spheres inserted between the tubes prior to introduction of balls and serving to penetrate into and to condense the material of tubes in response to repeated reciprocation of one tube with reference to the other tube.

### 3,521,342 METHOD OF MAKING A SELF-LOCKING RING

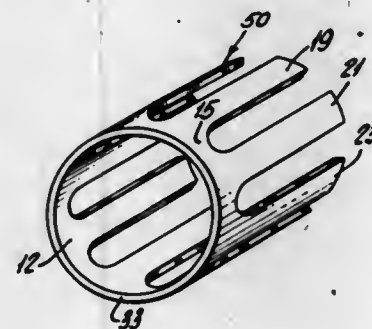
Horace B. Van Dorn, Kensington, and Ralph S. Howe, Jr., New Britain, Conn., assignors to Textron, Inc., Providence, R.I., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,456

Int. Cl. B23p 11/00

U.S. Cl. 29—148.4

9 Claims



A method of making a resilient self-locking structure involves the use of a plurality of resiliently loaded clamp feet angularly distributed in concentric relationship with respect to a ring member, such as the inner or outer race ring of an antifriction bearing. The clamp feet are embedded in an elastomeric material, isolated from one another, and capable of providing biting contact either upon a shaft or within a bore to which the structure is mounted.

### 3,521,343 METHOD FOR MANUFACTURING THIN WALLED FLEXIBLE BEARING LINERS

David Frederick Green, London, Norman Ernest Fisher, Harrow, and John Whiteside, Naphill, England, assignors to Vandervell Products Limited, London, England, a British company

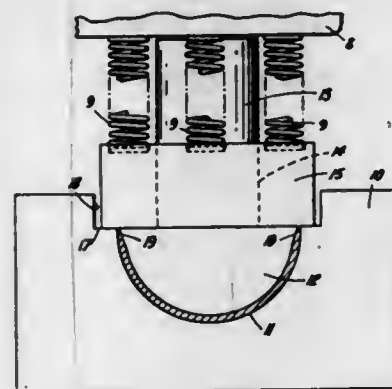
Filed Jan. 12, 1968, Ser. No. 697,340

Claims priority, application Great Britain, Jan. 16, 1967, 2,252/67

Int. Cl. B21d 1/00, 53/10; B21k 3/00

U.S. Cl. 29—149.5

7 Claims



The invention provides a method for making thin walled flexible bearing liners from arcuate blanks which comprise a backing layer having a layer of bearing material on the internal surface thereof which method comprises subjecting the blanks to two successive coin-pressing operations one of which imparts a finished external surface of the required circumferential length to the blanks and the other of which sizes the internal surface of the blanks.

3,521,344

### METHOD OF MAKING A ROCKET NOZZLE

Bert B. Gould, Alameda County, and Arthur T. Biehl and Robert Mainhardt, Contra Costa County, Calif., and William D. Barton, Panama City, Republic of Panama, assignors to MB Associates, a corporation of California

No Drawing. Original application Feb. 11, 1965, Ser. No. 435,780. Divided and this application Oct. 22, 1965, Ser. No. 515,509

Int. Cl. B21d 53/92

U.S. Cl. 29—157

2 Claims

1. The method of producing a spin-stabilized rocket nozzle for attachment to a rocket casing, the steps of:  
(a) preparing a slug of metal having a cylindrical perimeter and front and rear walls arranged to be seated in the rocket casing and having a central perforation therethrough,  
(b) piercing a pair of cylindrical symmetrical ports spaced from the central perforation and extending longitudinally of said slug through the front and rear walls and at an angle to the perimeter thereof to provide a throat portion, and thereafter  
(c) deforming the throat portion of said slug with a driven burr drill to form at least one curved vane adjacent to each of said nozzle ports.

3,521,345

### METHOD OF MAKING A ROCKET NOZZLE

Bert B. Gould, Alameda County, and Arthur T. Biehl and Robert Mainhardt, Contra Costa County, Calif., and William D. Barton, Panama City, Republic of Panama, assignors to MB Associates, a corporation of California

No Drawing. Original application Feb. 11, 1965, Ser. No. 435,780. Divided and this application Oct. 22, 1965, Ser. No. 515,510

Int. Cl. B21d 53/92

U.S. Cl. 29—157

1 Claim

1. The method of producing a nozzle for spin stabilizing a rocket, the steps of:  
(1) forming a nozzle having at least one divergent wall and an axial aperture,  
(2) drilling at least two cylindrical symmetrical tangentially disposed nozzle ports angularly through said divergent wall with a burring drill,  
(3) withdrawing the drill partially from the nozzle port, and thereafter  
(4) twisting the drill at an angle against the divergent wall to form therefrom an integral wing-like element which overhangs a portion of the nozzle ports and so arranged to deflect effluent gases emitted from the rocket and thereby spin stabilize the flight thereof.

3,521,346

### MACHINE FOR RECONDITIONING AND SETTING UP CLUTCHES OF MOTOR VEHICLES AND THE LIKE

Grigore Tongurian, Rozelle, New South Wales, Australia, assignor to British Automotive Industries, Pty. Limited, Belmore, New South Wales, Australia, a corporation of Australia

Filed May 31, 1967, Ser. No. 642,434

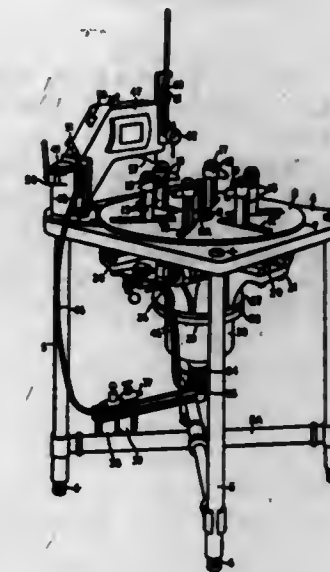
Int. Cl. B23p 19/00

U.S. Cl. 29—200

14 Claims

A machine for reconditioning and setting up clutches of motor vehicles and the like comprises a face plate simulating the flywheel of a motor engine and mounted for rotation in or on the face of a fixed table with supporting means, a series of clamping members each separately mounted through a radial slot in said face plate at intervals apart in a circular path and extending at the lower end to a carrier member positioned under said face plate, said clamping members having positioning means for advancing them in and moving them out to a required

position on the said face plate and such means being operated manually from a single location at a convenient sideward location of the machine, air pressure operated means for raising and lowering said clamping members in unison with their carrier member from a common actuating position, an arm device pivotally or hingedly mounted from one side of said table for movement radially over the face plate and having air pressure actuated means



housed in or on said arm device and linked to means at the outer end for actuating the clutch fingers of a clutch assembly being reconditioned, said arm device having at its outer end means to receive an indicating gauge to check variations of the said clutch fingers when said face plate is rotated, and means for connecting said air pressure operated means and said air pressure actuated means to a supply of air under pressure.

### 3,521,347 APPARATUS FOR REMOVING AND DISPOSING OF WRAPPING BANDS

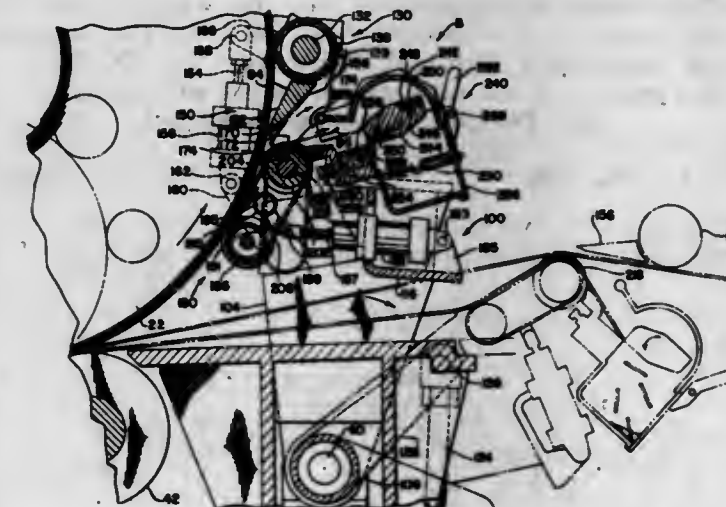
Eldon R. Bentley, Salem, Ohio, assignor, by mesne assignments, to Gulf & Western Industrial Products Company, Grand Rapids, Mich., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693,345

Int. Cl. B23p 19/02

U.S. Cl. 29—427

13 Claims



The disclosure is directed to a method and apparatus for removing and disposing of a circumferentially extending wrapping band from a bound coil. The method comprises the steps of rotating the coil about its axis;



severing the band while the coil is rotating; continuing to rotate the coil while conveying the severed band away from the coil along a predetermined path; providing, along said path, means for reducing the severed band to a more easily handled configuration; and, inserting the band into the means and continuing to rotate the coil until substantially all of the band has been fed into the means. The apparatus disclosed comprises means which can be operated to carry out the described method.

### 3,521,348 METHODS AND APPARATUS EMPLOYING TORSIONAL VIBRATORY ENERGY FOR WRENCHING

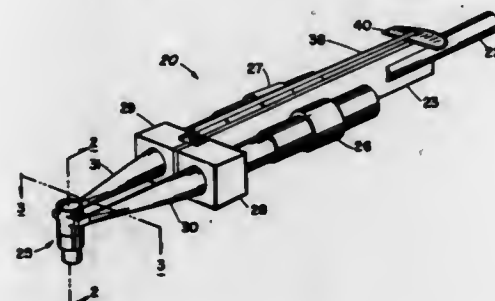
Gary D. Pruder, Newark, Del., and Nicholas Maropis and James Byron Jones, West Chester, Pa., assignors to Aeroprojects Incorporated, West Chester, Pa., a corporation of Pennsylvania

Filed Dec. 7, 1967, Ser. No. 688,867

Int. Cl. B23p 11/00, 19/00, 19/04

U.S. Cl. 29—428

13 Claims



Methods and apparatus for applying high intensity vibratory energy in the torsional mode of vibration for wrenching of threaded fastener connections.

An ultrasonic wrenching method wherein ultrasonic vibration in the torsional mode is applied substantially simultaneously with mechanical tightening and frictional effects are controlled.

### 3,521,349 METHOD OF JOINING FIRST AND SECOND MEMBERS

James H. Gehring, 4080 N. Sagamore Drive,  
Fairview Park, Ohio 44126

Application Feb. 27, 1967, Ser. No. 618,974, now Patent No. 3,385,617, dated May 28, 1968, which is a continuation-in-part of applications Ser. No. 446,846, Apr. 8, 1965, and Ser. No. 538,090, Mar. 28, 1966. Divided and this application May 27, 1968, Ser. No. 732,381

The portion of the term of the patent subsequent to May 28, 1965, has been disclaimed

Int. Cl. B23p 19/00

U.S. Cl. 29—526

6 Claims



Method for joining two rigid load supporting members by providing one of the members with a generally annular protruding boss with a bore therein, placing a metal cap over the boss and then securing the other

member to the boss by means of a threaded fastener threadedly received through the bottom of the cap and extending into the bore in the boss, and in the preferred embodiment, also threadedly engaged with walls of the bore in the boss.

### 3,521,350 METHOD OF MANUFACTURING SEMICONDUCTOR DEVICES

Wilhelmus Franciscus Knippenberg and Gerrit Verspul, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 12, 1968, Ser. No. 712,378

Claims priority, application Netherlands, Mar. 14, 1967, 6703802

Int. Cl. H01l 15/02

U.S. Cl. 29—572

7 Claims

This invention relates to the manufacture of semiconductor devices consisting of a coherent foil of an insulating material in which granules of a semiconducting material are embedded in such manner that their surfaces which are free from insulating material protrude on either side of the foil which is covered with electrode layers electrically connecting together protruding portions of the granules.

### 3,521,351 METHOD OF MAKING THERMO-ELECTRIC DEVICES

Frederick John Wilkins, Surrey, England, assignor to National Research Development Corporation, London, England, a British body corporate

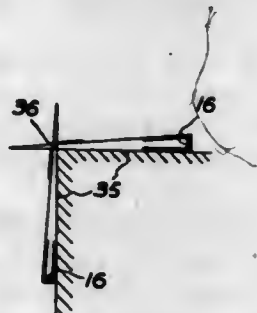
Original application Feb. 23, 1966, Ser. No. 529,522, now Patent No. 3,382,108, dated May 7, 1968. Divided and this application Oct. 10, 1967, Ser. No. 710,411

Claims priority, application Great Britain, May 10, 1963, 18,699/63; Feb. 23, 1965, 7,861/65

Int. Cl. B01j 17/00; H01l 15/00; H01n 49/00

U.S. Cl. 29—573

5 Claims



A multi-junction thermo-electric converter has the junctions produced by coatings of discrete lengths of one electrically conductive material on a continuous length of very fine wire of another electrically conductive material, the wire being wound into a helix with two rows of junctions formed by the ends of the coatings, the cross section of the helix being triangular with one row of junctions at an acute angled apex of the helix and the other row remote therefrom. An electrically heated rod-like support is secured to the helix along the row of junctions at the apex and serves both to support the helix and to heat the row of junctions at the apex, while at least one other rod-like support is secured to and extends along the helix at a position remote from the first support. The first support may be a hairpin looped electric heater, and two such helices may be intermeshed with the heater common to both. The converter structure may be housed in a surrounding shielding enclosure, preferably evacuated, of high thermal and electrical conductivity which minimizes heat loss and serves as a sink for the cold junctions.

### 3,521,352 ELECTRIC HEATERS

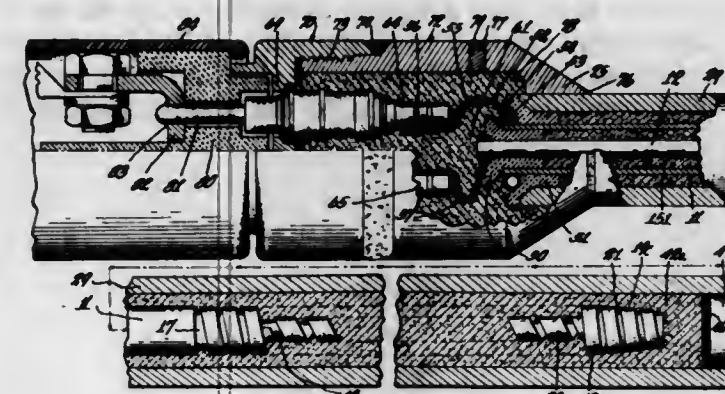
John F. Volker, Pittsburgh, Pa., assignor to Emerson Electric Company, St. Louis, Mo.

Filed Aug. 26, 1968, Ser. No. 755,297

Int. Cl. H05b 3/00

U.S. Cl. 29—611

8 Claims



An electric heater comprising a terminal section including a terminal rod disposed in electrically-insulated concentric relation within a metal tube, and a pair of concentric coiled resistors, the outer resistor having an end electrically connected to the tube and the inner resistor having an end electrically connected to the terminal rod. The terminal section, with attached resistors, are then disposed in coaxial relation within a tubular metal sheath and refractory material is inserted within the sheath for electrical insulation. The sheath is hermetically sealed at one end by a plug welded in to the sheath, and at the other end by a terminal housing which is welded to the sheath. The terminal housing contains electrical connections with the terminal rod and metal tube, and such connections include looped portions to accommodate expansion and contraction.

### 3,521,353 COMBINATION CUTTING TOOL

Jack Fabyan, Wasilla, Alaska 99687

Filed Aug. 14, 1967, Ser. No. 660,513

Int. Cl. B25f 3/00; B26b 1/00; B27b 21/00

U.S. Cl. 30—144

8 Claims



A cutting tool having a handle and pivotally mounted blade, which blade has a sharpened edge and a saw tooth edge. Spring biased lock means in the handle having two fingers permit blade movement into one of three positions whereby the tool is either a hunting knife, a machete, or a hand saw.

### 3,521,354 DOWEL ASSEMBLY AND METHOD

Alfred J. Stern, 5307 Volkeith St., and Harold L. Stern, 6906 Van Etten St., both of Houston, Tex. 77021

Continuation-in-part of applications Ser. No. 579,748, Sept. 15, 1966, Ser. No. 595,557, Oct. 27, 1966, and Ser. No. 656,921, July 28, 1967. This application Aug. 14, 1968, Ser. No. 752,703

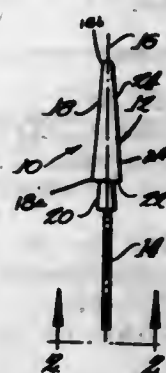
Int. Cl. A61c 13/60

U.S. Cl. 32—11

7 Claims

A method for making a positive replica of a tooth from a negative impression of the tooth formed in impression material. An elongated dowel having a pre-positioning pin secured thereto is positioned in the negative

impression by impaling the pre-positioning pin into the impression material. The negative impression is filled with



a die material to a level above the lower end of the dowel and allowed to harden and thereafter a base stone material is cast over the die material.

### 3,521,355 POSITIONING MEANS FOR ORTHODONTIC BRACKETS

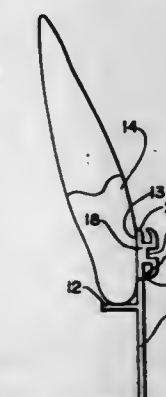
Lawrence Pearlman, 231 East St.,  
Sharon, Mass. 02067

Continuation-in-part of application Ser. No. 579,321, Sept. 14, 1966. This application June 30, 1969, Ser. No. 837,735

Int. Cl. A61c 7/00

U.S. Cl. 32—14

13 Claims



An orthodontic positioning means has a handle for use in association with an orthodontic bracket to correctly position the bracket on the labial surface of a tooth. The handle carries means for supporting an orthodontic bracket and means for permitting measurement of the position of the bracket on the tooth. The handle can be integrally molded with the bracket or can be releasably interlocked therewith and in both cases, can be easily removed from the bracket after handling and positioning on a tooth.

### 3,521,356 DISPENSER FOR DENTAL FILLING MATERIAL

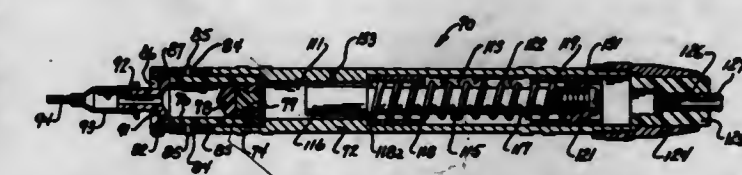
Roy L. Newman, 1023 Lundvall Ave.,  
Rockford, Ill. 61107

Continuation-in-part of application Ser. No. 538,459, Mar. 23, 1966. This application Sept. 27, 1968, Ser. No. 763,291

Int. Cl. A61c 5/04

U.S. Cl. 32—60

8 Claims



Two embodiments of the dispenser are illustrated. Both have a plunger which is advanced to dispense the dental filling material from a cartridge through a barrel. The cartridge is removable and the filling material may be



prepared therein. In one embodiment the plunger is advanced by air pressure applied against the plunger; in the other, the plunger is mechanically advanced by a turbine driven by air under pressure.

3,521,357

**CARRIER FOR PREFABRICATED TOOTH CROWNS**  
Per Börje Berglund, Kristinavägen 7, Sundsvall, Sweden, and Stig Olof Berglund, Blackensvägen 25, Älvsjö, Sweden

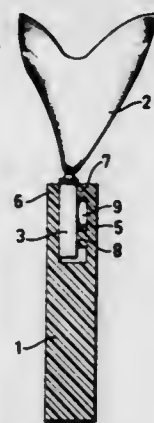
Filed Nov. 4, 1968, Ser. No. 773,086  
Claims priority, application Sweden, Apr. 19, 1968, 5,255/68

Int. Cl. A61c 19/00

U.S. Cl. 32—71

2 Claims

A plurality of prefabricated tooth crowns each having an identification plate fixed thereto and including a projection extending therefrom, and a carrier for said crowns, including an integral body means separate from the tooth crowns and having a number of pockets for releasably receiving the identification plates of the tooth crowns, each of said pockets being defined by a resilient tongue at one side thereof and a substantially rigid wall portion at the opposite side thereof, each of said wall portions



having along its longitudinal edges projections extending toward the associated resilient tongue, each of said resilient tongues being provided adjacent its free end with a transverse flange projecting into the associated pocket, said plates each extending into one of said pockets with the transverse flange of the pocket engaging the projection on the associated plate to retain said tooth crowns in position relative to said carrier.

3,521,358

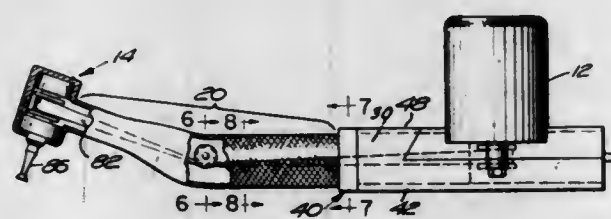
**DENTAL DRILL ASSEMBLY**  
Herbert Berman, 6 Conant Road, Weston, Mass. 02193

Filed Oct. 20, 1967, Ser. No. 676,783

Int. Cl. A61c 1/10

U.S. Cl. 32—27

11 Claims



A dental handpiece having a contra-angle handle with a head at one end and an electric motor at the other, with the motor being rotatably mounted on the handle so that its axis may lie in the plane defined by the handle and head axes or be displaced therefrom up to approximately 90°.

3,521,359

**DENTAL DRILL**

William H. Harris, 4513 S. Pennsylvania, Oklahoma City, Okla. 73119

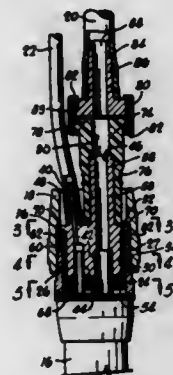
Filed June 10, 1968, Ser. No. 735,908

Int. Cl. A61c 1/08

U.S. Cl. 32—28

9 Claims

A dental drill having a head, a drill bit detachably secured in the head, and a handle extending from the head and detachably secured to a plurality of fluid conduits used to convey water and air to the drill. At least one of the fluid conduits is connected to the handle through a



swivel connection which prevents torque forces from being imparted to the swivelly connected fluid conduit as the handle is twisted about its longitudinal axis by the manipulations of the dentist in drilling.

3,521,360

**COIN-OPERATED HARMONOGRAPH**

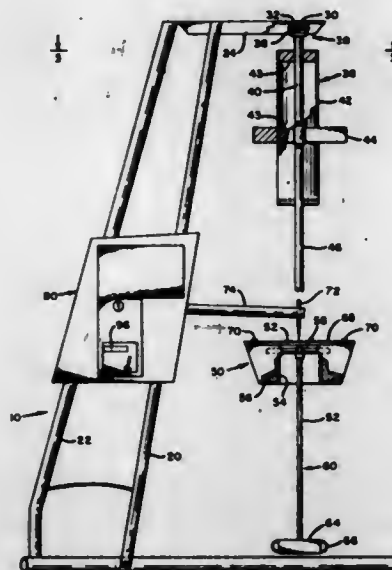
Thornton E. Wulf, 2902 Grandee St., Boise, Idaho 83704

Filed Apr. 21, 1969, Ser. No. 817,906

Int. Cl. B43I 11/00

U.S. Cl. 33—27

12 Claims



A coin-operated harmonograph comprising a pendulum having a platform for the support of a removable recording sheet. A pivotally mounted recording arm is provided for holding a writing instrument for engagement with the recording sheet. Coin-operated means for normally disabling the operation of the harmonograph are provided and operation is permitted only for predetermined time periods. In one embodiment of the invention the recording arm is raised to disable recording operation, and in another, swinging of the pendulum is prevented to disable operation except for predetermined time periods. The harmonograph may include one or more pendulums, and if more than one pendulum is employed they may be independently suspended or one suspended from the other.

3,521,361

**INSTRUMENT FOR INSCRIBING AN ELLIPSE**

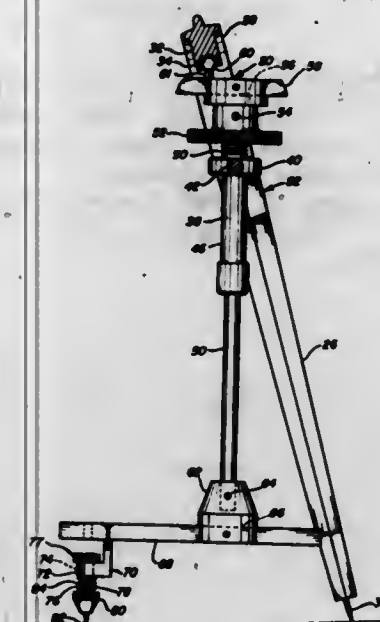
Kermit A. Bowen, 8022 University Place, La Mesa, Calif. 92041

Filed Jan. 21, 1969, Ser. No. 792,739

Int. Cl. B43I 11/04

U.S. Cl. 33—30

9 Claims



An instrument for inscribing ellipses comprising an inverted U-shaped frame, the feet of the legs of which rest on the surface to be inscribed. This main frame includes horizontally disposed bearings and a horizontally disposed guideway arranged above the bearings. A second frame oscillates in the bearings and carries a vertically extending, rotatable shaft. The shaft carries two horizontally adjustable arms, the upper arm being guided by the guideway, and the lower arm carries an inscriber which is spring-pressed downwardly. Both arms are frictionally held in adjusted position.

3,521,362

**ARCHERY SIGHT**

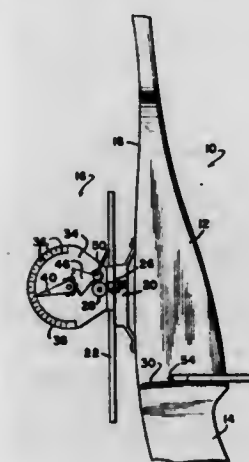
Armond J. Duplechin, General Delivery, Sulphur, La. 70663

Filed July 25, 1968, Ser. No. 747,579

Int. Cl. F41g 1/30, 1/46

U.S. Cl. 33—46

5 Claims



An archery sight including a vertical base, mounted on the forward face of a bow above the handgrip, a ball sight extending laterally from the base and adjustable therealong, and a sight plate, slidable along the base with the ball sight, and comprising a graduated dial, defining varying target distances, a pointer for the dial, and a pivoting mirror, geared to the pointer and pivotally mounted along its lower base edge so that the tip of an arrow, when the bow is drawn, will be reflected in the mirror precisely along the base line of the mirror thereby enhancing accuracy of the bow.

3,521,363

**BALANCE DEVICE FOR PARALLEL DRAFTING MACHINES**

Tamio Shimizu, Tokyo, Japan, assignor to Muto Kogyo Kabushiki Kaisha, Tokyo, Japan

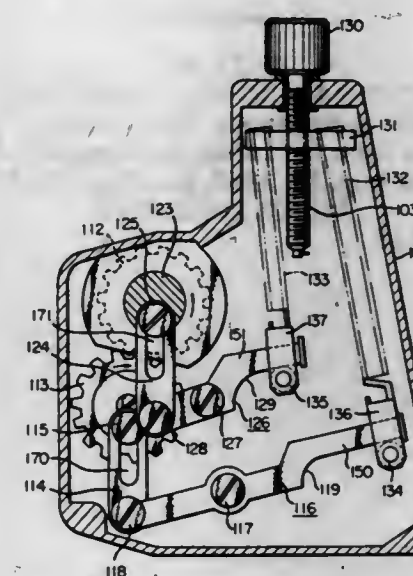
Filed June 19, 1968, Ser. No. 738,157

Claims priority, application Japan, July 11, 1967, 42/598,955; July 26, 1967, 42/41,158

Int. Cl. B43I 13/02

U.S. Cl. 33—79

4 Claims



The balance device for parallel motion drafting machines in accordance with the present invention comprises an arm pivotally mounted on a pin and having a stepped extension at its one side, and a spring having an end slidably mounted on and along the stepped extension of the arm by means of a roller secured to the end and other end pivotally anchored to a support means such as a plate or bracket. The balance device is housed in a pulley guard or enclosure associated with a clamping means by which a parallel motion machine is rigidly secured to a drawing board tilted at the selected positions on angles with respect to a vertical plane.

3,521,364

**SIGHTING SQUARE**

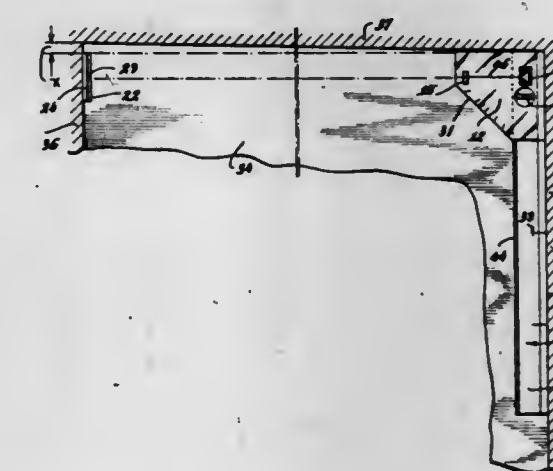
Herbert A. Metcalfe, West Haven, Conn. (4411 N. Federal Highway, Ball-Hi Mobile Court, Pompano Beach, Fla. 33064)

Filed Jan. 30, 1968, Ser. No. 701,575

Int. Cl. G01c 5/00

U.S. Cl. 33—73

1 Claim



A sighting square for laying floor covering fashioned after the familiar carpenter's framing square having an elongated leg portion with two parallel edges, the outer one of which can be placed against or parallel to the edge of the floor to be covered and sights aligned with a target on the opposite side of the floor space to determine the



correct angle of the floor space for cutting the floor covering. The inner edge of the sighting square can be placed against the edge of the floor covering to enable the floor covering to be accurately cut without unnecessary waste. The sighting means comprising a front sight and a rear sight mounted on the square to provide a sighting line and a mirror mounted on the square in this line of sight and at such an angle that the workman can line the sights up with a target by merely looking down at the mirror.

3,521,365

## DUCT MEASURING INSTRUMENT

John E. O'Neal, Indianapolis, Ind., assignor of sixty percent to John J. Cotton, Indianapolis, Ind.  
Filed Aug. 13, 1968, Ser. No. 752,292  
Int. Cl. G01b 3/06

U.S. Cl. 33—105

7 Claims



A measuring instrument having a pair of elongated straight edged plates hinged together, each plate having a pair of longitudinally extending parallel flanges, one flange being along one edge of each plate and the second flange on each plate being spaced from the hinge axis a distance equal to the thickness of duct material with which the instrument is to be used, the plates having graduations thereon extending in increasing designations from the hinge axis.

3,521,366

## VISUAL LIQUID LEVEL MEASURING DEVICE

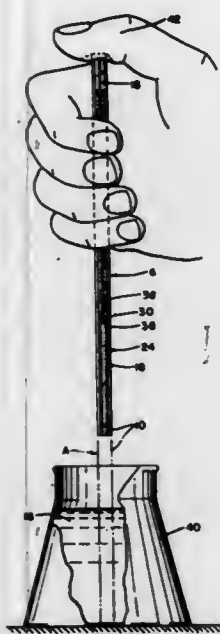
Thomas David Sampson, Rootstown, and James Anthony Markwald, Cuyahoga Falls, Ohio, assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts

Filed July 28, 1969, Ser. No. 845,402

Int. Cl. G01f 23/02

U.S. Cl. 33—126.4

7 Claims



A device to facilitate the visual measurement of the level of a liquid in a sight tube and having an elongated, transparent tubular body member which includes a tri-

angular shaped stripe embedded therein parallel to its length. The cross section of the stripe increases in dimension as it extends radially through the body member towards the outer surface thereof whereby the width of the stripe will appear wider when viewed through the liquid than when viewed through the air.

3,521,367

## MATERIAL LEVEL INDICATOR

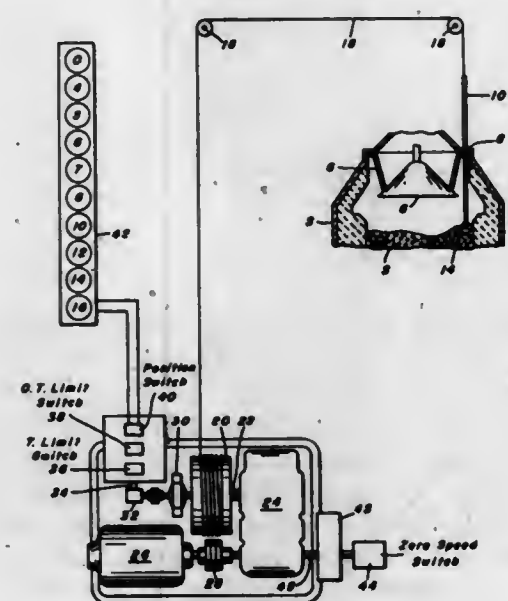
Nick J. Grynovich, Gary, Ind., and Stanley J. Lesniak, Chicago, Ill., assignors to United States Steel Corporation, a corporation of Delaware

Filed Aug. 15, 1968, Ser. No. 752,847

Int. Cl. G01f 23/00

U.S. Cl. 33—126.6

7 Claims



Apparatus for indicating the level of a burden in a blast furnace in which a test rod contacts the top of the burden. The test rod is moved upwardly a pre-determined distance each time it contacts the burden and then moves downwardly in a short time. For this purpose a zero-speed switch is connected in series with the contact of a time delay relay which opens and closes at intervals. A relay coil in series with the contact and switch has a contact which is in a by-pass circuit of a resistance in series with the hoist motor armature. The normally opened zero speed switch closes as the rod engages the burden causing the resistance to be varied to allow the motor to raise the test rod.

3,521,368

## APPARATUS FOR CHECKING THE FLANKS OF GEARS, ESPECIALLY BEVEL GEARS

Rolf Seybold, Solingen, Germany, assignor to W. Ferd. Klingelberg Sohne, Berghausen, Germany

Filed June 21, 1968, Ser. No. 738,986

Claims priority, application Germany, June 24, 1967, K 62,636

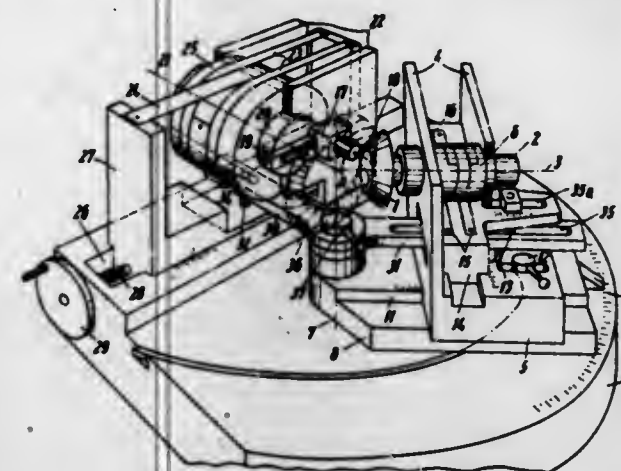
Int. Cl. G01b 5/20

U.S. Cl. 33—179.5

16 Claims

Apparatus for checking the tooth profiles of gears comprising; a support for the gear to be checked and a support for a feeler and a base common to said supports, said supports being adjustable angularly about an axis vertical to the base, each support comprising a carriage. A lever pivoted on the aforementioned axis interconnects the carriages for simultaneous movement. Movement of the carriage pertaining to the gear support causes rotation of the gear to be checked that is mounted thereon. Movement of the carriage pertaining to the support for the feeler causes rotation of the feeler. The supports are adjustable relatively to accommodate for different types

and sizes of gears and the feeler is adjustable on its support during rotation of the gear being checked and the



feeler, the feeler follows the profile of a tooth of the gear.

3,521,369

## UNIVERSAL PLUMB BOB LEVEL DEVICE

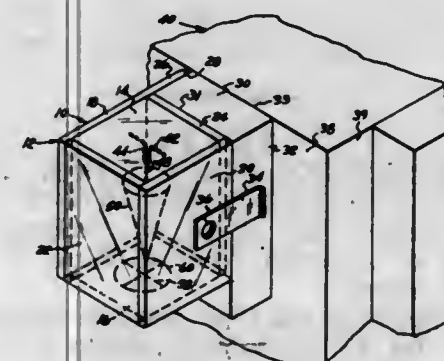
Hicks Jones, 7096 Fourteen Mile Road, Warren, Mich. 48092

Filed Feb. 23, 1968, Ser. No. 707,811

Int. Cl. G01c 15/10

U.S. Cl. 33—216

1 Claim



This universal plumb bob level device is housed in a transparent box from the top wall of which is pivotally suspended a pointed plumb bob registering with a cross-line target on the bottom wall. One side wall has an extension engageable with a mounting block against which it is releasably pressed by a leaf spring projecting from the opposite side wall while the rear wall is held in face-to-face engagement with the front or abutment surface of the mounting block.

3,521,370

## SPRAY-DRYING PROCESS

Peter J. Senatore, Baldwin, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 23, 1968, Ser. No. 770,113

Int. Cl. F26b 3/00

U.S. Cl. 34—9

8 Claims

A method for preparing stabilized maltol and ethyl maltol by spray-drying from a solution of film-forming agent.

3,521,371

## METHOD AND APPARATUS FOR TRANSFERRING AND TREATING PARTICULATED SOLID MATERIALS

August L. Kraft, Roselle Park, N.J., assignor to Automatic Process Control, Inc., Union, N.J., a corporation of New Jersey

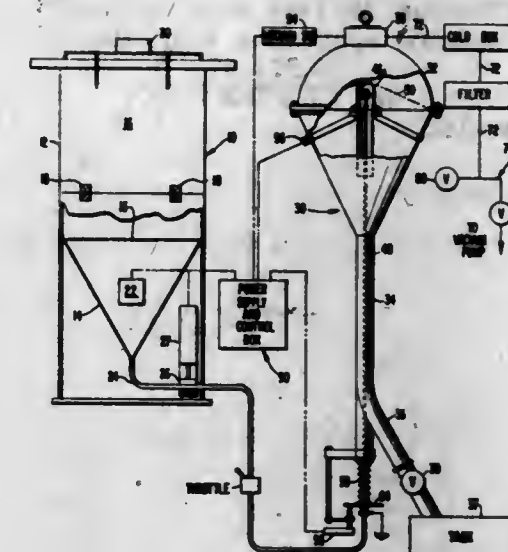
Filed June 20, 1968, Ser. No. 747,616

Int. Cl. F26b 5/04

U.S. Cl. 34—15

10 Claims

A system is disclosed for transferring particulate solid



3,521,372

## METHOD FOR DRYING ENCAPSULATED MOTOR COMPRESSORS FOR REFRIGERATING UNITS

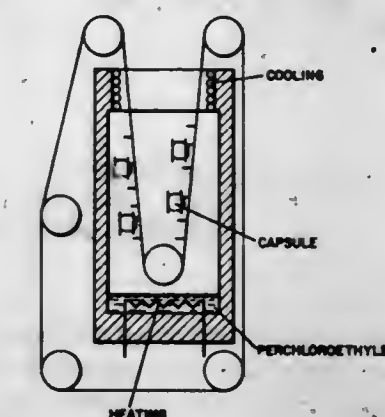
Gustav Johansson, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark

Continuation of application Ser. No. 677,421, Oct. 23, 1967. This application May 5, 1969, Ser. No. 824,362

Int. Cl. F26b 5/04, 7/00

U.S. Cl. 34—15

6 Claims



The invention relates to a method of drying or dehydrating the internal cavity regions of encapsulated or sealed motor-compressor units of the type used for refrigerators. The method involves two main stages. In the first stage the motor-compressor units are placed in an enclosure containing a vaporous drying agent at a temperature which is higher than the boiling point of water. The moisture in the internal cavity regions of the motor-compressor units vaporizes and is substantially displaced by the vaporous drying agent. In the second stage the internal cavity regions are placed in fluid communication with a suction pump which draws the vaporous drying agent out of the cavities without any additional heat being supplied.



3,521,373

**PROCESS AND PLANT FOR THE VACUUM DRYING OF WOOD IN THE FORM OF PLANKS OR LATHS**

Vincenzo Pagnozzi, Ufficio Gaetano Capuccio, Via Venti Settembre 60, Turin, Italy

Filed July 15, 1968, Ser. No. 744,895

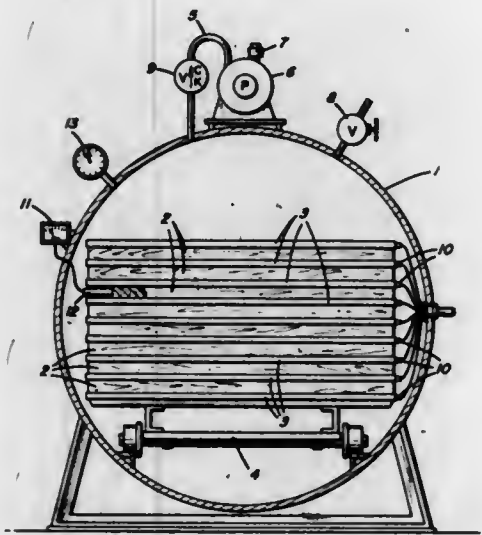
Claims priority, application Italy, July 20, 1967,

52,511/67

Int. Cl. F26b 5/04

U.S. Cl. 34-16.5

14 Claims



A method and apparatus for drying wood involving the arrangement of wood in stacked layers, the dry heating thereof, and the maintenance of controlled ambient pressure conditions so as to effect a controlled vaporization of moisture from internally of the wood to the surface thereof.

3,521,374

**PROCESS FOR RELIEVING STRESSES FROM THE BODY OF MUSICAL STRING INSTRUMENTS OF WOODEN MANUFACTURE**

Paul W. Reynolds, 1884 Monrovia Ave., Apt. 14, Costa Mesa, Calif. 92627

Filed May 27, 1968, Ser. No. 732,181

Int. Cl. F26b 7/00

U.S. Cl. 34-19

1 Claim



The process of relieving stress in the body of musical string instruments including the exposure of the body of the instrument to preheated aqueous vapor mist until the body reaches a temperature of 100° to 125° F., then vibrating the instrument, and then permitting the instrument to cool to ambient temperature.

3,521,375

**DRYER**

Dewey C. Sanders, Jr., Decatur, Ala., assignor to The Goodyear Tire &amp; Rubber Company, Akron, Ohio, a corporation of Ohio

Filed May 16, 1968, Ser. No. 729,605

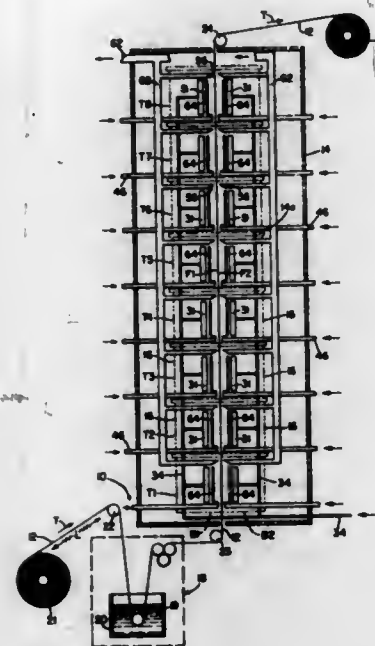
Int. Cl. F26b 13/10; F27b 9/28

U.S. Cl. 34-44

7 Claims

Drying apparatus for drying fibers in yarn or fabric as a continuous length element, and more particularly a drying apparatus in a machine for impregnating such fiber with a liquid fiber-to-rubber adhesive coating in the manufacture of tires, belting and similar products, wherein the

element is rapidly dried at a controlled temperature by flame generated infra-red type heating means while moving a gas stream rapidly over the surface of the element



and protecting the heating means by a shielding means from the flowing gas stream against any adverse effect on the infra-red radiation from the heating means.

3,521,376

**MOISTURE SENSING CIRCUIT FOR ACTUATING A DRYER TIMER MOTOR**

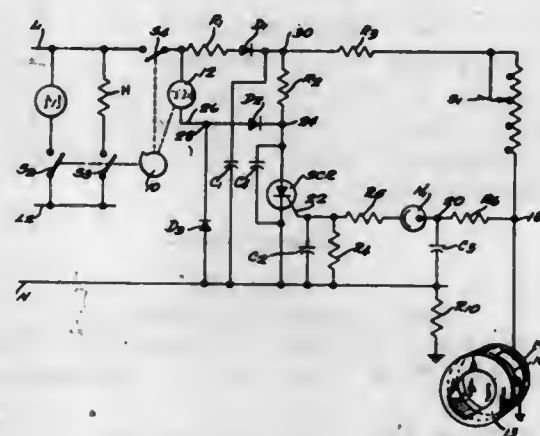
Wilbert E. Beller, Park Ridge, Ill., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware

Filed Sept. 22, 1967, Ser. No. 669,890

Int. Cl. F26b 25/22; H02p 1/04

U.S. Cl. 34-45

7 Claims



A moisture sensing control circuit provides a DC supply to one of two sensing rings in a dryer drum, the other of which is grounded. The charge so supplied leaks off to ground at a rate dependent upon the moisture content of the clothes within the drum. When the charge on the neon bulb reaches the firing point of the neon bulb the bulb becomes conductive to turn on the silicon controlled rectifier which now permits the diode D<sub>2</sub> to pass the positive half of the AC supply. The negative half of the AC supply can be passed by diode D<sub>3</sub> at all times. By controlling one-half of the AC supply to the timer motor the operation of the motor is controlled. This concept is applicable to control of any electrically operated device requiring AC for operation.

3,521,377

**DRYER CONTROL SYSTEM**

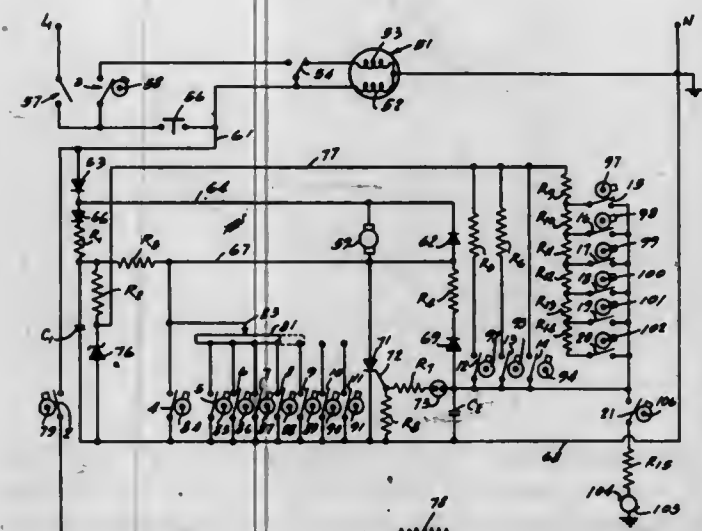
Anthony Niewyk, St. Joseph, and Donald E. Janke, Benton Harbor, Mich., assignors to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware

Filed May 31, 1968, Ser. No. 733,647

Int. Cl. F26b 19/00

U.S. Cl. 34-53

24 Claims



A dryer control system which utilizes moisture sensing electrodes and which has a dryness selector switch located in a low impedance portion of the electrical circuit, is disclosed. The dryer may be operated with either a time cycle or an automatic cycle so that the dryer may be operated with a plurality of settings to obtain varying degrees of dryness as determined by a dryness selector switch.

3,521,378

**COMBINATION DRYING AND TENTERING MACHINE**

Heinz Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to Fleissner G.m.b.H., Egelsbach, near Frankfurt am Main, Germany

Continuation-in-part of application Ser. No. 654,728, July 20, 1967. This application June 9, 1969, Ser. No. 831,686

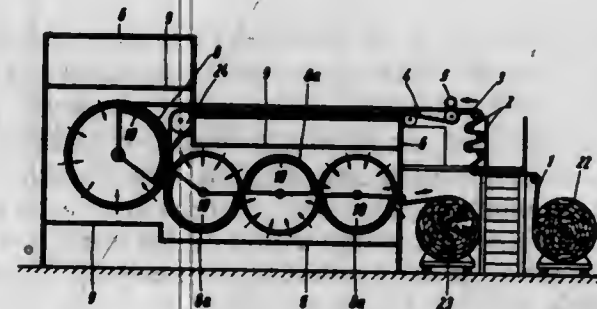
Claims priority, application Germany, June 8, 1968,

1,760,604; June 22, 1968, 1,760,717; June 27, 1968, 1,760,751; Apr. 8, 1969, 1,917,757; May 9, 1969, 1,923,668

Int. Cl. F26b 13/30; D06c 3/02

U.S. Cl. 34-115

5 Claims



The present disclosure is directed to an apparatus for the treatment of materials which comprises a heat-insulated treatment chamber, a plurality of sieve drum means subjected to a suction draft rotatably disposed within said treatment chamber, fan means associated with the sieve drum means for producing a suction draft and for circulating the treatment medium in said treatment chamber, heating means provided in the circulation zone of the treatment medium, tentering means containing tensioning chains at least partially disposed outside of the treatment

chamber as inlet means, said tentering means cooperating with the sieve drum means for the effective conveyance of the material being treated to said sieve drum means, a supporting means disposed below the tensioning chains for supporting the material disposed on said chains and outlet means for removing the material being treated from the treatment chamber.

3,521,379

**TEACHING MACHINE**

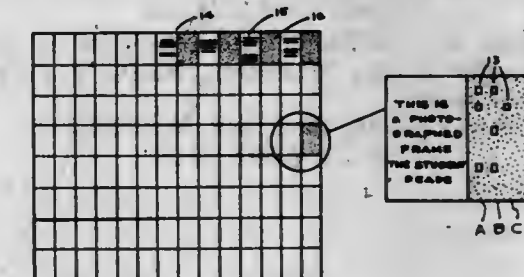
Jack W. Hannah, 1816 Springmill Road, Mansfield, Ohio 44906

Filed Mar. 31, 1967, Ser. No. 627,545

Int. Cl. G09b 7/08

U.S. Cl. 35-9

8 Claims



The device of this invention comprises a teaching machine wherein improved means for selecting and positioning a lesson frame in response to the operator's response to a viewed lesson frame are provided. The improved means comprises a rectangular film having a plurality of lesson frames each having code means thereon which film is held in a movable holder; the holder is moved in response to means actuated by the answer chosen for the viewed frame, and is positioned for viewing the next frame when the answer signal correlates with a signal automatically registered from the viewed frame.

3,521,380

**ELECTRON SHELL MODEL**

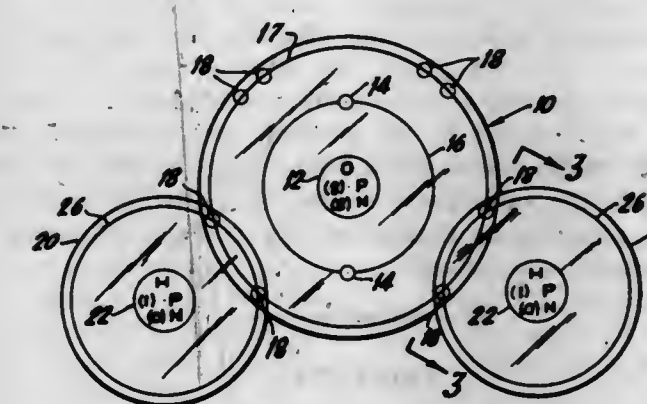
Hyman Ruchlis, Brooklyn, N.Y., assignor to Harcourt, Brace &amp; World, Inc., New York, N.Y., a corporation of New York

Filed Jan. 8, 1968, Ser. No. 696,292

Int. Cl. G09b 23/26

U.S. Cl. 35-18

3 Claims



The embodiment disclosed in the following specification is an educational device directed to facilitating the teaching of molecular theory. Structurally, it includes a plurality of smooth independent transparent discs which are designed to represent atoms of each of the elements. Each disc has printed thereon a centrally disposed circle with nomenclature printed therein indicating the composition of the nucleus. In addition, the discs have circles printed concentrically with the nucleus which represent the electron shells. Those circles that represent completed inner electron shells have small solid circular representations printed thereon which serve to indicate the presence and number of electrons occupying the shell. The outer



electron shell is illustrated as a circle without any electrons, regardless of the valence of the atom. A plurality of flexible vinyl tabs, or similar material which adheres temporarily upon contact, are provided for placement on the outer electron shell circle to represent the outer shell electrons. Their addition completes the model. In addition, these vinyl tabs provide adhesion between discs when the discs are arranged in a proper relationship to illustrate a molecule. The discs are adapted to be arranged in overlapping relationship with the vinyl tabs therebetween in intimate contact with each disc and on the circles representing the outer electron shell of each atom.

### 3,521,381 TEACHING MACHINE AND INFORMATION CARD THEREFOR

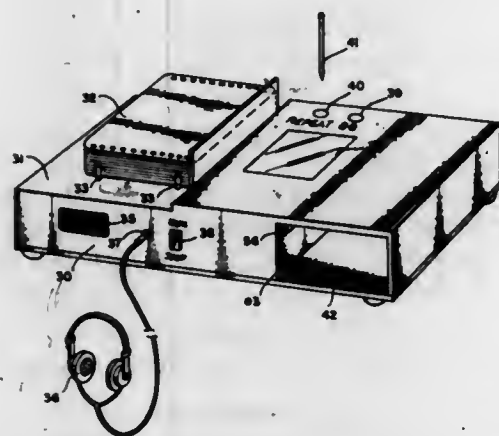
John C. Sims, Jr., Sudbury, Mass., assignor to Information Transfer Corp., Wellesley, Mass., a corporation of Massachusetts

Filed Apr. 26, 1968, Ser. No. 724,462

Int. Cl. G09b 7/08

U.S. Cl. 35—9

14 Claims



Teaching cards are provided, each of which includes a first area bearing viewable information, a second area bearing reproducible audio tracks, and a third area bearing printed circuit control information. A stack of such cards are fed into a teaching machine in sequence for student viewing of said first areas. The control information on each card completes a control circuit in the machine uniquely related to the viewable and reproducible information on that card. The machine includes plural switches adapted to be selectively activated by a magnetic pointer manipulated by the student, for reproducing appropriate audio tracks on a card being viewed, and for controlling the subsequent feeding of a further card into viewing position, as determined by control information on the card being viewed.

### ERRATUM

For Class 35—19 see:  
Patent No. 3,520,981

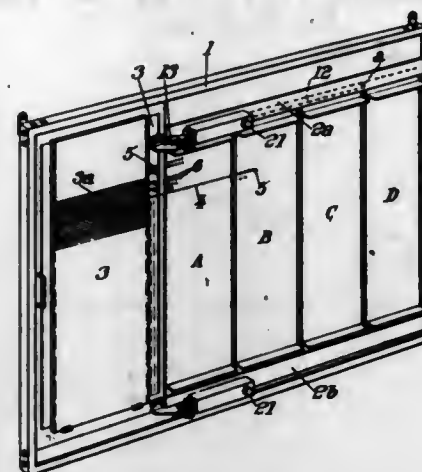
3,521,382  
**SLIDABLE PLANNING DISPLAY BOARDS**  
André Chauvin, 6 Rue aux Ours, Paris 3, France  
Filed May 1, 1968, Ser. No. 725,761  
Claims priority, application France, May 8, 1967, 105,573  
Int. Cl. G09b 19/18

U.S. Cl. 35—24

9 Claims

The display board comprises a plurality of elements slidable in slideways on a support. These elements cooperate with a cord-holder from which can be drawn

cords carrying, at their free ends, pegs to be inserted in holes provided in the elements. The cord-holder is hinged to the support so that it can be moved sufficiently far forward to permit the nearest element to be removed be-

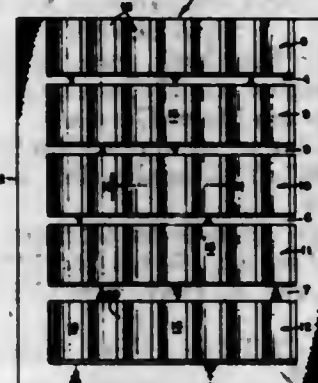


hind the cord-holder. The remaining elements can then be slid towards the cord-holder, and the removed element can be replaced in line with the other elements, but remote from the cord-holder.

3,521,383  
**GAME OF AMUSEMENT AND EDUCATION**  
James D. Terwilliger, 4580 Singlestrand Ave. SE., Salem, Oreg. 97302  
Filed Jan. 29, 1968, Ser. No. 701,303  
Int. Cl. G09b 19/02

U.S. Cl. 35—31

1 Claim



An educational game wherein each of a number of players is provided with a game board for calculated placement and arrangement thereon of numbered playing pieces primarily intended for solving problems of addition, subtraction, multiplication and division. The playing pieces with their numbers concealed are drawn by each player from a container for manipulation on his respective game board to arrive at the answers to the problems as quickly as possible in order to win the game.

3,521,384  
**SPACE MOTION SIMULATOR SYSTEM**  
Eddie H. Holland, Box 747, Athens, Ala. 35611  
Filed Apr. 22, 1966, Ser. No. 544,509  
Int. Cl. G09b 27/02

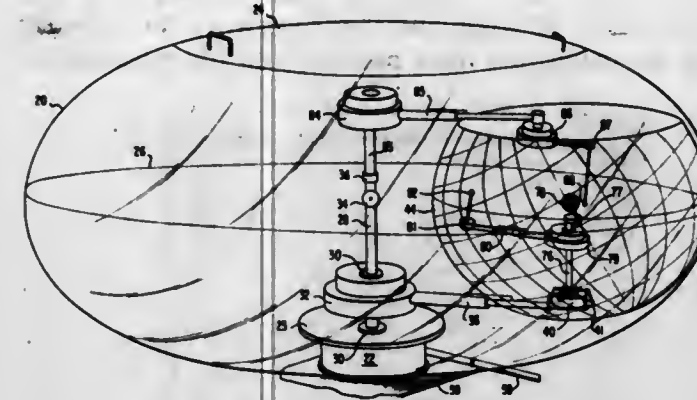
U.S. Cl. 35—45

11 Claims

A space motion simulator system wherein a plurality of model planets and/or spaceships are arranged to travel in their correct elliptical paths about the sun in the case of the planets of our solar system or along their correct

interplanetary paths in the case of spaceships as a function of time so as to enable future predictions of the positions

shellfish material carried by the fluid jets across the apertures reaches the second blade and are transferred to the conveyor. The second blade by being inclined be-

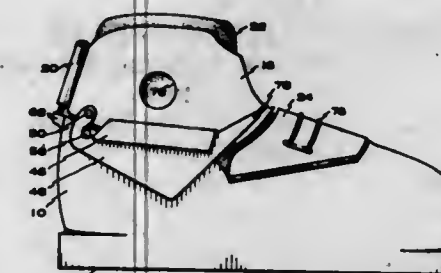


of said planets and/or spaceships with respect to each other and the sun.

3,521,385  
**SKI BOOT**  
Melvin W. Dalebout, 3661 Ceres Drive, Salt Lake City, Utah 84117  
Filed May 2, 1968, Ser. No. 726,094  
Int. Cl. A43b

U.S. Cl. 36—2.5

11 Claims



A ski boot which includes a low cut rigid oxford type lower shell having spaced sidewalls affixed to the lower shell's sole, first and second side pieces hinged together at one end to form a rigid ankle shell, means for fixedly connecting the side pieces about the ankle, and means for connecting the side pieces to the sidewalls of the lower shell to rock back and forth with a scissor-like action on the top edge of the sidewalls in a direction substantially parallel with the longitudinal axis of the lower shell. Biasing means can be affixed to the ankle shell for urging it to a predetermined position on the lower shell, and an inner boot, molded to the shape of the individual's foot, can be provided in the lower shell and ankle shell for snugly securing the individual's foot therein.

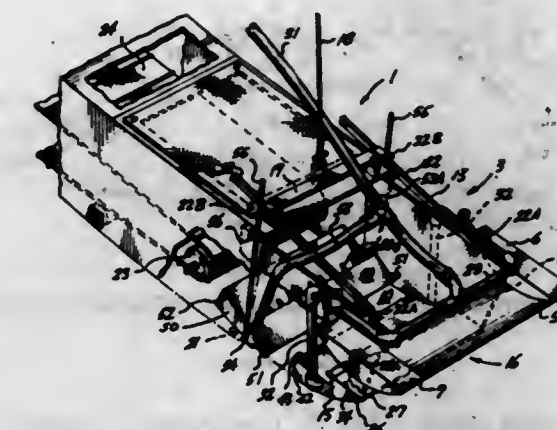
3,521,386  
**SHELLFISH HARVESTING MACHINE**  
Gilbert W. Franklyn, Poulsbo, Wash. 98370  
Continuation-in-part of application Ser. No. 751,828, Aug. 12, 1968. This application Aug. 7, 1969, Ser. No. 848,228

U.S. Cl. 37—55

Int. Cl. E02f 5/00

8 Claims

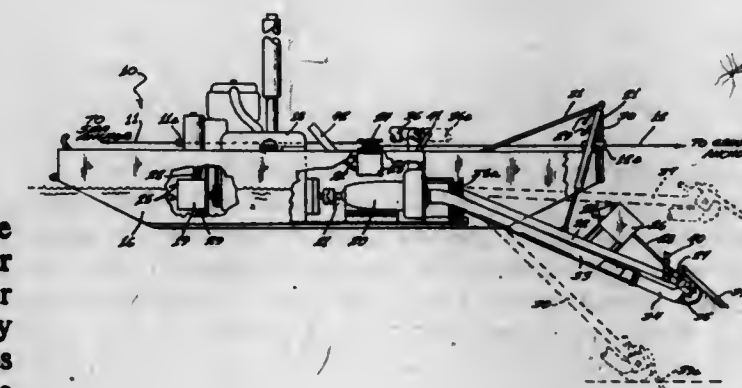
A shellfish harvesting machine having a first blade or scoop with fluid jets aimed rearwardly from the blade of the scoop, in combination with a second blade having similar rearwardly aimed jets. Many rocks and unneeded material entering the scoop fall through apertures formed in the bottom of the scoop between the rear edge of the first blade and the front edge of the second. The lighter



tween the apertures and conveyor presents another barrier for the rocks causing them to tumble forwardly through the apertures while the shellfish transit the blade and fall onto the conveyor.

3,521,387  
**DREDGING MACHINE**  
Norbert V. Degelman, 6283 Central Ave., Fridley, Minn. 55421  
Continuation of application Ser. No. 522,703, Jan. 24, 1966. This application Apr. 4, 1969, Ser. No. 814,232  
Int. Cl. E02f 3/92; A01d 45/08  
U.S. Cl. 37—66

1 Claim



A dredging machine with a forwardly projecting boom to be raised and lowered to the bottom of the body of water, the boom carrying a suction head and a pair of transversely extending augers with teeth to dig and move the dredge material inwardly toward the suction head, there being a notched plate above the augers and digging teeth to cooperate therewith in moving the dredged material. The dredge is movable in a fore and aft direction whereby to produce digging and dredging all along the length of the augers.

3,521,388  
**METHOD AND APPARATUS FOR REMOVING EARTH AND THE LIKE MATERIALS**  
Lovel R. Simmons, Jackson, Miss. (% M-R-S Manufacturing Company, Flora, Miss. 39071)  
Filed Nov. 22, 1967, Ser. No. 685,009  
Int. Cl. E02f 3/62

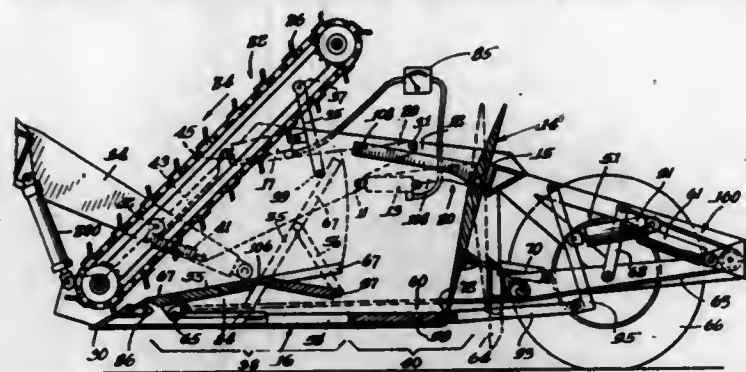
U.S. Cl. 37—129

32 Claims

A method and apparatus for loading and emptying earth moving and scraping vehicles of a mobile type, the



vehicle comprising a front opening container or bowl with a loading elevator structure in the forward end and an

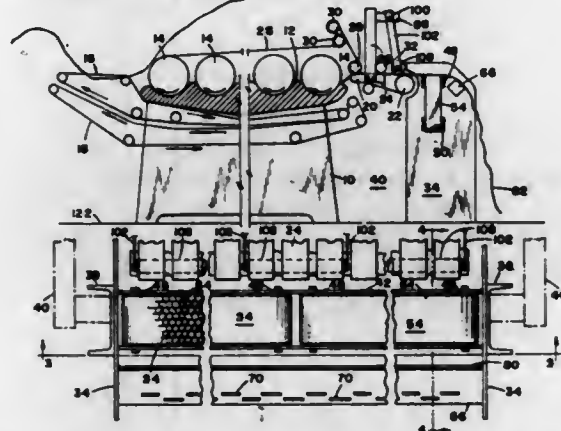


operable bottom or floor for dumping materials from the bowl.

**3,521,389**  
**ATTACHMENT FOR FLATWORK IRONER**  
Dan D. Mazzolla, 2464 Raleigh Drive,  
York, Pa. 17402  
Filed June 30, 1969, Ser. No. 837,432  
Int. Cl. D06f 67/04

U.S. Cl. 38—143

8 Claims



A smoothing and feeding attachment for a flatwork ironer comprising frame means adapted to be connected to the feed end of an industrial-type ironer immediately in front of the transverse row of feed belts thereof and including a pair of friction belts of substantial width supported with the upper courses thereof substantially horizontal and approximately in the same plane as that of the upper course of the feed belts, said friction belts extending from approximately the mid portion of the row of feed belts toward the outermost feed belts at opposite sides of the ironer frame and being driven in directions to move the upper courses of the friction belts away from each other to slidably engage beneath flatwork pieces being fed to the ironer so as to stretch the same transversely. An elongated relatively narrow suction box is mounted immediately in front of the forward edge of said friction belts and preferably extends downward at an angle from said forward edge of said friction belts to place a longitudinal drag upon flatwork pieces while being pulled into the ironer by the feed belts. A plurality of auxiliary nip rollers are supported by overhead frame means including links extending downward to support each auxiliary roller in firm frictional contact with the forward feed end of said feed belts to enable relatively narrow pieces of flatwork to be fed by said attachment mechanism to an ironer.

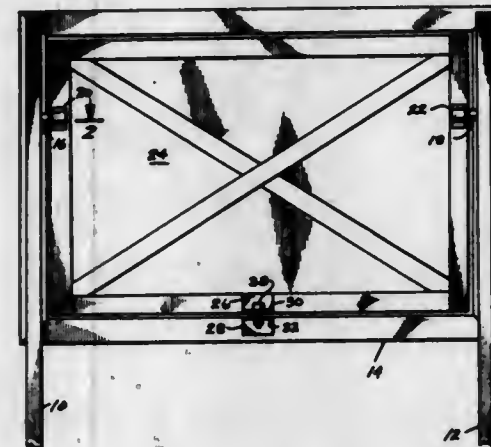
**3,521,390**  
**SIGNBOARD WIND LOAD LIMITING APPARATUS**  
Thomas W. Carlson, 228 Pearl St.,  
New Brighton, Minn. 55112  
Filed Dec. 7, 1967, Ser. No. 688,784  
Int. Cl. G09f 7/22

U.S. Cl. 40—125

4 Claims

Apparatus for protecting signboards from wind dam-

age and allowing the use of smaller supporting columns consisting of a signboard framework having a pivot upon which one or more signboard panels is mounted for movement on an axis located closer to one side of the panel than the other and a releasable load limiting lock connected between the panel and the framework for normally holding the panel in a fixed position and for releasing the

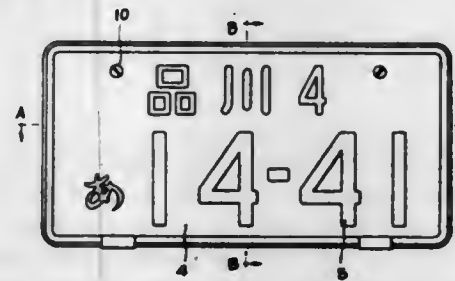


signboard when the wind loading exceeds a predetermined value. The load limiting lock can consist of a pin formed from a material adapted to fracture at a predetermined loading or of a pin positioned to mate with an element held by a spring against movement to a pin releasing position until a predetermined loading is exceeded. By changing the spring tension the maximum wind loading of the sign can be changed.

**3,521,391**  
**MOTORCAR LICENSE PLATE**  
Tetsunosuke Mural, 19 Nishi 4-chome, Kitaniijunjiyo,  
Sapporo-shi, Japan  
Filed Apr. 5, 1968, Ser. No. 719,096  
Int. Cl. G09f 13/04

U.S. Cl. 40—204

2 Claims



A motorcar license plate, wherein a number lamp is positioned within a reflection case and the number bearing license plate is formed by a light transmissive number mounted in a light non-transmissive plate which is fitted to the open end of the reflection case. The number on the license plate is made clearly visible at night by the light transmitted through the number and is produced from the reflected light of a number lamp at night so that the number is readable even from a long distance. Further, by employing a time delay means inserted in the electric circuit of the number lamp and, though the motorcar lights are switched off by the driver, the number lamp is kept lighted for a certain determined period of time against the driver's will and the number remains readable.

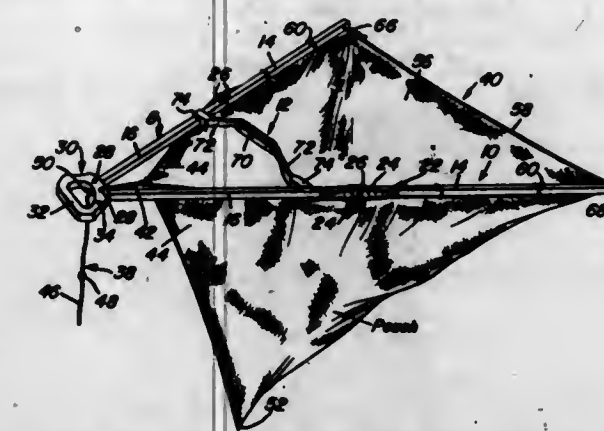
**3,521,392**  
**DIP NET FOR SURF FISHING**  
Darrell F. Brown, Redway, Calif.  
(797 Redwood Highway, Garberville, Calif. 95440)  
Filed Nov. 19, 1968, Ser. No. 776,956  
Int. Cl. A01k 77/00

U.S. Cl. 43—12

6 Claims

A manually maneuverable surf net has a knockdown A-frame supporting a gatherable pouch-type net. The

converging ends of the legs of the A-frame are hinged joined to a handgrip for the user's right hand. The brace

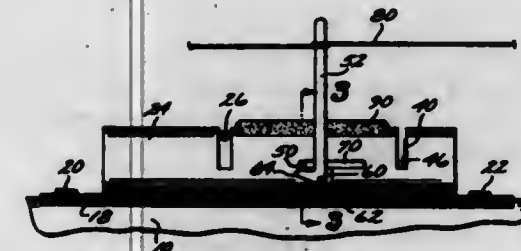


between the legs provides a handgrip for the left hand. A net tensioning cord is used to temporarily bag the fish.

**3,521,393**  
**ATTACHMENT FOR FISHERMAN'S POLES**  
Jack J. Gordon, 2925 Pembra Drive,  
Costa Mesa, Calif. 92626  
Filed July 24, 1968, Ser. No. 747,294  
Int. Cl. A01k 87/00, 97/12

U.S. Cl. 43—17

10 Claims



An attachment for fisherman's poles which comprises a piston and cylinder assembly for attachment along a length of a fishing pole. A spring biases the piston toward one end of the cylinder where it engages an anvil and provides an audible signal. The piston is released to provide the signal by a catch and trip mechanism which is associated with the fishing line. The cylinder wall is slotted to receive a fishing line so that motion of the piston within the cylinder may be used to cut the line. In addition, the cylinder has a form facilitating its use in storing the fish hook without removing the hook from the line, and a surface of the cylinder which is arranged to have a high coefficient of friction to facilitate handling of the attachment serves also as a means for sharpening fish hooks.

**3,521,394**  
**FISHING LURE**  
Lutz Wintersberger, Munchner Strasse 39/41,  
Delsenhofen, near Munich, Germany  
Filed June 6, 1967, Ser. No. 643,923  
Claims priority, application Germany, June 15, 1966,  
W 37,544; W 37,545; W 37,546; July 13, 1966,  
W 41,999; Aug. 12, 1966, W 42,203; Nov. 7,  
1966, W 42,747; Feb. 11, 1967, W 43,343  
Int. Cl. A01k 85/00

U.S. Cl. 43—42.06

5 Claims



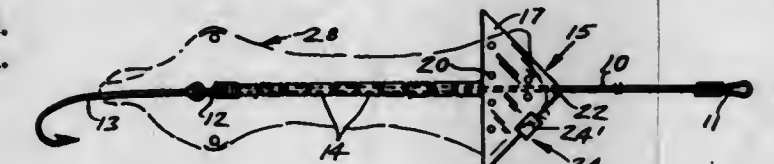
A fishing lure has the shape of a hollow conical funnel of substantially the same wall thickness with a substantially large front and narrow rear. The line is at-

tached to a connection inside the lure along the central axis and adjacent the center of gravity of the lure body. Fishing hooks can be also attached to a connection located upon this central axis. Blades similar to those of a turbine are located inside the lure close to its inlet. The lure can be made to produce sounds and to carry out various motions in calm or still waters for example.

**3,521,395**  
**SQUID-PRIMER**  
Phillip J. Klemkowski, Jr., 1146 Hull St.,  
Baltimore, Md. 21230  
Filed June 7, 1968, Ser. No. 740,426  
Int. Cl. A01k 83/06

U.S. Cl. 43—44.6

3 Claims

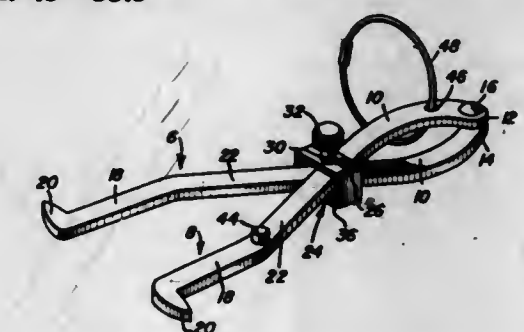


A triangular shaped clamp attachable to a squid and slidably carried on a stainless steel leader having a loop connection at one end and a fishhook at its other end; a plurality of short tubular sleeves interposed on the leader between the hook and the said clamp and, associated with the clamp a leader and sleeve primer rod having a squid strung thereon, as the means for sliding the squid from the rod onto the said leader.

**3,521,396**  
**MULTIPURPOSE HANDTOOL FOR FISHERMEN**  
Terry T. Allen, 202 Harrison Ave.,  
Henderson, N.C. 27536  
Filed Sept. 4, 1968, Ser. No. 757,418  
Int. Cl. A01k 97/00

U.S. Cl. 43—53.5

9 Claims



A manually manipulable tool for spreading open the mouth of a fish to remove a fishhook comprising a pair of identical lever units pivotally secured together at one end. The units are bowed outwardly from the pivot to provide hand gripping portions, then cross over each other to straight, substantially-parallel outer end portions which terminate in outwardly-extending fish jaw impaling members. A collar slidably encompasses the lever units where they cross each other and is adjustable on the units to provide a retainer therefor.

**3,521,397**  
**CONTAINER, PARTICULARLY FOR TOILET PREPARATIONS**  
Kevin F. Meates, 6 Clifford Ave., Christchurch 1,  
South Island, New Zealand  
Filed Nov. 8, 1967, Ser. No. 681,427  
Claims priority, application New Zealand, Aug. 29, 1967,  
149,897  
Int. Cl. A63h 33/00

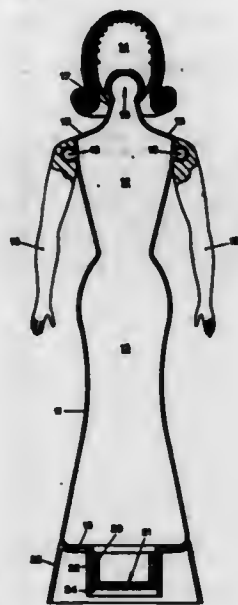
U.S. Cl. 46—11

6 Claims

A container shaped like the body of a doll and fitted with movable head and arms so that it can be used as a doll. When so used, the container can be supported in an



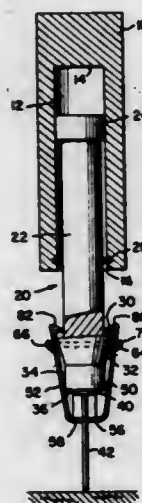
inverted upright position by engagement with an accompanying pedestal. The head and arms are attached to the body by ball and socket joints, the ball portions of



which are formed integrally with the body to avoid forming holes in the body which would prevent its use as a container for liquid and other toilet preparations.

**3,521,398**  
**NAIL SET AND DRIVER**  
Harold Y. Coutts, 304 Pine St.,  
Burlington, Iowa 52601  
Filed May 8, 1968, Ser. No. 727,488  
Int. Cl. B25c 7/00

U.S. Cl. 227-149

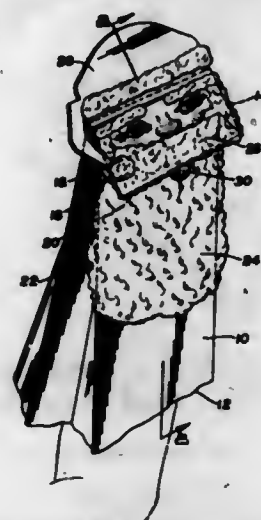


A driver has a bore formed therein, and an anvil is slidably positioned within said bore and engageable with the driver. The lower end of the anvil has an outer surface which tapers downwardly and inwardly, and a plurality of nail holding portions are disposed about the lower end of the anvil, these portions having at the lower ends thereof inwardly extending jaws for engaging the stem of a nail. The upper ends of the nail holding portions are engageable with a shoulder on the anvil to limit downward movement of the nail engaging portion. A spring member is disposed about the nail engaging portions and normally biases the upper parts thereof inwardly toward one another. The nail holding portions are slidable along the lower end of the anvil.

U.S. Cl. 46-154

**3,521,399**  
**PUPPETS**  
Alice E. Deal, 1352 Sheridan Drive,  
Lancaster, Ohio 43130  
Filed July 18, 1968, Ser. No. 745,781  
Int. Cl. A63h 3/14

5 Claims

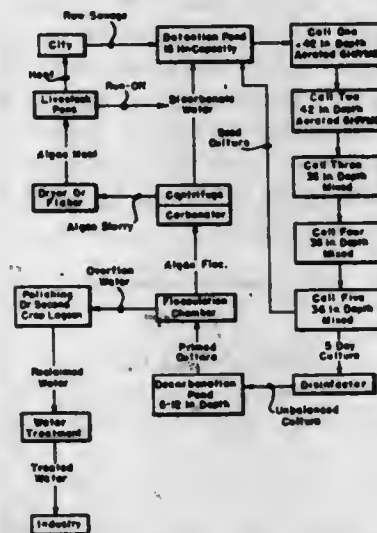


A conventional flat bottom, flat folding, paper sack, such as used in grocery stores, is used to form the foundation of a puppet. The creature, represented by the puppet, is made by gluing colored figures to the sack with that portion of the head of the creature above its upper lip glued to the sack bottom and the remainder of the creature glued to the rest of the sack. Inverting the sack and inserting a hand into it permits the bottom to be folded along a crease so that it can be manipulated to simulate mouth movements.

**3,521,400**  
**UNBALANCED CULTURE METHOD OF ALGAE PRODUCTION**  
Jay E. Ort, Roswell, N. Mex., assignor to ERA Incorporated, Clovis, N. Mex., a corporation of New Mexico  
Filed Oct. 18, 1967, Ser. No. 676,195  
Int. Cl. C02c 1/00

U.S. Cl. 47-1.4

12 Claims



Interrupting algal-bacterial symbiosis after five days by treatment with 2537 Angstrom high-intensity light over a 2- to 3-inch deep channel permits increased algae production and 24-hour harvesting.

**3,521,401**  
**TREE SUPPORTING UNIT**  
Edgar P. Shisler, 248 N. Liberty St.,  
Delaware, Ohio 43015  
Filed May 29, 1968, Ser. No. 733,085  
Int. Cl. A01g 17/10

U.S. Cl. 47-43

1 Claim

This invention relates to a tree support which is ad-

justable with respect to a given tree diameter to be encircled and adjustable with respect to the distance between

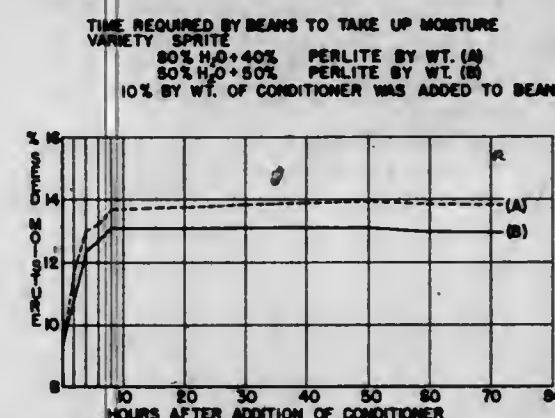


the tree and a stationary base. The tree encircling portion is non-abrasive.

**3,521,402**  
**METHOD OF CONDITIONING CROP SEEDS**  
Emery K. Chaffee, Twin Falls, Idaho, assignor to Northrup, King & Co., Minneapolis, Minn., a corporation of Minnesota  
Filed Oct. 23, 1967, Ser. No. 677,298  
Int. Cl. A23l 1/20; A01c 1/00

U.S. Cl. 47-58

10 Claims

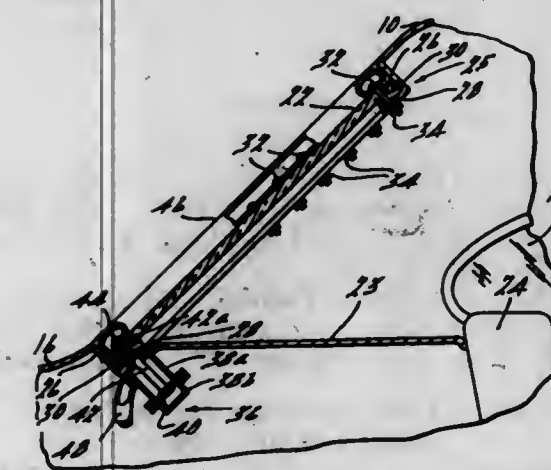


A method of protecting seed germination by reducing susceptibility to mechanical injury. Water is added to an inert, water absorbent, granular material in a known ratio by weight. The moist material is then added to a quantity of relatively dry crop seeds, such as bean seeds, in an amount sufficient to raise the moisture content of the crop seeds to a desired level to toughen the seed.

**3,521,403**  
**MOTOR VEHICLE REAR WINDOW CONSTRUCTION**  
Barton H. Bouwkamp, Bloomfield Hills, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware  
Filed Dec. 30, 1968, Ser. No. 787,447  
Int. Cl. E05f 15/04

U.S. Cl. 49-324

5 Claims



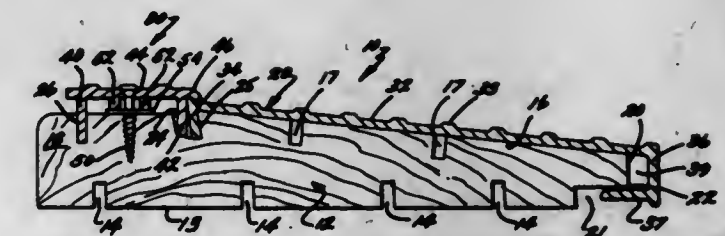
A flow through ventilation system for an automobile wherein the rear window of the automobile is formed of a panel of flexible high strength safety glass such as

Chemcor which is firmly fixed to the body along its top edge and along the upper portions of its side edges, and sealingly coacts along its lower edge and the lower portions of its side edges with a suitable sealing strip provided along the corresponding portions of the body opening; the lower portion of the glass is free to flex rearwardly to an open position under the urging of a pair of servo motors which are positioned within the automobile beneath the window opening and have power arms engaging the lower edge of the glass.

**3,521,404**  
**THRESHOLD CONSTRUCTION**  
Titus J. Hager and John B. Payne, Sr., Grand Rapids, Mich., assignors to Marquette Components Manufacturing Corporation, Grand Rapids, Mich., a corporation of Michigan  
Filed May 27, 1968, Ser. No. 732,425  
Int. Cl. E06b 1/70, 7/16

U.S. Cl. 49-468

15 Claims



A threshold construction for doorways, of the type having a ramp-like tread portion and a threshold member which is vertically adjustable with respect thereto, wherein the tread portion comprises a metal sheathing member encasing the upper surface of a hardwood base, with the metal sheathing being attached to the base by a pair of spaced, downwardly depending flange extensions disposed at some acute angle with respect to each other to fit around an edge of the base and into an elongated groove therein, to thereby provide a clamping encirclement about the encased portions of the base. The adjustable threshold member has a pair of spaced, downwardly depending flanges, one of which is located within the same groove in the hardwood base as receives one of the tread member flanges; these two flanges are maintained in contact with each other at all adjusted positions of the threshold to provide a weatherproof seal; further, the threshold member provides an overhanging extremity which lies across the juncture of these two contacting flanges, to shelter and help seal this juncture from moisture and from the elements.

**3,521,405**  
**DRILL GRINDING APPARATUS**  
Bruce Alexander Mackey, Jr., Libertyville, and Edward Martin Naureckas, Gurnee, Ill., assignors, by means of assignments, to Radial Lip Machine Corporation, Wilmette, Ill., a corporation of Illinois  
Filed Feb. 14, 1968, Ser. No. 705,393  
Int. Cl. B24b 3/30

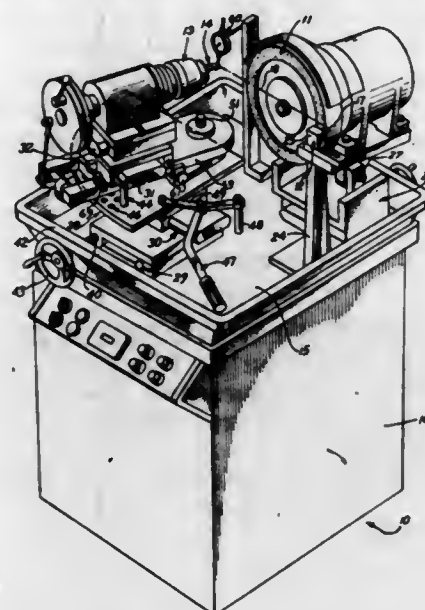
U.S. Cl. 51-5

15 Claims

A drill grinding apparatus for grinding cutting edges on a drill is disclosed having a support surface and a flat grinding surface fixed to the support surface and disposed parallel to and at an angle from the vertical plane of a reference line to provide a relief angle on a drill. A drill chuck for supporting the drill and a swing arm pivotally affixed to the support surface is adapted to be pivotally operated about a pivot point in a horizontal plane parallel to the horizontal plane of a reference line, the pivot point being fixed and establishing a radius with respect to the reference line about which said drill is



moved. The drill chuck is fixed to the swing arm with its centerline and the centerline of the drill disposed in the



horizontal plane of the reference line and offset a predetermined distance from the pivot point.

3,521,406

**WORKPIECE TREATING APPARATUS**

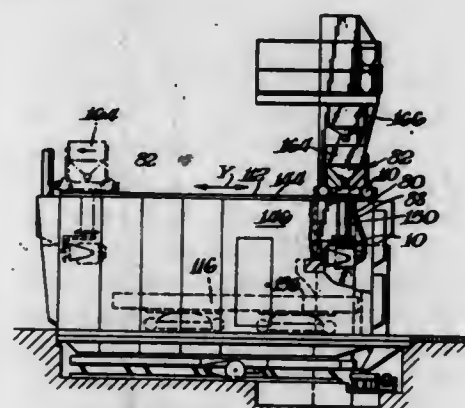
James H. Carpenter, Jr., Hagerstown, Md., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Dec. 4, 1967, Ser. No. 687,701

Int. Cl. B24c 3/06

U.S. Cl. 51—9

29 Claims



A workpiece treating apparatus includes a throwing wheel which is universally mounted for rotation about a plurality perpendicular axes. Additionally, the wheel is mounted for movement in the vertical direction, as well as back-and-forth and side-to-side. The wheel is mounted in a treating cabinet through a slot which is sealed by air motors pulling in opposite directions to hold a belt taut against the slot. The wheel may be rotated in opposite directions.

3,521,407

**METAL CLEANING DEVICE**

Don B. Nalley and Davis L. Baughman, Hagerstown, Md., assignors to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed June 13, 1967, Ser. No. 645,812

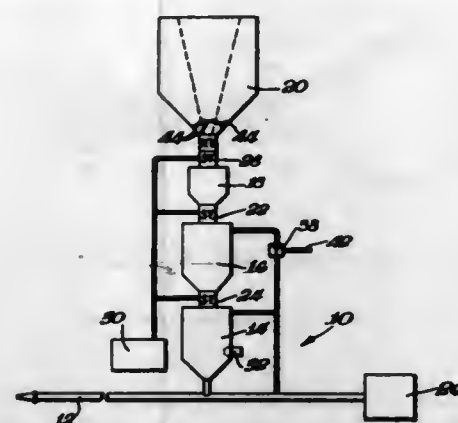
Int. Cl. B24c 7/00

U.S. Cl. 51—12

5 Claims

The metal cleaning device operates under the direct pressure system for air blasting or shot peening wherein the treating media is fed to the treating nozzle by a feed chamber. Air flows through the nozzle to apply the media against the part treated. A supply chamber communicates with the feed chamber and a metering chamber communicates with the supply chamber. The pressure source for

the treating nozzle also maintains the feed chamber under constant pressure and intermittently pressurizes the supply



chamber. An independent source is utilized for controlling valves between the various chambers.

3,521,408

**TIRE SIDEWALL GRINDING METHOD AND APPARATUS**

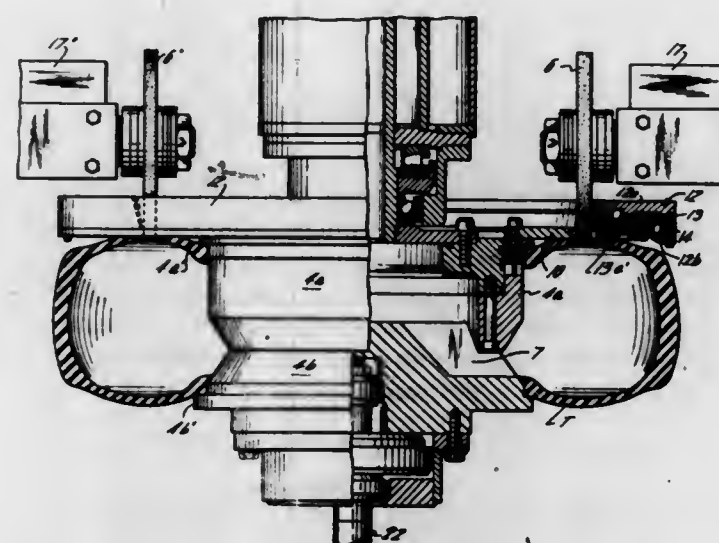
Alfred H. Neugebauer, Kitchener, Ontario, Canada, assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey

Filed Jan. 17, 1968, Ser. No. 698,456

Int. Cl. B24b 5/44, 7/04

U.S. Cl. 51—106

21 Claims



During the grinding of a tire sidewall the surface to be ground is maintained in a substantially flat condition in a plane generally perpendicular to the axis of rotation of the tire. To accomplish this the portions of the tire sidewall on opposite sides of the surface to be ground are maintained pressed against a pair of spaced substantially coplanar rigid surfaces located substantially in said generally perpendicular plane.

3,521,409

**MECHANISM FOR ADJUSTING AND RETAINING A CONDITIONING RING UPON THE ROTATABLE HORIZONTAL LAPPING PLATE OF A LAPPING MACHINE**

Lawrence Day and Joseph Dobrick, Chicago, and Arthur Kay, Evanston, Ill., assignors to Spitfire Tool & Machine Co., Inc., Chicago, Ill., a corporation of Illinois

Filed Feb. 16, 1968, Ser. No. 706,093

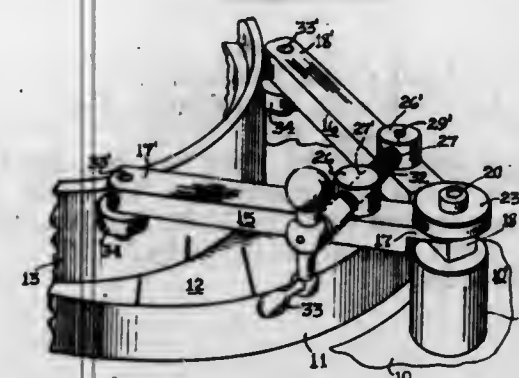
Int. Cl. B24b 5/00

U.S. Cl. 51—129

7 Claims

A mechanism for holding and retaining a work holding and surface conditioning ring of a lapping machine, upon the surface of the flat horizontal rotatable lapping plate of such machine and for adjusting the ring radially

with respect to the surface of such machine, either before or during the rotating of the lapping plate, to change the



position of the surface contact between the ring and the surface of the lapping plate.

3,521,410

**WORKHOLDER FOR ABRASIVE MACHINES**

Stig Windefors, Faktorigatan 35, Huskvarna, Sweden

Filed Apr. 3, 1967, Ser. No. 627,780

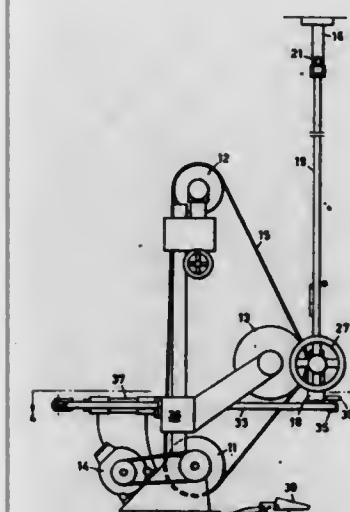
Claims priority, application Sweden, Apr. 7, 1966,

4,836/66

Int. Cl. B24b 21/16

U.S. Cl. 51—144

5 Claims



A device for carrying the workpiece in an abrading machine having a movable belt, against which the workpiece is pressed, comprising a pendulum, which is rotatable on a first axis and pivotable on a second axis, substantially perpendicular to said first axis, and a workpiece holder, which is located at the free end of said pendulum and preferably rotatable on a horizontal axis, which is perpendicular to said axis of rotation. The invention also encompasses an abrasive belt provided with a coating of an abrasive composition which contains a plurality of layers of abrasive grains.

3,521,411

**DISK-BRAKE CLEANING METHOD**

Erich Hennig, Königstein, and Wolfgang Kammermayer, Frankfurt, Germany, assignors to Alfred Teves Maschinen- und Armaturenfabrik KG, Frankfurt am Main, Germany, a corporation of Germany

Filed Apr. 27, 1967, Ser. No. 634,353

Claims priority, application Germany, May 21, 1966,

T 31,199; Sept. 2, 1966, T 31,976

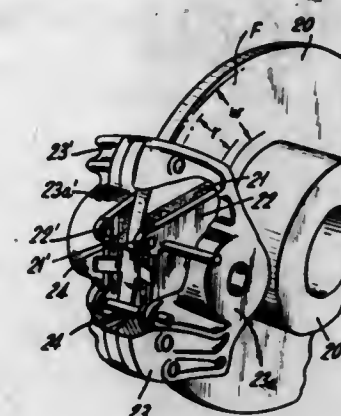
Int. Cl. B24b 1/00

U.S. Cl. 51—281

4 Claims

A method of cleaning the braking surface of a brake disk without dismounting the disk or completely dis-

mantling the brake installation is disclosed, wherein a pair of grinding chocks or pads having a grindstone plaque or layer mounted upon a backing plate via a layer of thermal insulation is substituted for the brakeshoes or is



retained against the disks and pressed against the area to be cleaned while the disk is rotated via an auxiliary motor frictionally engaging the periphery of the disk or through the axle of the disk.

3,521,412

**METHOD OF HONING BY EXTRUDING**

Ralph William McCarty, Monroeville, Pa., assignor to Extrude Hone, Inc., Irwin, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 506,472,

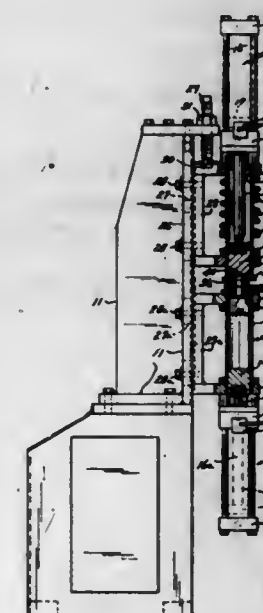
Nov. 5, 1965. This application Apr. 12, 1968, Ser.

No. 720,913

Int. Cl. B24b 1/00, 19/00

U.S. Cl. 51—317

7 Claims



An abrasive medium is described consisting of finely divided abrasive particles uniformly distributed in a semi-solid, difficultly flowable plastic material of the consistency of putty and which forms a substantially solid matrix in carrying out the method of this invention. Representatives of such plastic material are silicone putty or silicone rubber and a non-vulcanized plastic rubber putty. The method disclosed provides a means for abrading an internal surface otherwise very difficult of access, such a problem being disclosed in the matter of deburring the edges involved where two bores cross each other internally of a metal block. One form of apparatus for carrying out the method is disclosed.

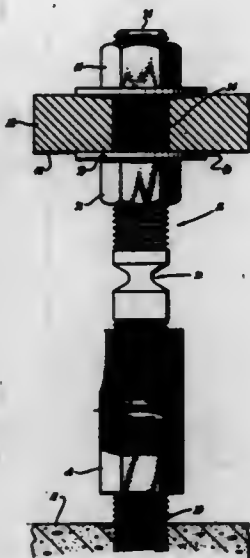


**3,521,413**  
**BREAKAWAY BASE SUPPORT FOR ROADSIDE STANDARDS**  
 Mertz O. Scott, 869 E. 28th St. 94610, and Clive E. McClure, 12120 Tartan Way 94619, both of Oakland, Calif.

Filed Apr. 25, 1968, Ser. No. 724,098  
 Int. Cl. E04b 1/41

U.S. Cl. 52—98

3 Claims



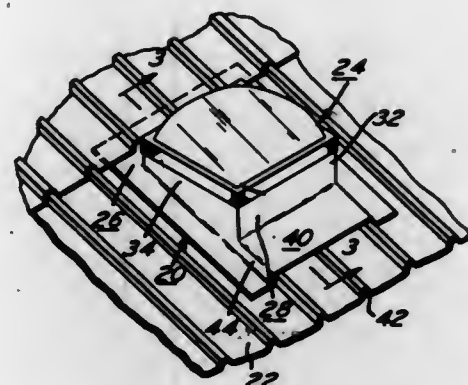
A pole base support for carrying objects adjacent vehicular traffic bearing surfaces which breaks away when struck by a moving vehicle. The support includes elongated members mounted on studs projecting above the ground which have a cross sectional area fully capable of supporting the weight of the pole and the object as well as added loading occasioned by wind, ice, and other natural phenomena acting thereon; but which will break when subjected to lateral impact as produced by the collision force of a vehicle thereon.

**3,521,414**  
**BASE FOR ROOF MOUNTED DEVICES**  
 Louis G. Malissa, Wyncote, Pa., assignor to Penn Ventilator Co. Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Aug. 23, 1968, Ser. No. 754,789  
 Int. Cl. E04d 13/03

U.S. Cl. 52—105

7 Claims

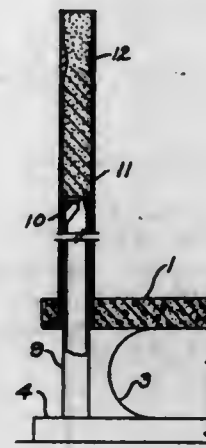


A one piece, molded plastic base for mounting ventilators, skylights, trap doors and the like in a weatherproof manner on the roof of a building comprising a base plate having an opening therethrough, an upright wall integral with extending around the edge of the opening in said base plate, and a flange integral with the upper edge of the said wall, said base plate adapted to sit on the roof with

the opening in the base plate being over an opening in the roof and the wall adapted to support the accessory thereon.

**3,521,415**  
**SAND COLUMN SUPPORT**  
 Karl O. Vartia, 5214 Grover Ave., Austin, Tex. 78756  
 Original application Aug. 12, 1964, Ser. No. 389,139, now Patent No. 3,382,627, dated May 14, 1968. Divided and this application Mar. 19, 1968, Ser. No. 749,224  
 Int. Cl. B66b 29/18; E04g 21/00  
 U.S. Cl. 52—126

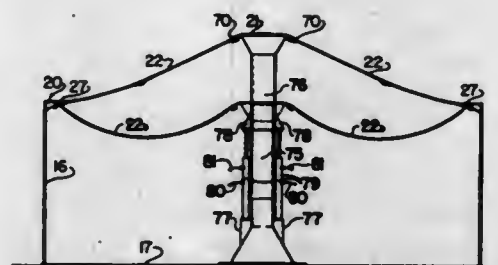
1 Claim



The invention comprises a supporting arrangement for heavy concrete slabs and the like, to be used in conjunction with a lifting means, whereby a slab can be fabricated at ground level or on a previously placed slab and then be held at any intermediate level during the process of being raised to a final elevated position. The supporting arrangement utilizes the characteristics of dry sand or equivalent cohesionless granular material which will flow relatively freely under the action of gravity on slopes exceeding its angle of repose but which will develop a high passive resistance to load when confined or partially confined in such a way that its angle of repose is not exceeded.

**3,521,416**  
**SUSPENSION ROOF**  
 William E. Joor II, Houston, Tex., assignor to U.S. Industries, Inc., Houston, Tex., a corporation of Delaware  
 Original application Feb. 8, 1967, Ser. No. 614,722, now Patent No. 3,449,884, dated June 17, 1969. Divided and this application June 24, 1968, Ser. No. 739,356  
 Int. Cl. E04b 1/00  
 U.S. Cl. 52—222

1 Claim



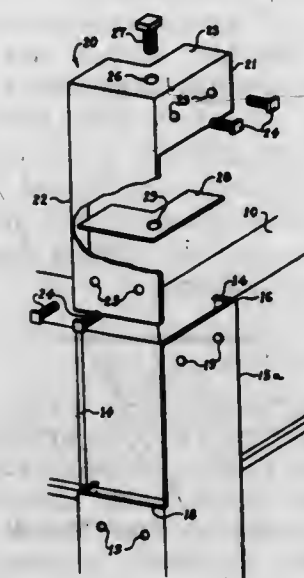
A roof for large, cylindrical tanks is assembled on sagging tension bars suspended between an erect center column and the accurately-shaped compression girder at the top of the tank shell. The tension bars, preferably, are removed after the roof sheeting is applied and are designed so that the finished roof, preferably, will slope

downwardly at all points toward its outer periphery, for discharging fluent material, irrespective of anticipated live and dead loading of the roof sheet or membrane.

**3,521,417**  
**BUILDING STRUCTURE**  
 Veikko Filadet Onjukka, R.R. 2, Parry Sound, Ontario, Canada  
 Filed Mar. 25, 1968, Ser. No. 715,724  
 Int. Cl. E04b 1/56

U.S. Cl. 52—282

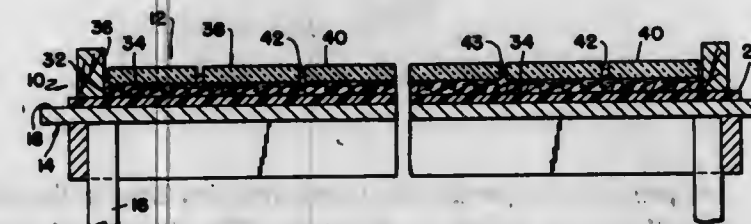
5 Claims



This specification discloses a tongue and grooved plank construction for building structures such as a so-called "sauna" room such as may be installed in a confined space such as a basement. The structure incorporates a metal channel member fitting around the exterior of each of the corners to hold the planks in place, and a seating bench supported within the structure on pivot members enabling the same to be swung upwardly for cleaning and the like.

**3,521,418**  
**PRE-FINISHED DECORATIVE RIGID PANEL**  
 Lawrence Bartoloni, Detroit, Mich., assignor to Ceramic Tile Walls, Inc., Detroit, Mich., a corporation of Michigan  
 Filed Sept. 25, 1967, Ser. No. 670,193  
 Int. Cl. E04f 13/16, 13/18, 15/12  
 U.S. Cl. 52—318

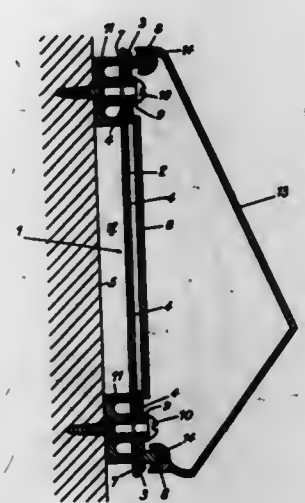
2 Claims



The panel is adapted to be used on floors or walls of a building. The panel includes a backing support made from fibrous material having a texture sufficiently loose to be impregnated by a plastic resin. A plurality of tile elements of rigid material, defining a decorative facing, are arranged in side by side relationship on the backing support to form a rectangular block configuration. A plastic resin interposed between the backing support and facing impregnates the backing support throughout its entire extent and adhesively secures the facing to the

**3,521,419**  
**SUPPORT DEVICE FOR FRAMES, DECORATIVE ELEMENTS AND FALSE CEILINGS**  
 Gilbert Fornells, 38 Rue Stendhal, Paris 20, France  
 Filed May 9, 1968, Ser. No. 727,839  
 Claims priority, application France, May 10, 1967, 105,918  
 Int. Cl. E04c 2/38; E04f 13/08, 19/02  
 U.S. Cl. 52—506

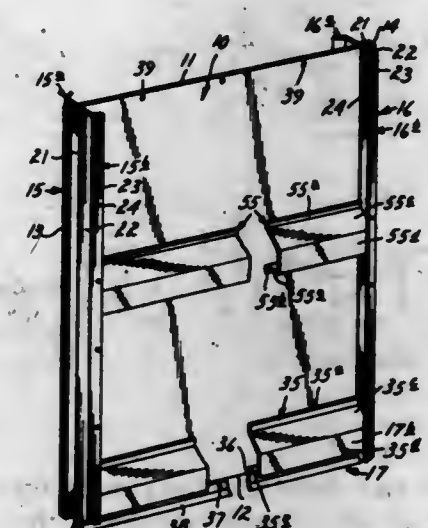
3 Claims



A device for supporting different forms of decorative elements or of dropped ceilings constituted by juxtaposed panels comprising a guide rail which slidably receives support elements that are fixed or freely movable on the guide rail and said rails provide means by which various decorative elements can be affixed thereto.

**3,521,420**  
**BIN PANEL CONSTRUCTION**  
 Wayne H. Oliver, 1305 Spring Valley Road N., Minneapolis, Minn. 55422  
 Continuation-in-part of application Ser. No. 722,299, Apr. 18, 1968. This application Apr. 1, 1969, Ser. No. 830,166  
 Int. Cl. E04c 2/38  
 U.S. Cl. 52—584

11 Claims



Detachable panels for use in construction of rectangular enclosures such as grain bins. The side edges of each panel are provided with mounting frames adapted to be easily secured to adjoining panels. The bottom edge of



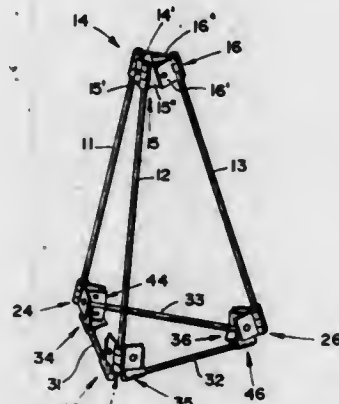
the panel is provided with a channel member to provide lateral support for the panel, and with a pair of flat connector portions that extend downwardly therefrom so that the top edge of a similar panel can be inserted between them and secured to them.

### 3,521,421 GEODESIC STRUCTURE

William E. Schroeder, Jr., 47 Rutland Square,  
Boston, Mass. 02118  
Filed Jan. 2, 1968, Ser. No. 694,953  
Int. Cl. E04h 12/10

U.S. Cl. 52-648

7 Claims



A geodesic structure comprises a number of interconnected members. A pair of interconnected members each carry a hinge pivotal about the member axis. Overlapping hinge leaves of adjacent members are pivotally connected about a pivot axis that is between the adjacent members thus connected and orthogonal to the axis of each adjacent member.

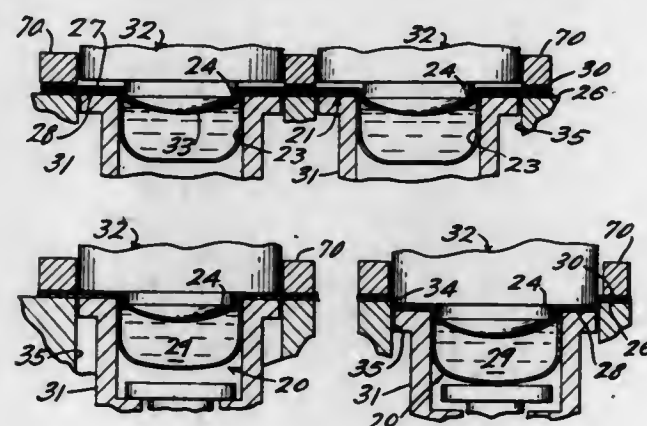
### 3,521,422 METHOD FOR CLOSING OPEN-TOPPED LIQUID CONTAINERS

Joseph M. Tabor, Toledo, Ohio, assignor, by mesne assignments, to Craft Master Corporation, Toledo, Ohio, a corporation of Delaware

Filed Oct. 24, 1967, Ser. No. 677,588  
Int. Cl. B65b 61/08, 3/26; B67b 5/00

U.S. Cl. 53-15

5 Claims



A method and apparatus for closing open-topped containers each of which has a cup-shaped body and an outwardly extending rim, with a press-in lid having a similar rim and a depressed central portion that is adapted to be mated in the open top of the body, with the respective rims in juxtaposition. The method includes the step of resiliently supporting the container beneath its rim and the apparatus has an upwardly biased tubular support

in which the container is nested for this purpose. The apparatus has a convex plunger which is moved downwardly to engage the central depressed portion of the lid, to deform it downwardly and to thrust it into the open upper end of the body and into engagement with the liquid in the body. Continued downward movement of the lid forces the liquid up along the deformed convex surface of the depressed central portion of the lid, expelling air from beneath the lid, and immediately thereafter the lid is seated in the body with the rims in juxtaposition. The method comprises the foregoing steps. The apparatus includes multiple supports and plungers in a pattern shown as being reticulated in a six-by-six group in order to simultaneously close a group of containers and to cut them out of a multipocket sheet of similar configuration. Each plunger has an annular shoulder around and spaced upwardly from its convex end which cooperates with a circular edge on a cavity in an aligned die plate, through which one of the tubular supports extends, to cut out the closed containers from the continuous pocketed sheet in which the group is formed. Each die cavity also has an ejector movable upwardly through the tubular support for ejecting a closed container therefrom.

### 3,521,423 TRANSPARENCY FRAMES AND METHOD FOR MOUNTING TRANSPARENCIES THEREIN

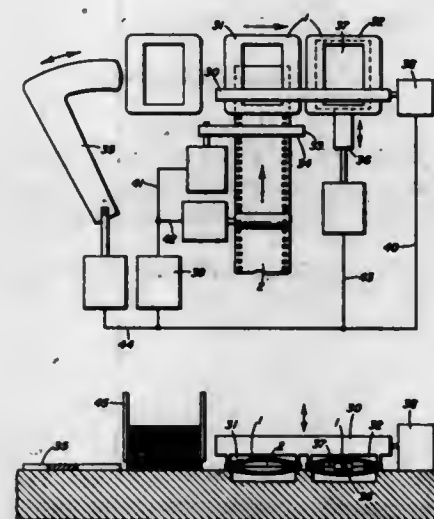
Hans-Hermann Koepp, Wiesbaden-Schierstein, and  
Otfried Urban, Medenbach, Taunus, Germany, as-  
signors to Geimuplast Peter Mundt KG, Garmisch-  
Partenkirchen, Germany, a corporation of Ger-  
many

Continuation-in-part of application Ser. No. 290,142,  
June 24, 1963, now Patent No. 3,369,338. This ap-  
plication July 14, 1967, Ser. No. 653,458

Claims priority, application Germany, June 22, 1962,  
A 40,501

Int. Cl. B65b 63/00, 1/06, 61/20  
U.S. Cl. 53-23

2 Claims



A process for mounting transparencies into a flexible resilient frame having a slot extending through at least one end of the frame. The frame is deformed within its elastic limit to widen the slot and the transparency is partially inserted within the widened slot so that the possibility of marring it is reduced. The forces on the frame are then removed causing the frame to grip the partially inserted transparency. The part of the transparency protruding from the frame is cut after which forces are reapplied to the frame again widening the slot after which the transparency is pushed to a fully seated position and the deforming forces again removed so that the frame frictionally engages the fully seated transparency.

3,521,424  
**METHOD OF PACKAGING FOAM ARTICLES**  
Emanuel W. Wirfel, McKees Rocks, Pa., assignor to  
Mobay Chemical Company, Pittsburgh, Pa., a corpora-  
tion of Delaware  
Original application May 2, 1967, Ser. No. 635,498, now  
Patent No. 3,437,197. Divided and this application July  
1, 1968, Ser. No. 770,877

U.S. Cl. 53-24  
Int. Cl. B65b 1/26

6 Claims

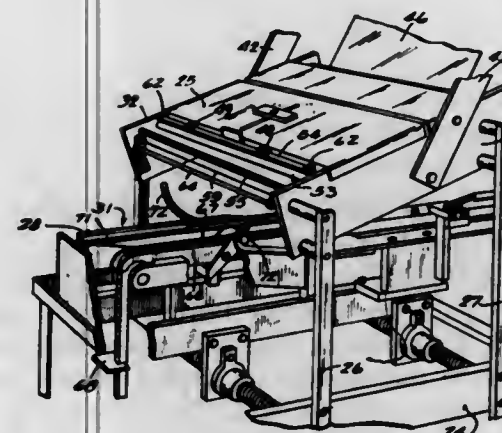


Applying a sizing means to a cellular sheet material; disposing the sheeting for shipment; placing the sheeting into a flexible container which is substantially fluid impervious and which is capable of being reduced in volume; evacuating fluid from the container and permitting the container to be reduced in volume under the influence of atmospheric pressure, thereby compressing the cellular material, and enclosing the container and its contents within a mechanical restraining means such as a paper envelope.

3,521,425  
**WRAPPING METHOD AND APPARATUS**  
Victor E. Palmer, Greendale, Wis., assignor to Wrapping  
Machinery Company, Inc., Franksville, Wis., a corpo-  
ration of Wisconsin  
Filed May 24, 1967, Ser. No. 640,876  
Int. Cl. B65b 67/10, 11/48

U.S. Cl. 53-33

18 Claims

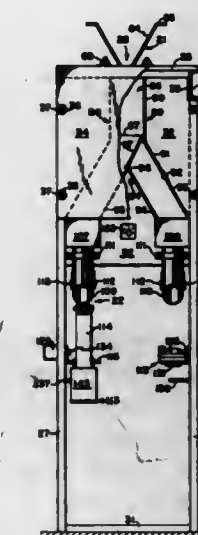


This disclosure relates to a package wrapping method and apparatus adapted to wrap articles in "soft" or "shrink" film drawn from a roll. There is an article prewrap table spaced above a conveyor table and offset rearwardly from its input end to expose a landing space thereon. An operator partially hand prewraps the article on the prewrap table and transfers it from the prewrap table to the input end of the conveyor table. In the course of this transfer, the partially wrapped article is swept past a hot wire to sever the film web, without lost motion on the part of the operator. The operator handles the partially wrapped package by grasping laterally extending film wings on which the operator can exert pressure to tension the film about the article.

3,521,426  
**ALIGNMENT AND/OR PACKAGING APPARATUS**  
James C. H. Evans, 905 S. 9th St.,  
Edinburg, Tex. 78539  
Filed Feb. 13, 1968, Ser. No. 705,147  
Int. Cl. B65b 57/14

U.S. Cl. 53-59

4 Claims



Alignment and/or packaging apparatus including means to align a product of varying weight and size, means to package said product, and means to weigh said package in combination with said packaging means whereby each package contains at least a predetermined, specified weight.

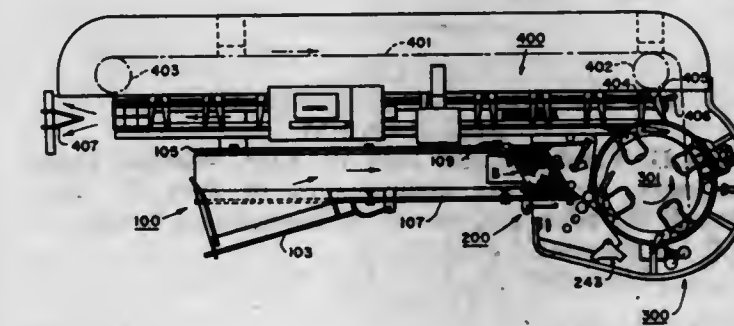
3,521,427  
**APPARATUS AND METHOD FOR ERECTING A  
CARRIER**

Helmut E. W. Masch, San Jose, Calif., assignor to Fibre-  
board Corporation, San Francisco, Calif., a corpora-  
tion of Delaware

Filed Aug. 30, 1967, Ser. No. 664,390  
Int. Cl. B65d 5/06

U.S. Cl. 53-186

38 Claims



Flattened, basket style carrier blanks are loaded into a carton magazine and conveyed toward an opening station comprising a rotary turret having a plurality of suction cups and attendant mechanisms mounted thereon. The turret functions to pick up and open each blank to a rectangular form and then transfer such partially erected carrier to a discharge conveyor. The conveyor moves the carrier through a folding and gluing station to fold and secure bottom closure flaps of the carrier together. Containers, such as bottles, may be inserted upwardly into the carrier prior to the formation of the carrier's bottom closure. A divider bar is arranged to cooperate with the conveyor to separate the erected carriers into two separate discharge lines.



3,521,428

## PHASE SEPARATION

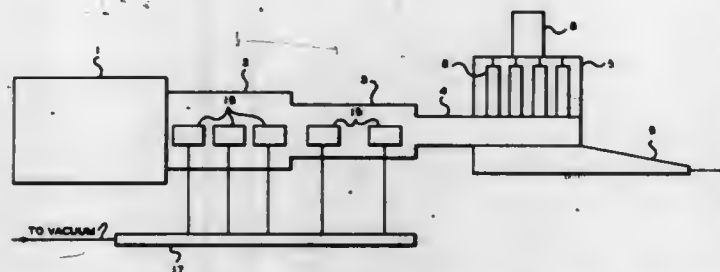
Robert E. Dollinger and Robert H. Kallenberger, Phillips, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed June 20, 1968, Ser. No. 738,617

Int. Cl. B01d 46/04

U.S. Cl. 55—96

5 Claims



A method of phase separation involving the removal of a portion of the continuous phase of a system comprising a dispersoid and a continuous phase to increase the concentration of the dispersoid in the continuous phase to a desired level and the subsequent separation of the dispersoid and the continuous phase.

3,521,429

## MUFFLER

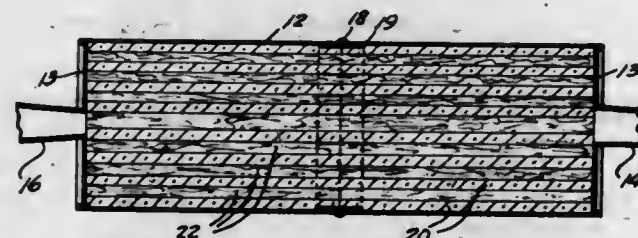
Frank B. Leffler, Park, Tenn.  
(Box 28, Hazel, Ky. 42049)

Filed Oct. 4, 1968, Ser. No. 765,264

Int. Cl. B01d 46/00; F02b 75/10; F01n 3/02

U.S. Cl. 55—276

4 Claims



An improved exhaust muffler packed with fibrous material in roll form of fibrous glass and metal layers impregnated with a silicone oil capable of withstanding exhaust gas temperature.

3,521,430

## AIR FILTER WITH FLUIDIC-TIMING MECHANISM

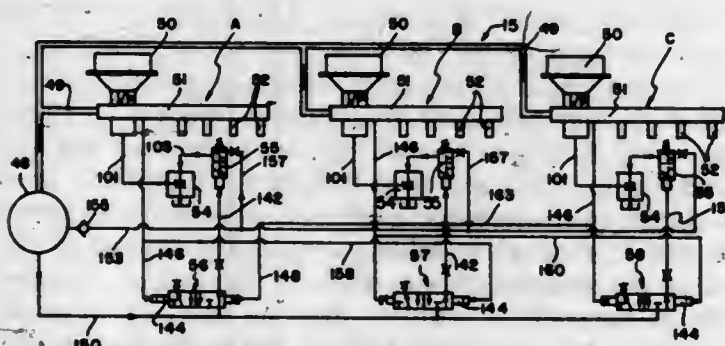
Herbert D. Vanderlip and Jack W. Kice, Wichita, Kans., assignors, by mesne assignments, to Jack W. Kice, Russell W. Kice, and James V. Kice, doing business as K-B Engineering Company

Filed May 20, 1968, Ser. No. 730,480

Int. Cl. B01d 46/04

U.S. Cl. 55—283

14 Claims



An air filtering system using high volume, low pressure air to sequentially blow down or cause a reverse air flow through a plurality of filtering bags or containers to

remove the impurities attached thereto. More specifically, a filtering system is disclosed having a fluidic actuated timing system operable to periodically and automatically release a large volume of low pressure air to respective ones of a plurality of filtering bags for the cleansing thereof. Also a fluidic timing mechanism system is disclosed having and air supply reservoir, a rapid release valve means connected to the air supply reservoir, an air actuated control valve, and a diaphragm valve means connected to the rapid release valve means, all operable under variations of air pressure to automatically sequentially release large volumes of low pressure air for the cleansing of air filtering bags, the system is dependent upon air pressure only without any electrical connections or external power sources thereto which are dangerous in the conveyance of dust particles in flour mill, etc.

3,521,431

## PARTICLE SEPARATOR FOR ENGINE AIR INLETS

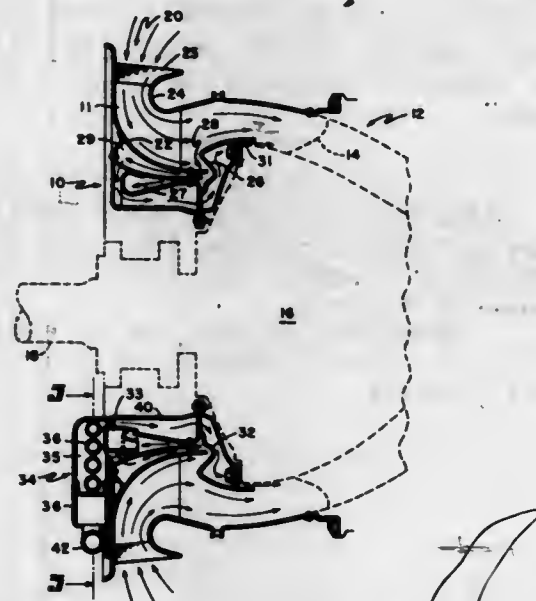
Harold D. Connors and Fred D. Buckley, Milford, Conn., assignors to Avco Corporation, Stratford, Conn., a corporation of Delaware

Filed Apr. 28, 1969, Ser. No. 819,892

Int. Cl. B01d 45/12

U.S. Cl. 55—306

3 Claims



An apparatus to separate and remove foreign particles from the air supply to gas turbine engines is disclosed. The contaminated air is drawn through first and second centrifugal separating stations during which centrifugal forces act on the particles. The particle contaminants and carrier air from the second separating station are transmitted to a tertiary separating station to be again cleaned. Cleaned air from each of the separating stations returns to the engine inlet. Particle contaminants from the tertiary station are removed from the system and may be ejected from the separator.

3,521,432

## PICKING HEAD FOR FRUIT HARVESTER

Ernest L. Kenton, Kissimmee, Fla., assignor to Kld Glove Harvesters, Inc., Orlando, Fla., a corporation of Florida

Original application May 26, 1966, Ser. No. 553,062, now Patent No. 3,412,542, dated Nov. 26, 1968. Divided and this application Nov. 22, 1968, Ser. No. 794,821

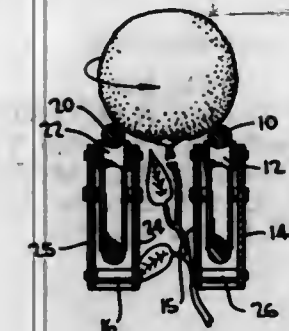
Int. Cl. A01g 19/08

U.S. Cl. 56—1

1 Claim

A process for dislodging ripe fruit hanging by a stem from a tree branch comprises the steps of passing a pair of counter-rotating belts around opposite sides of the

branch, contacting the surface of the fruit with the belts and to transmit motion to the crankshaft during starting, on opposite sides of the stem at two points separated from A grass evacuating duct surrounds the engine, and the



each other by less than the diameter of the fruit to be picked whereby a torque about the stem is imparted to the fruit to sever the stem.

3,521,433

## AGRICULTURAL COMBINE HAVING TABLE SUPPORTED FOR PARALLEL MOVEMENT

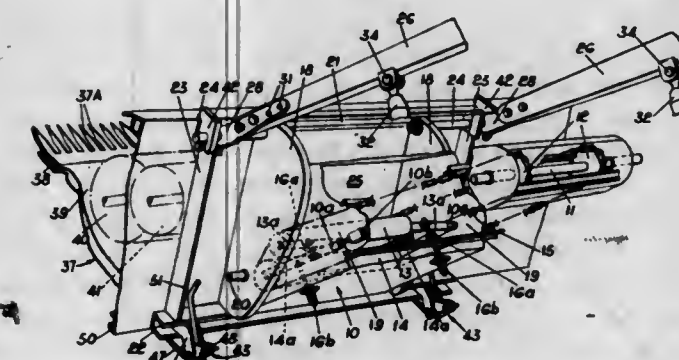
Ernest W. Wright, St. Kilda, Victoria, and John B. Thomas, Avondale Heights, Victoria, Australia, assignors to Massey-Ferguson (Australia) Limited, Victoria, Australia

Filed Nov. 3, 1967, Ser. No. 681,068

Int. Cl. A01d 41/02

U.S. Cl. 56—20

3 Claims



A combine having a header with a harvesting table pivotally connected to one end of the elevator, the other end of the elevator being pivotally connected to the combine body. The table is further connected to the body through links substantially parallel to the elevator so that the table is maintained at a substantially constant attitude relative to the ground as it is raised and lowered.

3,521,434

## LAWNMOWER

Heinz Emmerich, Boblingen, Wurttemberg, Germany, assignor to Solo Kleinmotoren GmbH, Maichingen, Wurttemberg, Germany

Filed Oct. 4, 1967, Ser. No. 672,756

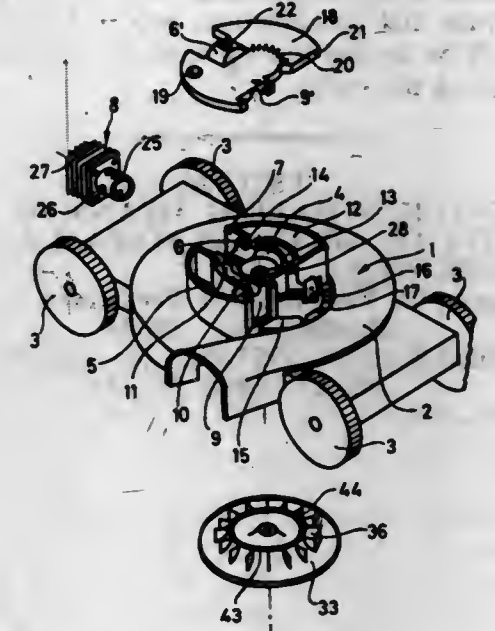
Claims priority, application Germany, July 13, 1967, S 110,818

Int. Cl. A01d 35/26

U.S. Cl. 56—25.4

17 Claims

A lawnmower whose housing consists of cast aluminum or magnesium alloy. The crank case, exhaust duct, fuel tank, carburetor, filter space and passages for cooling air, fuel and combustion products are integral with or are defined by a one-piece casting which constitutes the housing and is mounted on wheels. The cylinder of the two-stroke cycle engine is inserted into the housing in horizontal position and drives a vertical crankshaft which carries a blade and an impeller wheel serving to circulate cooling air, to support a magnet of the ignition system,



impeller wheel seals the underside of the housing. The upper side of the housing is closed by a detachable plate-like cover.

3,521,435

## HARVESTING MACHINE FOR WILD RICE

Leonard M. Furuseth, 108 Kneale Ave. N.,

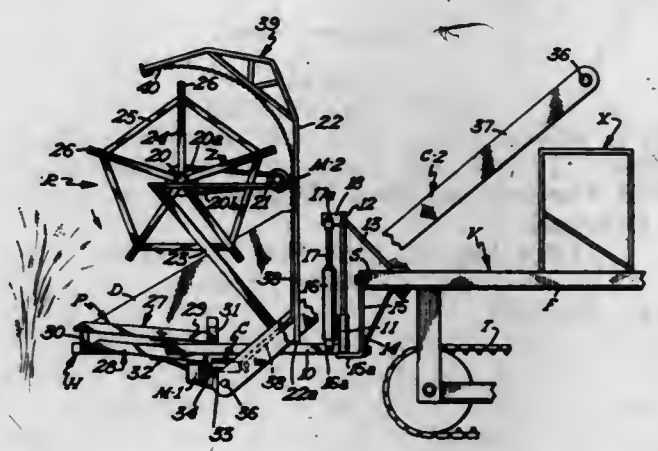
Thief River Falls, Minn. 56701

Filed July 24, 1967, Ser. No. 655,647

Int. Cl. A01d 41/08

U.S. Cl. 56—128

10 Claims



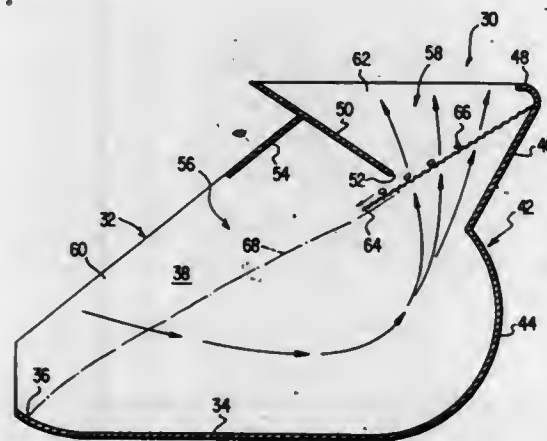
Harvesting machinery for moving and collecting the seeds of wild rice without cutting or in any way damaging the stalks and immature seeds thereon, which essentially comprises for improvement over the prior art, the combination with a medium for propulsion over the soil and the general horizontal supporting frame mounted for travel on such medium, a multiplicity of elongated, narrow collecting pans supported longitudinally from the frame with converging tips or prows and with open delivery ends terminating generally along a predetermined transverse line which is disposed above a cross conveyor medium. Combined with said narrow collection pans and disposed thereabove is a controlled, moderated beater mechanism which, with a predetermined measured violence and frequency related to the travel speed of the frame over the soil, strikes the heads and upper-stalk portions of the wild rice, removing and dislodging the seeds and whole hulls which are in mature condition. Such seeds drop and are collected mainly in the pans but also partially on a rearwardly disposed, upwardly inclined rear deck having its forward edge disposed for delivery to the common



cross conveyor medium. The standing stalks, as the machine progresses, are separated into clumps by the narrow collector pans and ride under the frame without injury after the controlled beating action is effected. With such structure and combination, repeated harvesting operations will be carried out successively with the ripening of the seeds on the stalks.

**3,521,436**  
**GRASS CATCHER HAVING MEANS TO REDUCE VELOCITY OF AIR-GRASS STREAM AND MOWER THEREWITH**

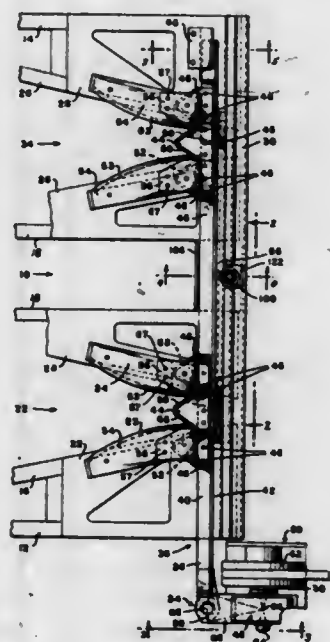
Eugene G. Venzke, 4051 Perkiomen Ave., Reading, Pa. 19606  
Filed Sept. 14, 1967, Ser. No. 668,305  
Int. Cl. A01d 35/24  
U.S. Cl. 56—199 11 Claims



There is described a grass catcher having an upwardly divergent structure to reduce the velocity of an air-grass stream below the velocity necessary to carry substantial amounts of grass.

**3,521,437**  
**MOWING DEVICE**  
Roger L. Risser, Leola, Allison W. Blanchine, Lititz, and Horace G. McCarty, Leola, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

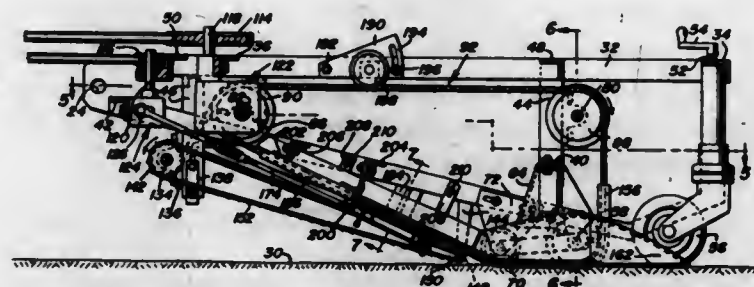
Filed Aug. 21, 1968, Ser. No. 794,425  
Int. Cl. A01d 55/02  
U.S. Cl. 56—296 10 Claims



A mowing device having a frame, a sickle reciprocally mounted with respect to said frame, a drive mechanism disposed in close proximity at one end of the sickle for

transmitting motion thereto and a resiliently, pivotally connected back-up support bar mounted behind the sickle to take up the fore-and-aft movement of the sickle resulting from the arcuate motion of the drive mechanism.

**3,521,438**  
**STRAWBERRY HARVESTER**  
Joseph J. Adrian, Northville Township, La Salle County, Ill. (Somonank, Ill. 60552)  
Filed Mar. 1, 1968, Ser. No. 709,604  
Int. Cl. A01g 19/00  
U.S. Cl. 56—330 15 Claims



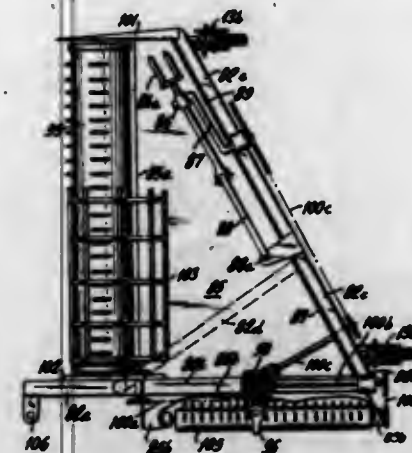
A frame having front and rear ends adapted to move along row crops from which berries are to be picked. An endless flexible picker belt is entrained from the frame and includes a downwardly moving forwardly disposed upstanding reach whose lower end terminates in a rearwardly moving lower and generally horizontally disposed reach which in turn terminates at its rear end in a rearwardly and upwardly moving inclined reach. The picker belt includes longitudinally spaced transversely outwardly projecting resilient fingers and the frame includes guide means engaged with the belt, at least in the area of the lower end of the forward upstanding reach of the belt operative to fold the fingers of the belt inwardly relative to the longitudinal center line of the belt and rearwardly relative to the direction of movement of the belt and to thereafter retain the fingers in folded positions until they at least approach the lower limit of movement of the upstanding reach of the belt at which point the fingers are released for swinging outwardly toward their original transversely outwardly projecting positions as they are moved into close proximity with the ground along which the frame is being moved, whereby the released fingers may swing outward over the surface of the ground and beneath the foliage of row crops along which the belt is being moved prior to the fingers moving upwardly through the foliage of the row crops as the belt moves rearwardly and upwardly along the inclined reach thereof during forward movement of the frame at a speed generally equal to the rearward movement of the inclined reach of the belt.

**3,521,439**  
**APPARATUS FOR HARVESTING CEREAL GRAINS, LEAFY VEGETABLES, OR HOED VEGETABLES**  
Ernst Weichel, Bahnhofstrasse 1, Heiningen, Kreis Goppingen, Germany  
Filed June 23, 1966, Ser. No. 560,972  
Claims priority, application Germany, June 23, 1965, W 39,397  
Int. Cl. A01d 89/00  
U.S. Cl. 56—364 7 Claims

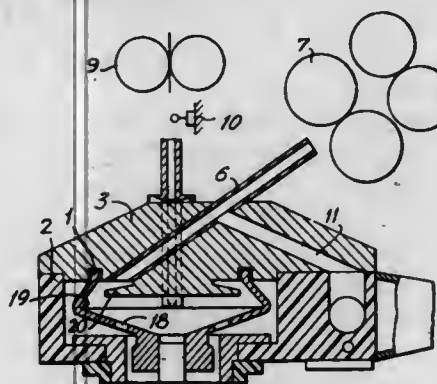
A unit for harvesting hoed, leafy and stalk crops includes a frame and a draw bar extending from the frame for towing of the unit along a path laterally adjacent and paralleled to the travel of a tractor with the harvesting unit extending rearwardly and laterally of the tractor. A crop carrier may be drawn by the tractor and the harvesting unit may be drawn by the crop carrier. The harvesting unit includes a guide scoop and associated power

driven means for moving harvested material along the guide scoop and either into the crop carrier or onto the path of travel of the tractor behind the tractor. Various

on the waste cones without impairing the quality of the yarn in the package. While the spindle speed is increased at a constant rate to the production rate, the delivery speed is increased to the production rate at constant rates



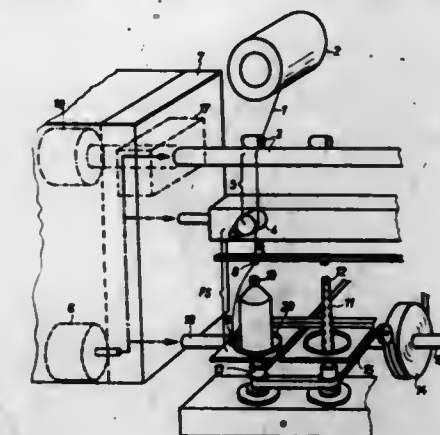
**3,521,440**  
**TWISTING DEVICE FOR PNEUMATIC SPINNING**  
Lev Ivanovich Oskin, Odesskaya ulitsa 14, korpus 4, kv. 20; Chary Anna-Seldov, Ulitsa Televidenia 22, korpus 1, kv. 58; Alexandr Sergeevich Zhukov, Nagornaya ulitsa 32, korpus 3, kv. 71; and Alexandr Fedoseevich Zadoya, Ulitsa Gashepa 11, kv. 54, all of Moscow, U.S.S.R.  
Filed Mar. 6, 1968, Ser. No. 711,000  
Int. Cl. D01h 1/12, 7/74, 13/16  
U.S. Cl. 57—58.89 5 Claims



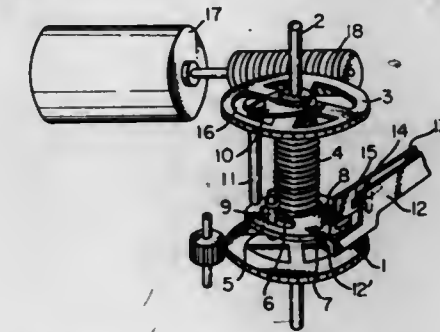
A twisting device for pneumatic spinning comprises an offtake channel for withdrawing fibers in the event of a breakage of the spun thread, the offtake channel being in communication with a channel for the introduction of the fibers and with an air main which in turn also communicates with a fiber spinning chamber through an air exhaust duct, a valve device being arranged at the point where the offtake channel and the air exhaust duct communicate with the air main for alternately closing communication between the air main and the offtake channel and the air exhaust duct.

**3,521,441**  
**PROCESS AND APPARATUS FOR REDUCING YARN WASTE IN DRAW-TWISTERS**  
Hansruedi Lamparter, Winterthur, Switzerland, assignor to Rieter Machine Works, Ltd., Winterthur, Switzerland, a corporation of Switzerland  
Filed Dec. 7, 1967, Ser. No. 688,757  
Claims priority, application Switzerland, June 5, 1967, 7,999/67  
Int. Cl. D01h 13/02  
U.S. Cl. 57—90 29 Claims

During starting and stopping of the machine, the speed of yarn delivery feed is varied with respect to the spindle speed in a manner to wind up smaller amounts of waste



**3,521,442**  
**SWITCH MECHANISM FOR AUTOMATIC SPRING WINDING IN A CLOCK**  
Tosio Umezawa, Sagami-hara, Japan, assignor to Jeco Company, Limited, Tokyo, Japan, a corporation of Japan  
Continuation of application Ser. No. 763,779, Sept. 30, 1968. This application Dec. 6, 1968, Ser. No. 795,376  
Claims priority, application Japan, Sept. 29, 1967, 42/83,339  
Int. Cl. G04c 1/00  
U.S. Cl. 58—41 5 Claims



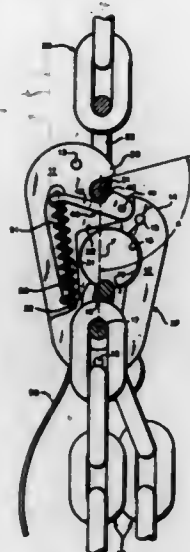
A switch mechanism for an automatically spring wound clock having a drive gear driven by a helical spring. The spring is periodically rewound by means of a winding gear connected to an electric motor. A pair of spring contacts is associated with a cam element operatively connected to the drive gear so as to periodically actuate and deactivate the winding motor in response to predetermined movements of the drive gear. The cam element has a notched periphery, with one of the spring contacts riding on the periphery so that it is biased away from the other contact until it falls into the notch. The winding motor is then actuated, and the winding gear is rotated to rewind the spring until a pin depending from the winding gear returns the spring-contact to the outer periphery of the cam element associated with the drive gear.

**3,521,443**  
**HOOK FOR CARGO TIE-DOWN**  
Leo Dragonuk, Plymouth Meeting, Pa., assignor to the United States of America as represented by the Secretary of the Navy  
Filed May 23, 1968, Ser. No. 731,530  
Int. Cl. F16g 15/04  
U.S. Cl. 59—86 13 Claims

A hook adapted for use with link chains for establishing quickly releasable tie-down arrangements including



a body portion having a keyhole-shaped aperture adapted for locking engagement with a link chain and an obtusely inclined, protruding hook portion engageable with a



chain link and having a spring-loaded keeper actuated by a lanyard to release a link retained by the hook portion.

3,521,444

#### HYDRAULIC AND MECHANICAL WAY OR SADDLE TYPE TOOL SYSTEMS

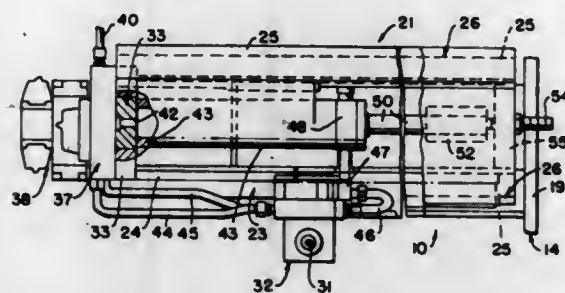
Wilbur R. Gerchow, Ann Arbor, and Michael Zajac, Dearborn Heights, Mich., assignors, by mesne assignments, to Buhr Machine Tool Corporation, a corporation of Delaware

Filed Aug. 26, 1968, Ser. No. 755,409

Int. Cl. F01b 23/00

U.S. Cl. 60—6

14 Claims



The systems feature a supporting structure for an actuator which moves a sliding way—or saddle-carried machine tool axially, the actuator being hydraulically or electrically powered. Such actuator, whether of one type or the other, is mounted by substantially identical means in either case upon a base designed to accommodate both the fluid and the electrically powered units. In the case of the hydraulically operated system, the flow of power liquid is through an assembly of manifold and reversing valve located "piggy-back" relative to one another and to an end of the hydraulic cylinder, in a manner to minimize external hydraulic connections.

3,521,445

#### WELL PUMPING SYSTEM

Donovan B. Grable, 2515 San Francisco Ave., Long Beach, Calif. 90806

Filed Aug. 15, 1968, Ser. No. 752,886

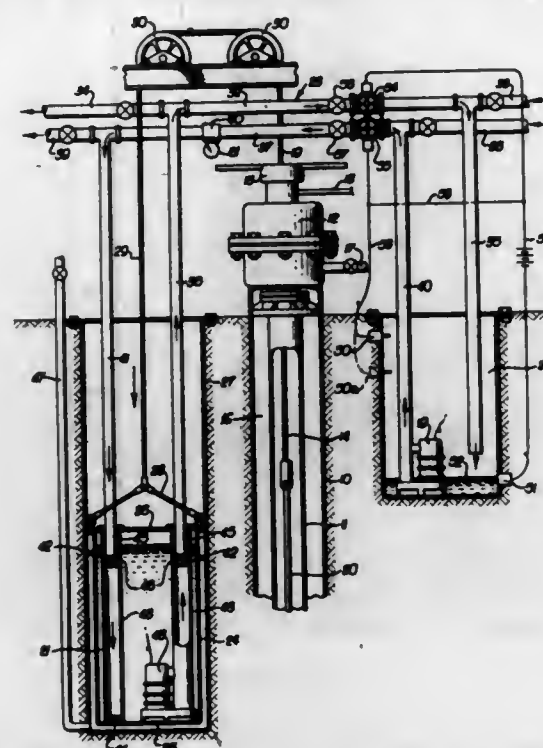
Int. Cl. F04b 17/00, 47/00

U.S. Cl. 60—22.1

15 Claims

The invention achieves long stroke pumping of wells by powering the operating string of a well pump by a traveling tube forming a chamber vertically reciprocable within an earth bore at one side of the well, the tube chamber being connected by conduit means with a reservoir

chamber, and pumps being provided within the chambers to alternately displace water through the conduit means to



water-load the traveling tube chamber for elevation of the well pump and to release water therefrom to lower the well pump.

3,521,446

#### FUEL CONTROL HAVING PRESSURE REFERENCED TURBINE OVERSPEED DEVICE

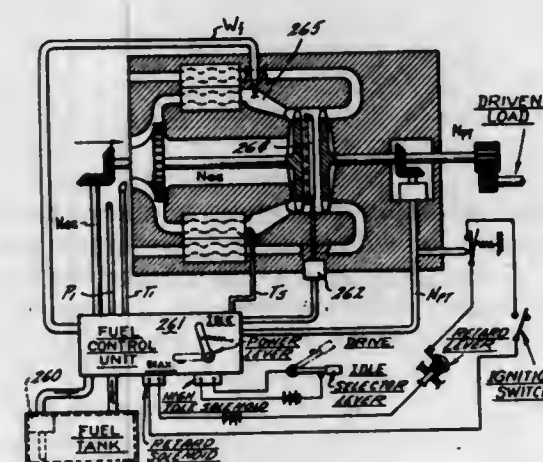
John M. Maljanian, Newington, Conn., assignor to Chandler Evans Inc., West Hartford, Conn., a corporation of Delaware

Filed Apr. 16, 1968, Ser. No. 721,800

Int. Cl. F02c 3/10, 9/00, 9/08

U.S. Cl. 60—39.16

8 Claims



An improved fuel and speed control for a regenerative gas turbine having variable geometry turbine nozzles where the fuel metering operation is based on a hydraulically computed composite function of gas generator speed, compressor inlet temperature, ambient pressure and regenerator discharge temperature, and the turbine engine variable geometry nozzles are simultaneously integrally positioned with the fuel metering device and speed setting governor such that the preselected positions of the variable geometry nozzle at the start-idle governing and retard braking conditions are maintained by varying the working fluid pressure referenced to control pump boost pressure, and the power turbine over-speed control limits the turbine speed by varying a second working fluid pressure responsive to variations in power turbine speed pressure signal referenced to ambient pressure.

3,521,447

#### CASCADED FLUID FLOW CONTROL APPARATUS

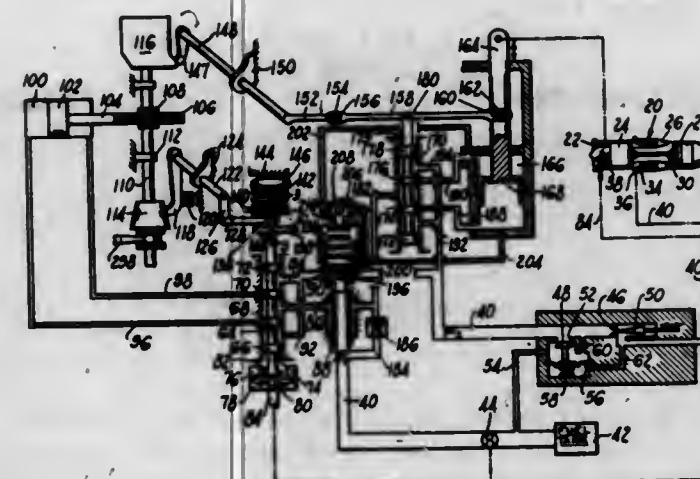
Francis R. Rogers and De Foe L. Greenawalt, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware

Filed May 6, 1968, Ser. No. 726,798

Int. Cl. F02c 9/08, 9/14

U.S. Cl. 60—39.28

15 Claims



Fluid flow control apparatus including a fluid conduit connected to receive pressurized fluid from a fluid pump and provided with fluid metering valve means therein for controlling the rate of flow therethrough to a fluid receiver having a predetermined maximum fluid flow rate requirement. A fluid operated servo is controlled by a servo valve connected to divert input pressurized fluid from the conduit upstream from the fluid metering valve means to the fluid operated servo and output pressurized fluid from the fluid operated servo to the conduit upstream from the fluid metering valve means to maintain the total output fluid flow of the pump available to the fluid metering valve means for metering purposes. A predetermined pressure differential between the servo fluid input and output is established by fluid pressure responsive fluid throttling means in series flow with the conduit upstream from the fluid metering valve means. The fluid throttling valve is pressure actuated toward a closed position in response to an increased load demand on the fluid operated servo to increase the input fluid pressure to the fluid operated servo and thus increase the predetermined pressure differential as necessary to effect movement of the fluid operated servo. In the abovementioned manner, the fluid pump total displacement is made available for load demand on the fluid operated servo with no adverse effect on metered fluid flow requirements thereby minimizing the required pump size and displacement thereof and power input thereto.

3,521,448

#### REMOTELY CONTROLLED ROTARY INPUT SIGNAL MEANS FOR INTRODUCING TRIM CONTROL SIGNAL CORRECTIONS TO JET ENGINE FUEL CONTROLS

Armand F. Amello, Yonkers, N.Y., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 23, 1968, Ser. No. 761,644

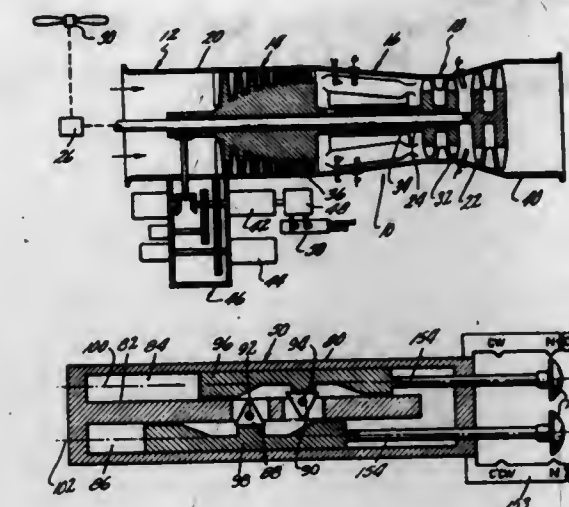
Int. Cl. F02c 7/02, 9/04; F02k 3/00

U.S. Cl. 60—39.28

3 Claims

A remotely controlled rotary input signal means for introducing trim control signal corrections to jet engine fuel controls comprising a regular polygon mounted for rotation and a selectively contoured cam member translatable in opposite directions with respect to the polygon and contoured so as to lock the polygon in neutral position when centered and so as to cause the polygon, and the shaft attached to the polygon, to rotate two increments in

one direction as the cam member is moved leftwardly and then back to center, or to cause the polygon to rotate



two increments in the opposite direction as the cam member is translated rightwardly and then back to center.

3,521,449

#### VARIABLE HYDRAULIC GEAR

Giuseppe Speggorin, Tavernelle di Altvilla, Italy, assignor to Var-Spe s.a.s. di Speggorin G. & C. (Società in accomandita semplice), Tavernelle di Altvilla, Italy, a corporation of Italy

Filed Mar. 27, 1968, Ser. No. 721,547

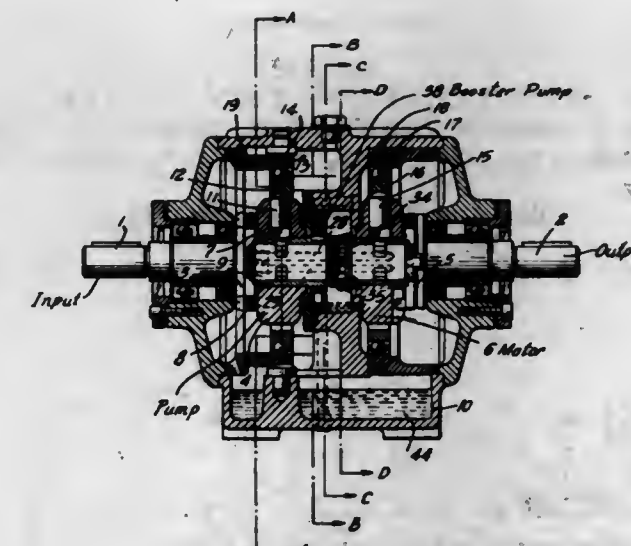
Claims priority, application Italy, Apr. 1, 1967,

61,538/67

Int. Cl. F16d 3/14, 31/02; F04b 1/10

U.S. Cl. 60—53

6 Claims



A hydraulic gear device with variable ratio has a main pump, an auxiliary or booster pump and a motor. The rotors of the main pump and the motor have radial chambers containing slidable pistons. These chambers are interconnected by conduits extending through a fixed central shaft of the device. The pistons of both the main pump and the motor are adapted to engage separate rotatable rings. Means are provided to adjust the eccentricity of at least one of these rings relative to the central shaft. The auxiliary pump is provided with blades and is driven from the main pump. The auxiliary pump provides initial liquid pressure for the main pump and the motor and is adapted to discharge excess liquid to a sump.



### 3,521,450 REMOTE HYDRAULIC CONTROL

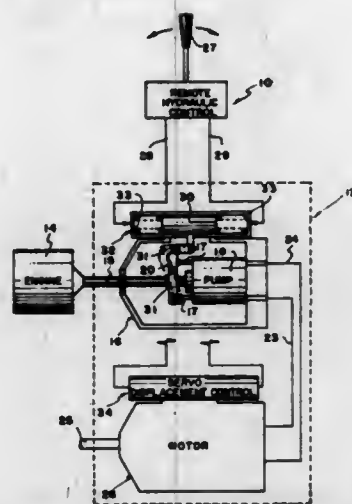
Robert J. Martin, Hutchinson, Kans., assignor to The Cessna Aircraft Company, Wichita, Kans., a corporation of Kansas

Filed May 23, 1968, Ser. No. 731,394

Int. Cl. F16d 31/02

U.S. Cl. 60—53

10 Claims



The invention is a remote hydraulic two way control for sequentially positioning the respective swash plates of an axle piston pump and motor of a hydrostatic transmission. The control includes a manual operator having a pair of cam surfaces which separately actuate a pair of double acting master cylinders hydraulically connected to a pair of remote slave servos. The slave servos are mechanically connected to the respective tiltable swash plates of the pump and motor, whereby the plates are sequentially positioned to vary the displacement and to control the speed of the transmission. The control also includes a neutral position which affords automatic rephasing of the two slave servos with their respective master cylinders.

### 3,521,451 FLUID COUPLING USING WATER

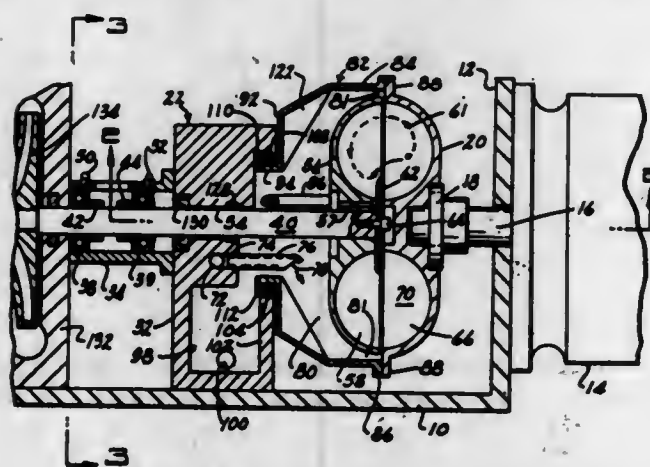
Henry J. Langlois, Detroit, Mich., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 13, 1968, Ser. No. 752,251

Int. Cl. F16d 33/06, 33/14

U.S. Cl. 60—54

10 Claims



A fluid coupling using primarily water as the power transmitting fluid but adaptable for use with other fluids. A movable scoop tube controls the power transmitting fluid level, but the usual stationary housing around the rotating elements has been omitted as an economy feature of the design; the scoop tube discharges to the building drain instead of to a sump in the stationary housing. Seals are provided on the runner shaft to prevent water leakage out of the rotating elements and into

the shaft bearings. Since water flowing out of the coupling is directed to the building drain without being reused there is no necessity for an auxiliary recirculation pump or fluid cooler.

### 3,521,452 ROCKET NOZZLE COOLING

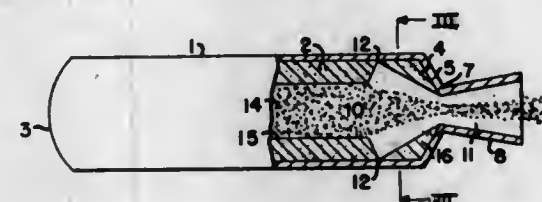
John P. Longwell, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Feb. 1, 1961, Ser. No. 86,548

Int. Cl. F02k 9/04

U.S. Cl. 60—204

5 Claims



1. A rocket motor propellant assembly comprising a hot-burning solid propellant grain adjacent to a solid propellant grain of an amine borane that burns to form a relatively cooler stream of hydrogen and BN.

### 3,521,453 ELECTROLYTIC METHOD FOR INITIATING AND CONTINUING DECOMPOSITION OF AN EXOTHERMIC PROPELLANT

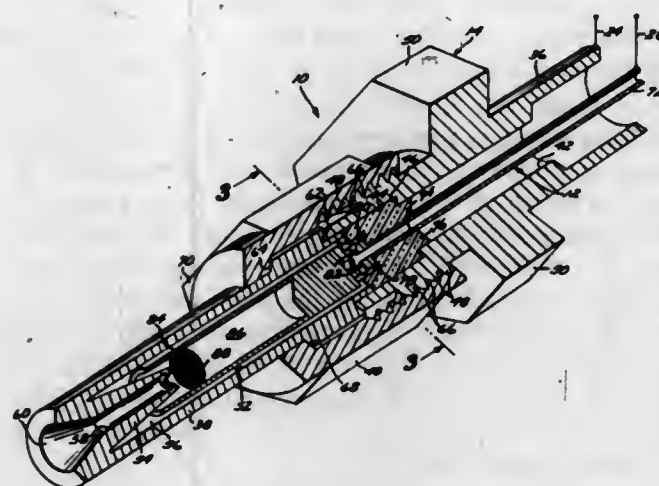
Bernard P. Breen, South Pasadena, Bill R. Lawver, Glendora, and James R. Kliegel, Redondo Beach, Calif., assignors to Marshall Industries, San Marino, Calif., a corporation of California

Filed Sept. 25, 1967, Ser. No. 670,242

Int. Cl. F23r 1/02

U.S. Cl. 60—207

6 Claims



A method and apparatus for initiating decomposition of exothermic propellants by developing an electric potential across spaced electrodes located in the propellant inlet stream, the electric potential being at a level high enough to effect decomposition and accompanying heat evolution to facilitate starting of a rocket engine or the like.

### 3,521,454 BEARING PAD AND METHOD OF PREPARING

Donald J. Dodds, Portland, Oreg., assignor to Foundation Sciences, Inc., Portland, Oreg., a corporation of Oregon

Filed Oct. 17, 1968, Ser. No. 768,307

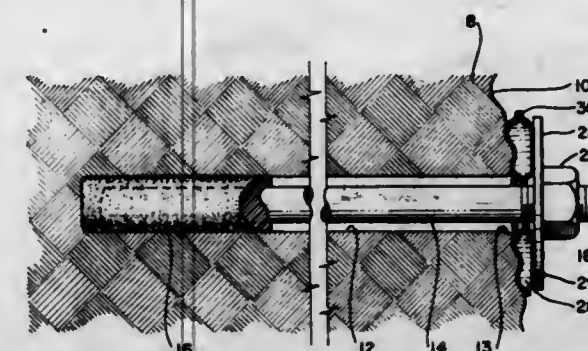
Int. Cl. E21d 21/00

U.S. Cl. 61—45

3 Claims

A rock bolt bearing pad encircling the rock bolt at the surface of a rock formation reinforced by the rock bolt. A method of preparing the bearing pad wherein the components of a hardenable plastic composition contained

within a pliant envelope are mixed by working the exterior of the envelope while maintaining the integrity of the exterior of the envelope. The envelope may be shaped as an annulus circumscribing a central void region and be divided into separate compartments following one another circumferentially about the annulus with separate components of the hardenable plastic composition lodged



within separate compartments prior to mixing. The envelope and its contents form a package which is transformed into the bearing pad on hardening of the material within the envelope. In a rock reinforcement, the pad encircles the rock bolt at the surface of the rock being reinforced, with one side of the pad following the contour of the rock surface.

### 3,521,455 MINING CONVEYOR CONTROL MEANS

Frank Town, Burton Joyce, England, assignor to W. E. & F. Dobson Limited

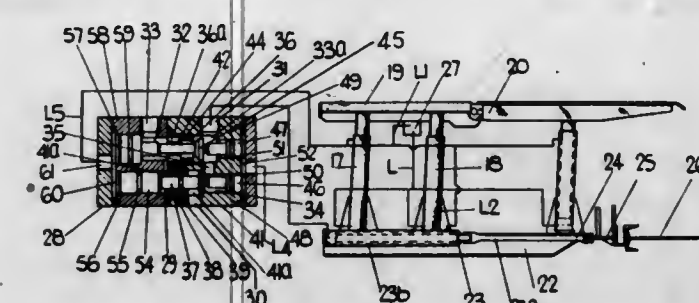
Original application May 22, 1967, Ser. No. 640,280. Divided and this application Nov. 22, 1968, Ser. No. 778,177

Claims priority, application Great Britain, May 25, 1966, 23,301/66

Int. Cl. E21d 15/44

U.S. Cl. 61—45

4 Claims



A mine roof support system having at least one hydraulic prop and an advance hydraulic jack connected with a conveyor for advancing the latter, the system including a hydraulic circuit connected to a pressurised fluid supply, a main valve being provided in the circuit and being operable to connect the supply on the one hand to extend the prop and on the other hand to retract both the prop and the hydraulic jack, the latter being connected to a pilot valve operable to extend the advance hydraulic jack for advancing the conveyor, the pilot valve having a fluid supply inlet and outlet and a fluid exhaust port, and including valve means movable between first and second positions wherein the outlet is respectively connected to the inlet and the exhaust port for extension and retraction of the advance hydraulic jack respectively, the pilot valve also having piston means actuatable by a hydraulic pulse to act on a part of the valve means to move the latter to the first position, the valve means being so constructed that fluid flow through the pilot valve from the inlet to the outlet acts on said part of the valve means to hold the valve means in the first position; means also being provided to move the valve means back to the second position against the action of said fluid flow.

### 3,521,456 TILE LAYING MACHINE

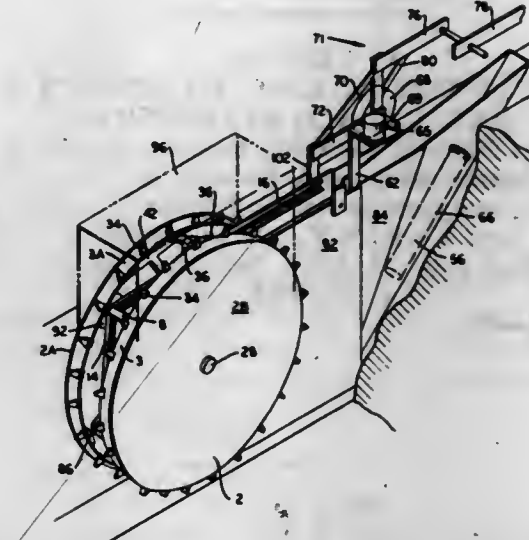
James C. Blackwell, Franklin, Ind., assignor to Bymco Corporation, Indianapolis, Ind., a corporation of Indiana

Filed Dec. 13, 1968, Ser. No. 783,599

Int. Cl. F16l 1/00

U.S. Cl. 61—72.1

7 Claims



A tile laying machine which is adapted to roll on the bottom of a pre-cut trench. The machine rolls on a pair of opposing large diameter wheels which are attached to a central frame work and further includes a chute for providing tile sections to the bottom of a trench in the vicinity of the lower extremity of the opposing wheel members. The operation of the machine sits between the opposing wheels members and thereby guides the laying of tile in the trench. The opposing wheels generally render protection to the operator from cave-in dangers during the tile laying sequence.

### 3,521,457 APPARATUS FOR MAKING HYDROGEN SLUSH USING NITROGEN AND HELIUM REFRIGERANTS

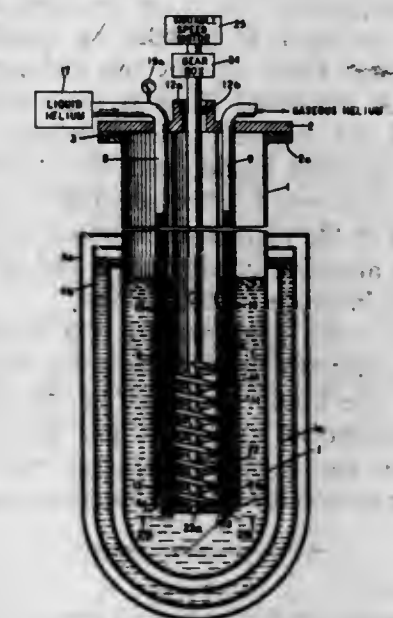
Russell A. Hemstreet, Mountainside, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 19, 1967, Ser. No. 654,419

Int. Cl. F25j 1/00

U.S. Cl. 62—45

3 Claims



Process and apparatus for treating hydrogen and other low temperature fluids to form slush. This includes a slush generator wherein the supply of liquid or gas is introduced into the inner chamber of a heat exchanger which is maintained by separate refrigeration means at a



temperature below the triple point of the supply fluid. The frozen layer formed on the extended inner surface of the inner chamber is continuously scraped off in the form of powder by rotation of a composite mechanical blade. A semi-solid slush is thus formed which is forced out of the device by the flushing action of the liquid and the pumping action of the blade which may be in the form of a screw.

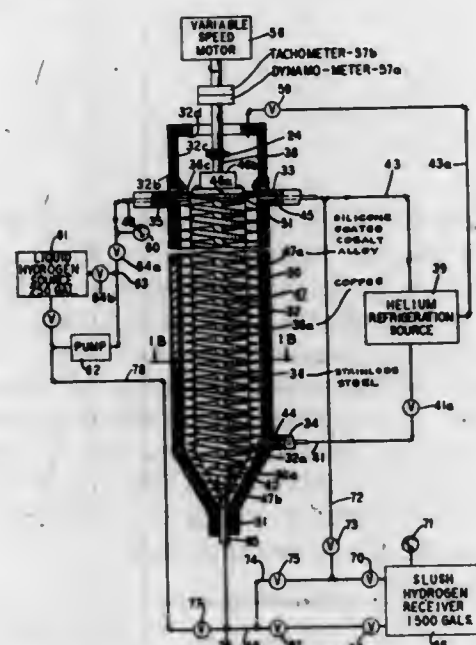
3,521,458

# **APPARATUS FOR MAKING HYDROGEN SLUSH USING HELIUM REFRIGERANT**

Derk Th. A. Huibers, Berkeley Heights, Russell A. Hemstreet, Mountainside, and Howard K. Hover, Somerville, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York  
Filed July 19, 1967, Ser. No. 654,455  
Int. Cl. F25j 1/00

U.S. Cl. 62-45

15 Claims



System including process and apparatus for treating hydrogen and other low temperature fluids to form slush. This system includes an improved slush generator wherein the supply of fluid is introduced into the inner chamber of a heat exchanger which is maintained by separate refrigeration means at a temperature below the melting point of the supply fluid. The frozen layer formed on the extended inner surface of the inner chamber is continuously shaved off in the form of powder by rotation of a composite mechanical blade and by the turbulent flow of the supply fluid. A semisolid slush is thus formed which is forced out of the device by the flushing action of the continuously supplied liquid, and the pumping action of the blade. Improvements in the generator include heat conducting baffles in the refrigeration chamber, providing the blade with an abrasive cutting edge and using a thin silicone coating to improve cutting action.

A hydrogen slush generator of the form indicated is included in a plant which comprises means for precooling and supplying the liquid hydrogen to the slush generator, separate refrigeration means, a gas pressurization and cooling system, and a product storage and handling section, including means for monitoring the product.

3,521,459

# **METHOD FOR STORING AND TRANSPORTING FOOD IN A FRESH CONDITION**

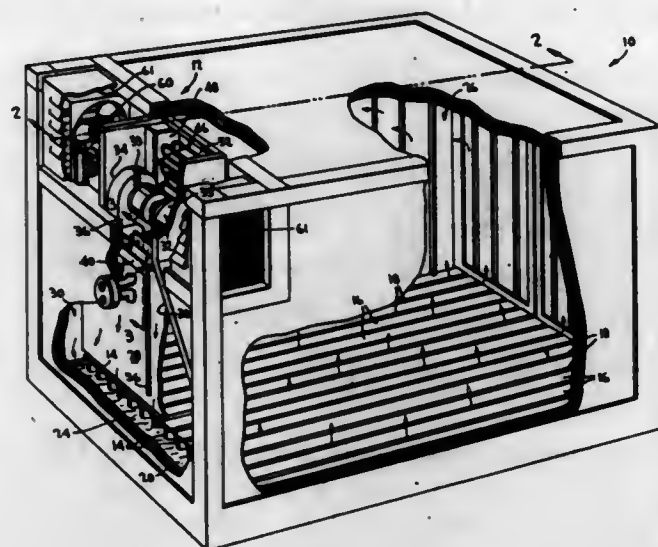
Eric Rath, P.O. Box 226, La Jolla, Calif. 92037  
Filed June 21, 1968, Ser. No. 742,121  
Int. Cl. F24f 3/16

U.S. Cl. 62-78

1 Claim

A method of transporting fresh food products in an optimum condition and particularly adapted for use in

modular shipping containers in which dual, complementary air cooling systems recirculating moist air through a storage compartment and about fresh food products without dehydration of the product by maintaining the



moist air at a slightly lower temperature than optimum product transit temperature and eliminating decay promoting gases and/or while continuously sterilizing the moist air prior to movement into and through the product compartment.

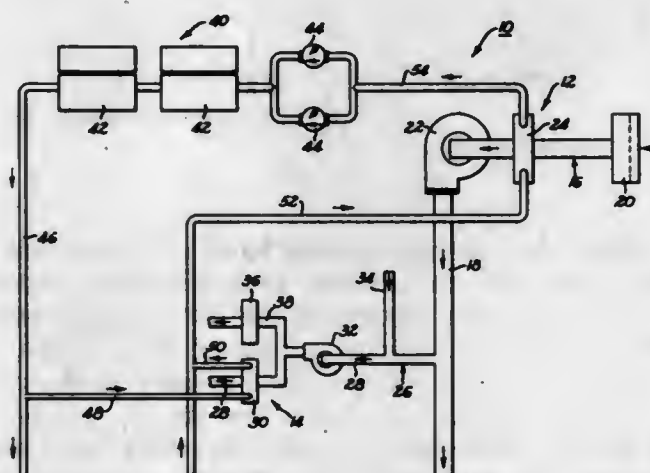
3,521,460

# **TWO-STAGE AIR COOLING METHOD AND APPARATUS**

James A. Knowles, Arcadia, Calif.  
(632 Monterey Pass Road, Monterey Park, Calif. 91754)  
Filed July 17, 1968, Ser. No. 745,542  
Int. Cl. F25d 17/06

U.S. Cl. 62-95

4 Claims



An air cooling system for a building, or the like, which involves precooling the outside air supply entering the building at a central location, and then further cooling the precooling air at various local stations corresponding to various parts of the interior of the building as the air is distributed to such parts of the building. Chilled water is used as the cooling medium and heat is transferred to the coolant at the local cooling stations first, the total flow of coolant then being directed to the central cooling station to precool the outside air supply entering the building. Return air from the various parts of the building is mixed with the precooling air distributed thereto and is cooled along with the precooling air at the local cooling stations.

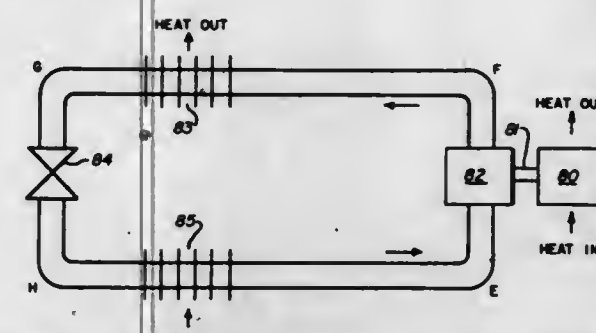
3,521,461

# **COOLING PROCESS EMPLOYING A HEAT-ACTUATED REGENERATIVE COMPRESSOR** Eric G. U. Granryd, Slatthallavagen, Sweden, assignor to Gas Developments Corporation, Chicago, Ill., a corporation of Illinois Original application Dec. 11, 1968, Ser. No. 783,064. Divided and this application July 22, 1969, Ser. No. 843,694

U.S. Cl. 62-115

Int. Cl. F25b 1/00

4 Claims



A process for cooling contained exterior atmosphere by a compression-condensation-expansion-evaporation cooling cycle utilizing a heat-actuated regenerative compressor in conjunction with a pneumatic assisted linkage wherein the refrigerant acts upon the linkage providing a lower absolute pressure at the refrigerant side of the linkage than at the heat-actuated regenerative compressor side of the linkage.

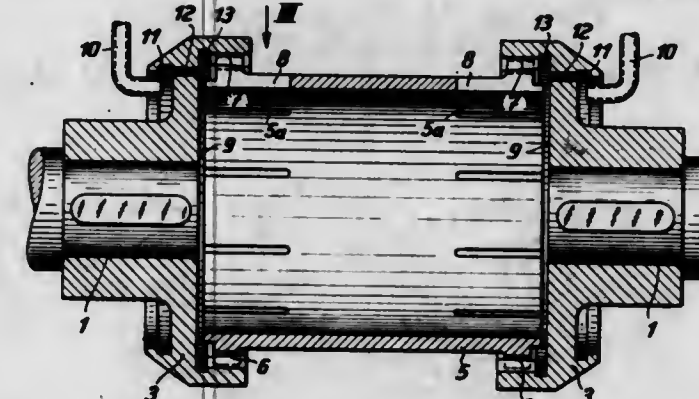
3,521,462

# **GEAR COUPLING**

Günther Heldrich, Munich, Germany, assignor to Alexander Stoeckicht, Munich, Germany  
Filed Oct. 15, 1968, Ser. No. 767,697  
Claims priority, application Germany, Oct. 21, 1967, 1,625,817  
Int. Cl. F16d 3/54

U.S. Cl. 64-9

3 Claims



The gear coupling consists of two toothed hub members connected by a sleeve member with toothed end portions. The sleeve teeth are in mesh with the hub teeth. The sleeve teeth or the hub teeth are external teeth. These externally toothed members are slotted from their ends at least over the width of the teeth. The so obtained radial elasticity of the external teeth allows uniform bearing of all teeth and centering of the sleeve with increasing speed by radial expansion of the slotted portions.

3,521,463

# **GEAR COUPLING**

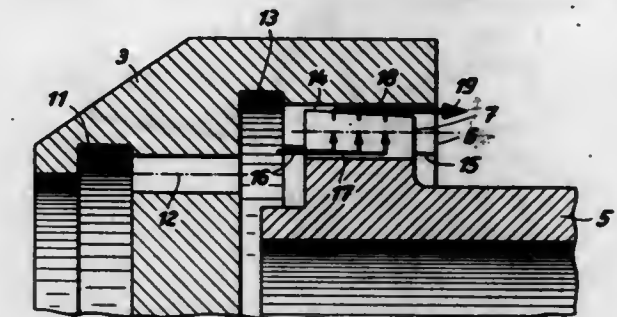
Günther Heldrich, Munich, Germany, assignor to Alexander Stoeckicht, Munich, Germany  
Filed Oct. 15, 1968, Ser. No. 767,698  
Claims priority, application Germany, Oct. 21, 1967, 1,625,817  
Int. Cl. F16d 3/54

U.S. Cl. 64-9

2 Claims

The gear coupling consists of two toothed hub members connected by a sleeve member with teeth at the end

portions. The sleeve teeth are in mesh with the hub teeth. The crest edges of the teeth of cooperating hub and sleeve are sloped with respect to the coupling axis whereby wedge-shaped gaps are formed at the crest and at the bot-



tom of each tooth. The wedge directions of these addendum and dedendum gaps are opposite to each other. This construction allows uniform continuous lubrication of the tooth flanks and results in an improvement of the centering of the coupling.

3,521,464

# **TORQUE TRANSMITTING SHAFT ASSEMBLIES** James C. Kildby, Crawley, England, assignor to Silentbloc Limited, Crawley, Sussex, England, a company of Great Britain

Filed Apr. 8, 1968, Ser. No. 719,410  
Claims priority, application Great Britain, Apr. 7, 1967, 16,104/67  
Int. Cl. F16d 3/58

U.S. Cl. 64-11

8 Claims



The invention provides novel torque transmitting shaft assemblies and methods of making such assemblies. A straight metallic tube has a concentric connecting member secured to one or both ends by a torsional joint formed by injecting or pouring a cast-bondable material, e.g., polyurethane in an uncured and fluid condition into an annular space, which material is thereafter allowed to set into a resilient mass and during the setting bonds with the cylindrical surfaces of the tube and connecting member.

3,521,465

# **FLEXIBLE COUPLING**

Robert B. Bosler, Jr., Bloomfield, Conn., assignor to Kaman Corporation, Bloomfield, Conn., a corporation of Connecticut  
Filed Nov. 27, 1968, Ser. No. 779,448  
Int. Cl. F16d 3/56, 3/62

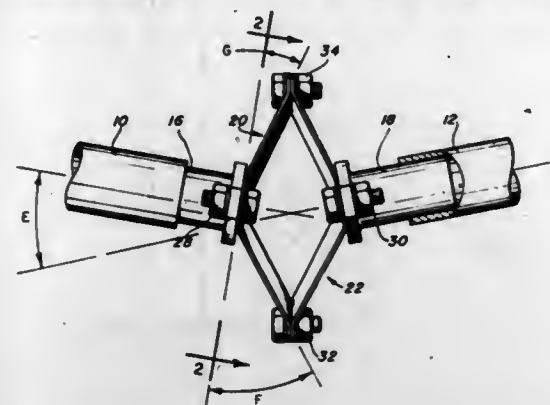
U.S. Cl. 64-12

6 Claims

A pair of misaligned shafts are provided with flanged fittings to which a pair of matched flexing elements are attached at corresponding corners. Each element is gen-



erally square when bent to shape, and is connected to the other corresponding corners of the other element. The



flexing elements may be assembled in a prestressed condition.

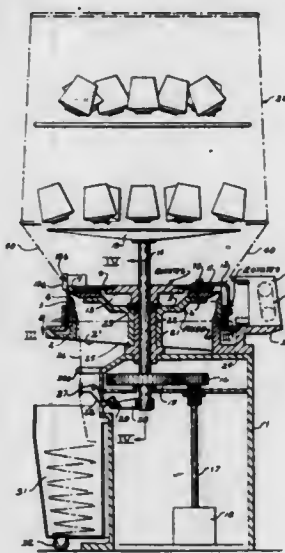
**3,521,466**  
**CIRCULAR KNITTING MACHINE**  
Karl H. Tannert, Johannes-Still-Platz 5,  
Eggenfelden, Germany

Continuation-in-part of application Ser. No. 368,907,  
May 20, 1964. This application July 7, 1967, Ser.  
No. 651,729  
Claims priority, application Germany, May 24, 1963,  
T 24,051

Int. Cl. D04b 9/06

U.S. Cl. 66—19

17 Claims



A circular knitting machine having a machine housing supporting thereon a stationary needle cylinder and dial disk, the needle cylinder and dial disk having needles over only a portion of their respective circumferences. Driveable cam rings rotating in the same direction around the needle cylinder and the dial disk actuate the needles mounted thereon. One of the driveable cam rings carries knitting units thereon, which units consist of a yarn guide and a clamping means. The yarn fed through the yarn guide is cut by stationary cutting means as it enters the needle-free sector, the cut end of the yarn being held by the clamp means as it travels throughout the needle-free sector. Upon leaving the needle-free sector, the clamp means is released whereby the yarn is again fed through the needles for knitting thereof.

**3,521,467**  
**CIRCULAR KNITTING MACHINE**

Milan Mejzlík, Bohumil Kejnovský, and Karel Klumpar,  
Třebíč, Czechoslovakia, assignors to Elitex, Zavody  
textilního strojírenství, Liberec, Czechoslovakia

Filed Nov. 18, 1968, Ser. No. 776,603  
Claims priority, application Czechoslovakia,  
Nov. 16, 1967, 8,123/67

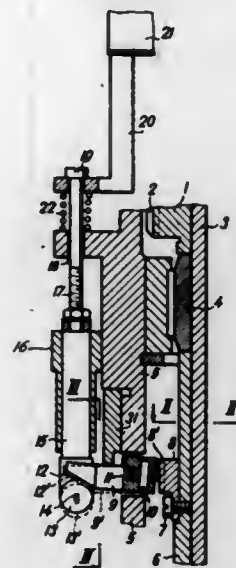
Int. Cl. D04b 15/32

U.S. Cl. 66—54

5 Claims

A knitting cam of a circular hosiery knitting machine

is shifted axially relative to the needle cylinder by a motion transmitting train connecting the cam to a slide when the slide is pushed in a radially outward direction by a radial cam on the cylinder and is simultaneously



shifted axially away from the knitting cam by a shifting cam mounted on a control ring. The ring is oscillated about the cylinder axis in synchronization with the cylinder rotation. The arrangement may be used for making loose stitches in the heel of a seamless stocking.

**3,521,468**  
**FASHIONING SPINDLE OPERATING CONTROL MEANS FOR KNITTING MACHINES**

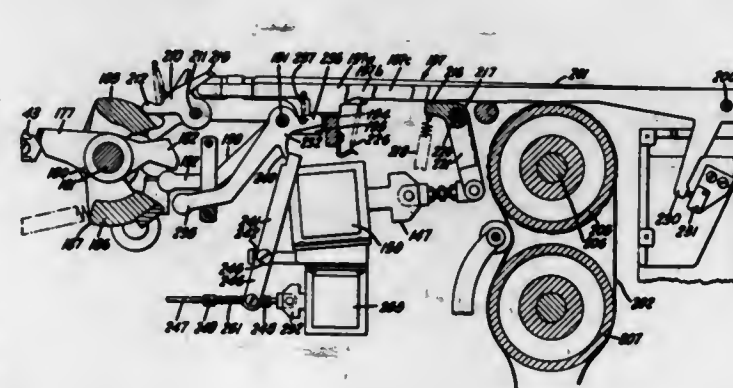
Le Roy D. Hill, West Reading, and Melvin E. Riehl, Strausstown, Pa., assignors to North American Rockwell Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed Sept. 23, 1968, Ser. No. 761,574

Int. Cl. D04b 11/06

U.S. Cl. 66—89

13 Claims



The invention disclosed herein relates to straight bar or full-fashioned knitting machines for knitting flat fabric blanks and more particularly to means for controlling the operation of fashioning spindles of the machine to fashion the selvages of the fabric blanks.

**3,521,469**  
**APPARATUS FOR MARKING KNITTED FABRIC**

Frank P. Trumple, Gastonia, N.C., assignor to Cocker Machine & Foundry Company, Lowell, N.C., a corporation of North Carolina

Filed Oct. 1, 1968, Ser. No. 764,097

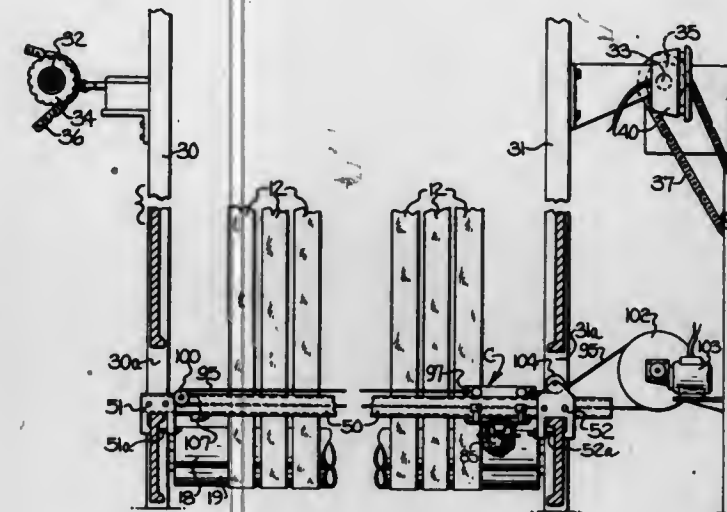
Int. Cl. D04b 35/00

U.S. Cl. 66—147

8 Claims

The fabric produced on a flat bed knitting machine is transversely marked at spaced intervals and these marks

serve as a guide for later separation of the fabric into predetermined lengths, which lengths of fabric may be used for forming garments therefrom. A track extends



between the end frames of the machine and a carriage is supported on and moves along the track to mark the fabric after a predetermined number of courses have been knit.

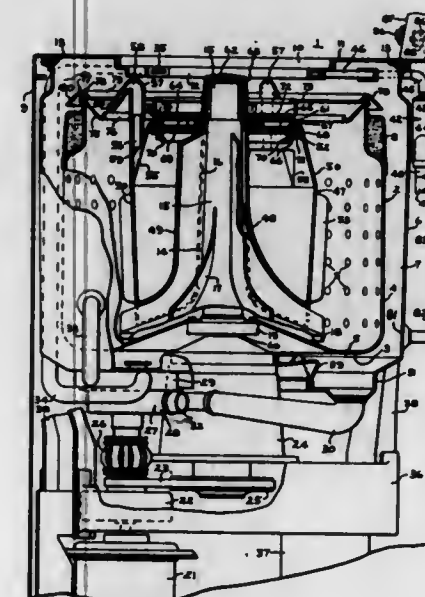
**3,521,470**  
**TEMPERATURE CONTROL FOR WASHING MACHINE**

John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York  
Filed June 26, 1968, Ser. No. 740,325

Int. Cl. D06f 27/00, 33/02

U.S. Cl. 68—4

6 Claims



A washing machine of the type adapted to wash two loads of fabrics simultaneously in separate solutions includes an outer tub to receive liquid and fabrics, an inner tub disposed within the outer tub to receive liquid and fabrics and a liquid inlet mechanism to deliver liquid into the inner tub until it is filled to a predetermined level and thereafter to direct the liquid into the outer tub. The machine also includes a temperature control for controlling the temperature of the liquid entering the machine, with the control having a first setting and a second setting. A liquid responsive switch is positioned to sense the entry of liquid into the outer tub and is connected to the temperature control for switching the control from the first to the second setting.

**3,521,471**  
**COMBINATION LOCKS**

Donato Aretola, 18 Winchester Buildings, Copperfield St., London, SE. 1, England

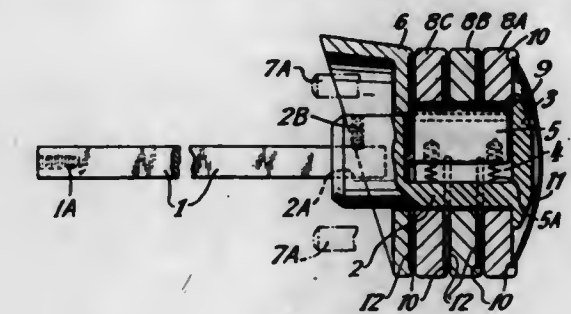
Filed Apr. 1, 1968, Ser. No. 717,835

Claims priority, application Great Britain, Apr. 5, 1967, 15,700/67

Int. Cl. E05b 37/02

U.S. Cl. 70—312

5 Claims



The disclosure is of a combination lock for doors, switches, controls, etc. in which a plurality of combination wheels mounted on a spindle control the position of a radial key or feather, so that it assumes either an in or an out position according to whether the combination is set or scrambled, so that the spindle is either locked or free. The feather in the "set" situation, enters radial slots in the wheels and only does so when all slots coincide.

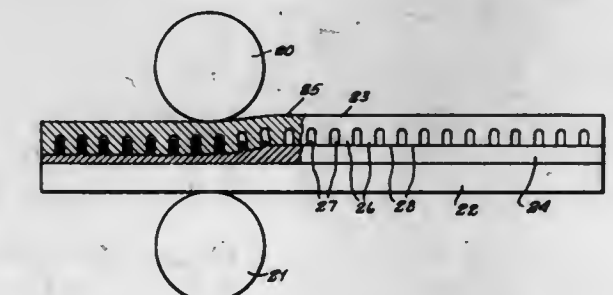
**3,521,472**  
**PROCESS AND APPARATUS FOR THE PRODUCTION OF PARTS FROM DUCTILE MATERIALS WITH INTEGRAL STIFFENERS ON ONE OR BOTH SIDES**

August R. Bringewald, Huntington, N.Y., assignor to Bringewald Process Corporation, Suffolk County, N.Y.  
Continuation-in-part of applications Ser. No. 383,011, July 16, 1964, and Ser. No. 438,204, Mar. 9, 1965.  
This application Feb. 3, 1967, Ser. No. 613,896

Int. Cl. B21c 23/21

U.S. Cl. 72—184

14 Claims



Method and apparatus for making parts of regular or irregular shape from blanks of ductile material. Blank is placed within a frame defining the peripheral dimensions of the finished part. Frame and blank are placed between opposed dies, at least one of which is movable into and conforms peripherally with the frame. When dies are spaced apart by predetermined distance, they cooperate with frame to define shape of finished part. Said one die is also articulated, so that parts of it are movable relative to other parts. Parts of articulated die are successively forced toward opposing die, so that parts of blank are successively forced to flow into recesses of dies and frame. After all parts of articulated die have been moved toward the opposing die through desired distance, blank material has been forced to flow so as to take up form of finished part.

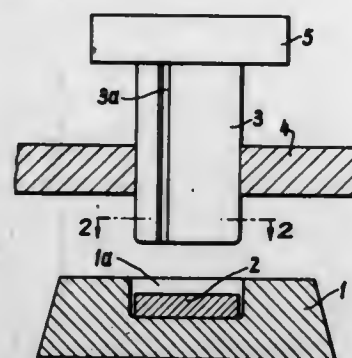
Articulation of die is preferably transverse to its path of movement through forcing apparatus, which may be conventional rolling mill.



**3,521,473**  
**METHOD OF AND APPARATUS FOR MAKING METALLIC CLOSURES**  
 Hermann Ritzenhoff, Marburg (Lahn), Germany, assignor to Gebrüder Seidel K.G., Marburg (Lahn), Germany, a corporation of Germany  
 Filed Mar. 27, 1967, Ser. No. 626,077  
 Claims priority, application Germany, Apr. 2, 1966, S 103,003  
 Int. Cl. B21c 23/18

U.S. Cl. 72-267

2 Claims

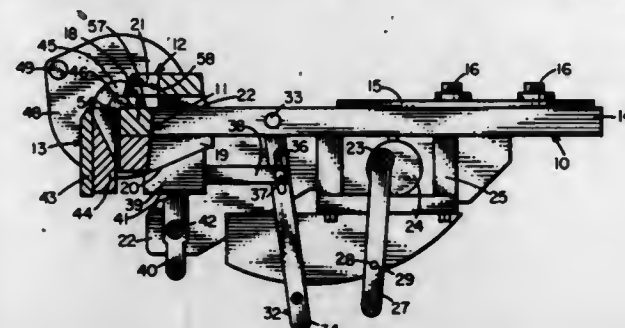


An internally threaded, externally smooth cap-like extruded closure, the internal side wall of which is provided with axially extending, inwardly protruding, circumferentially spaced ribs carrying thread means applied thereto subsequent to the extrusion of the closure effectuated by means of a mandrel having on its lateral surface axial grooves for making said ribs.

**3,521,474**  
**STRAP METAL BENDER**  
 Harold L. Komberec, N. 1511 Wall St. 99201; and Dillon K. Kilcup, W. 1012 Cleveland Ave. 99205, both of Spokane, Wash.; and Alfred T. Smith, Otis Orchards, Wash. 99027  
 Filed Oct. 16, 1967, Ser. No. 675,612  
 Int. Cl. B21d 31/00

U.S. Cl. 72-319

9 Claims



A strap metal bender having holding jaws adjustably positionable relative each other, in both a forward-rearward plane and a vertical plane, to accept metal of differing thickness and a brake-jaw adjustably pivotable to pre-determined angular position to reproduce particular bends. The brake-jaw is provided with a replaceable work contacting anvil of relatively small work contacting area to lessen friction with the work surface. The upper holding jaw is removable to allow replacement especially with variously shaped forming arbors.

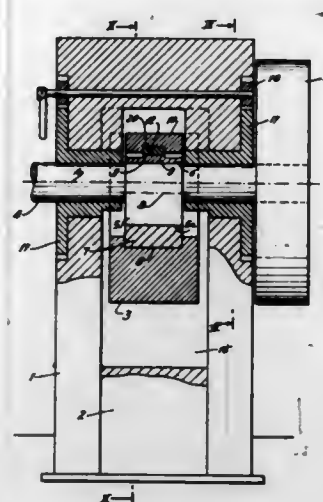
**3,521,475**  
**FORGING PRESS**  
 Werner Bothe, Buderich, Germany, assignor to Maschinenfabrik Hasenclever AG, Dusseldorf, Germany, a corporation of Germany  
 Filed Mar. 15, 1968, Ser. No. 713,377  
 Claims priority, application Germany, Mar. 25, 1967, M 73,329  
 Int. Cl. B21j 9/18

U.S. Cl. 72-429

7 Claims

A forging press having a press frame and a flywheel eccentric shaft rotatable in the frame about a horizontal

axis and having an eccentric portion surrounded by an eccentric ring swivelably connected to the forging head by a pressure-transmitting member which is seated in an upwardly concave socket of the forging head and has a

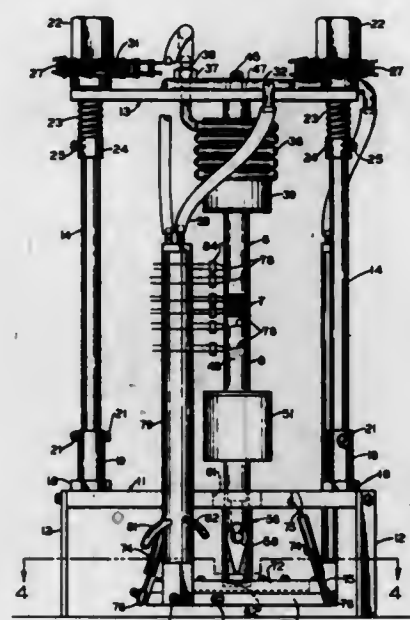


center of curvature located within the inner periphery of the ring; the ring has an upper surface slidably bearing upon a portion of the forging slide, this portion having a center of curvature coinciding with the center of curvature of the swivel member.

**3,521,476**  
**METHOD AND APPARATUS FOR MEASURING THERMAL CONDUCTIVITY**  
 Ralph K. Day, 307 W. Harrison St., Maumee, Ohio 43537  
 Filed Dec. 27, 1966, Ser. No. 604,839  
 Int. Cl. G01n 33/20

U.S. Cl. 73-15

10 Claims

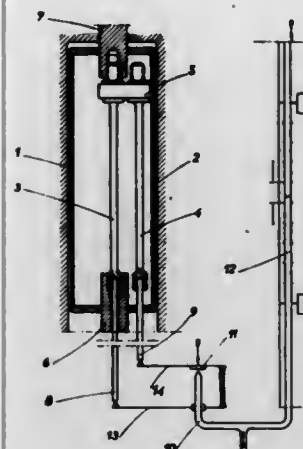


A method for measuring thermal conductivity utilizing cold flow at the joints between a sample and a heat source and a heat sink. Pressure sufficient to induce cold flow is imposed across the joints after the thermal system has been brought approximately to the temperature of measurement to cause conformation of the surfaces in their form at that temperature. Also apparatus providing the means to impose high pressures under measurement conditions without distortion of the joints. A support system effectively concentrates force at the sample face without applying supports to the thermal system near the sample. Uniform thermal conductivity over the entire area of the joints is enhanced by superimposing on the sample faces shims of material which readily flow under pressure.

**3,521,477**  
**HIGH-SENSITIVITY CREEP DETECTOR**  
 Jean Dollet, Le Creusot, France, assignor to Société des Forges et Ateliers du Creusot, Paris, France, a company of France  
 Filed June 6, 1967, Ser. No. 643,954  
 Claims priority, application France, June 10, 1966, 65,085  
 Int. Cl. G01n 3/18

U.S. Cl. 73-15.6

2 Claims

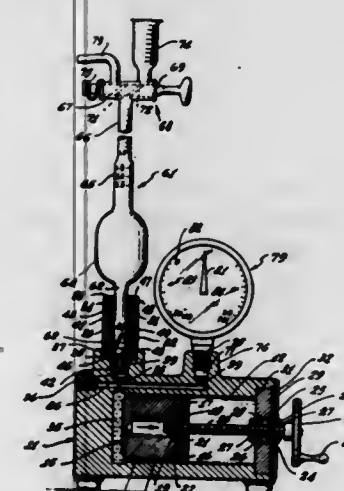


A high-sensitivity creep detector for measuring specimens to discover small creep deformations of materials, more particularly metals, comprising a heating oven comprising an isothermal chamber in which a test specimen experiences a static elongating load and an unloaded control specimen of the same dimensions as the test specimen are disposed, differential variations in the length of the two specimens being transmitted, via sensing elements connected to the two specimens, to a micrometer system.

**3,521,478**  
**APPARATUS FOR MEASURING GASES DISSOLVED IN LIQUIDS**  
 Vincent G. Magorien, Reseda, Calif., assignor to Seaton-Wilson Manufacturing Co., Incorporated, Burbank, Calif., a corporation of California  
 Filed Oct. 16, 1967, Ser. No. 675,657  
 Int. Cl. G01n 7/14

U.S. Cl. 73-19

5 Claims



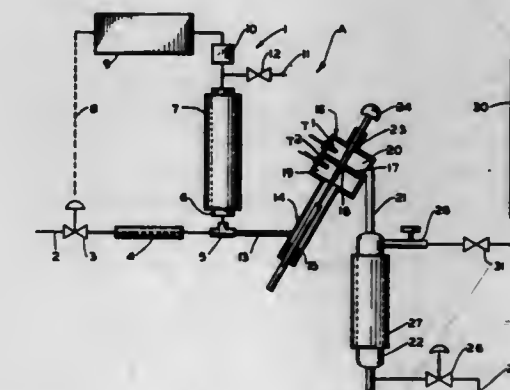
Apparatus for measuring the amount of gases dissolved in liquids by subjecting the liquid to a vacuum so that the gases dissolved therein come out of solution, returning the gas to substantially atmospheric pressure and measuring its volume. A cylinder with an operating plunger therein has its working chamber connected to a vertical manometer tube and filled with mercury as a liquid

piston. The top of the manometer tube is connected through a stopcock to a reservoir for the liquid whose dissolved gas content is to be measured. The height of the mercury piston in the manometer tube is controlled by the position of the plunger in the cylinder which is adjustable by a hand crank. A pressure gauge is connected to the passage between the cylinder and the manometer tube. A quick disconnect is provided for ready assembly and disassembly of the manometer tube with the cylinder.

**3,521,479**  
**THROTTLING CONVERSION METER**  
 Don E. Carter, Creve Coeur, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
 Filed Apr. 6, 1967, Ser. No. 628,998  
 Int. Cl. G01n 25/00

U.S. Cl. 73-28

13 Claims

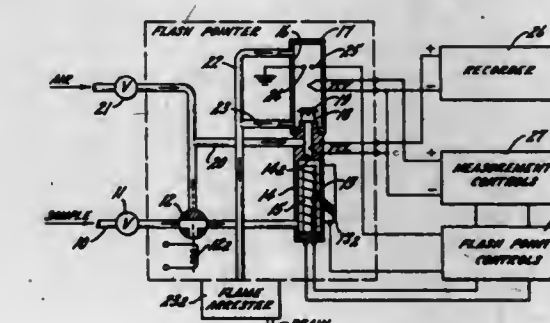


A device and method for measuring the degree of ethylene to polyethylene conversion by passing the mixture through an orifice under isenthalpic conditions and determining conversion from thermodynamic data as a function of upstream and downstream temperatures and pressures.

**3,521,480**  
**FLASH POINT TESTING DEVICE INCLUDING COOLING MEANS FOR THE FLASH CHAMBER**  
 Walter V. Cropper, Valparaiso, Ind., and Paul R. Carlstedt, Lombard, Ill., assignors to Precision Scientific Company, Chicago, Ill., a corporation of Delaware  
 Filed June 14, 1967, Ser. No. 645,922  
 Int. Cl. G01n 25/12

U.S. Cl. 73-36

6 Claims



An automatic flash point testing device having a heating chamber for receiving a continuous liquid sample stream and including an electrically powered cartridge heater for heating the sample. A stainless spiral is mounted on the outside of the cartridge heater to produce turbulence in the liquid sample. The liquid sample passes upwardly around the cartridge heater and into a passageway where it is mixed with incoming air. The resulting mixture is passed upwardly into a flash chamber where an air-vapor mixture passes upwardly be-



tween a pair of sparking electrodes. When the mixture becomes rich enough to be ignited by the sparks, a flash occurs within the flash chamber, and is detected by a differential thermocouple arrangement, which produces an output signal applied to a magnetic amplifier. The magnetic amplifier in turn produces a control signal which stops a series of heating mode functions in an automatic control system, and initiates a plurality of cooling mode functions. The cooling mode functions are continued for a timed cooling period, after which another heating period is automatically started. The heating mode functions include a continuous increase in power to the cartridge heater by means of a motor-driven variable transformer, a continuous spark generator controlled by a pulse generator, the energization of a heating signal lamp, and the energization of the heating coil for the cartridge heater. The cooling mode functions include the timing of a pre-selected cooling period, the diversion of the continuous liquid sample stream from the liquid feed line to the air feed line for rapid cooling of the flash chamber and the thermocouple therein, the production of a negative D-C signal which drives the temperature recorder downscale to prevent overshoot and clearly indicate the flash point on the temperature record, the actuation of a second motor in the variable transformer to reverse the movement of the sliding contact therein, and energization of a cooling signal lamp.

3,521,481

## VALVE LEAK DETECTOR

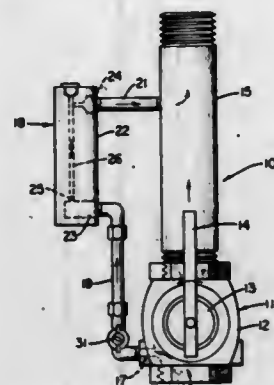
Felix A. Tyrone, Denver, Colo., assignor to Killam Gas Burner Company, Denver, Colo., a corporation of Colorado

Filed June 14, 1968, Ser. No. 737,221

Int. Cl. G01m 3/04

U.S. Cl. 73-40.5

8 Claims



A valve leak detector is positioned downstream of one or more valves in a flow line to indicate a leak in any one by closing each valve one at a time. One form of detector for gas includes a cut-off valve arranged for coupling in flow communication with a gas supply line for diverting gas flow from the supply line through a bypass line in parallel with the cut-off valve having a gas flow gauge to provide a visible indication of the presence of small amounts of gas in the line leaking through an upstream closed control valve. The cut-off valve may be disposed in the main supply line or in an auxiliary line.

3,521,482

## APPARATUS FOR MEASURING VISCOSITY

Gene M. Griffith and Roger S. Leiser, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

Filed Oct. 8, 1968, Ser. No. 765,814

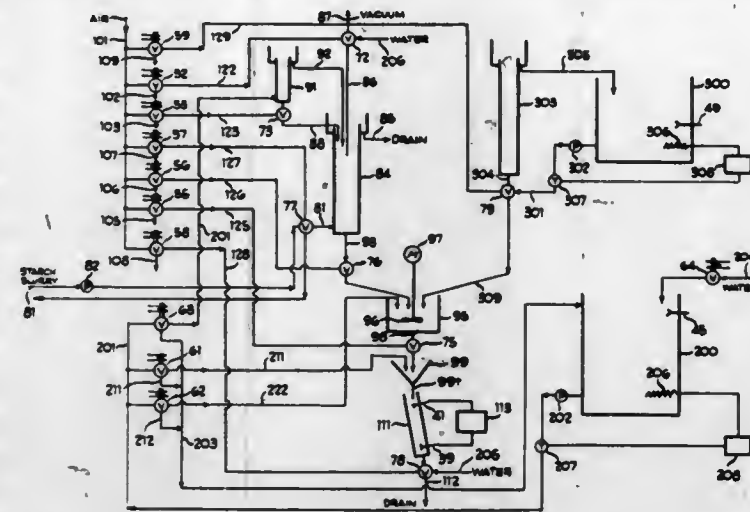
Int. Cl. G01n 11/06

U.S. Cl. 73-56

11 Claims

An apparatus for determining the viscosity of each of a plurality of successive reaction products, each of which is formed by extracting a predetermined quantity of material being processed, diluting it to a standard condition,

allowing it to react for a predetermined period under controlled conditions, adding a treating reagent thereto, and measuring the time taken for the reaction product to pass through an orifice and fill a container of a given configuration to a predetermined level. A preferred embodiment includes a water supply tank with temperature and level controls, a caustic or other treating solution tank with level and temperature controls, standard size



tank for extracting quantities of water, the being-processed material and the treating material from their sources in measured quantities, and further includes an arrangement whereby the containers and the measurement devices may be rinsed after each determination is made. Signals from a timer as well as signals generated in response to completion of one or more steps in the process are used to control the operational sequence of the apparatus.

3,521,483

## POLE TESTING APPARATUS

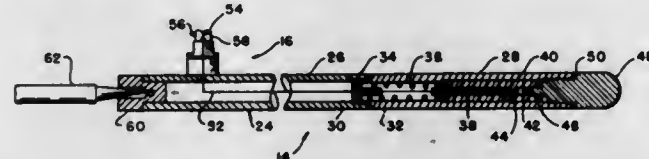
Benjamin D. Miller, Dearborn, Richard A. Popeck, Detroit, and Frank L. Taylor, Franklin, Mich., assignors to The Detroit Edison Company, Detroit, Mich., a corporation of New York

Continuation of application Ser. No. 384,672, July 23, 1964. This application Feb. 28, 1968, Ser. No. 709,143

Int. Cl. G01n 29/04

U.S. Cl. 73-67.5

9 Claims



The method of pole testing includes simultaneously initiating an electric signal and a radially progressing shock wave at one side of a pole to be tested for defects, initiating a second electric signal in response to arrival of the radially progressing shock wave at the opposite side of the pole and comparing the time of initiation of the two signals as an indication of the soundness of the pole.

3,521,484

## LOAD MEASURING SYSTEM

Richard L. Dybvad, Seattle, and Philip J. Johansen, Alderwood Manor, Wash., assignors to Electro Development Corporation, Lynnwood, Wash., a corporation of Washington

Continuation-in-part of application Ser. No. 620,691, Mar. 6, 1967. This application Dec. 15, 1967, Ser. No. 702,149

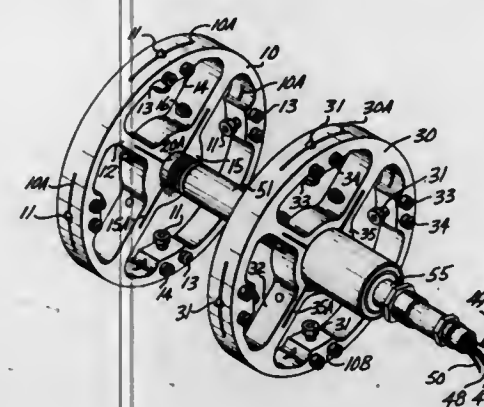
Int. Cl. G01l 1/22

U.S. Cl. 73-88.5

7 Claims

A device for measuring the load on a hollow beam such as an axle of a vehicle. A pair of spring discs of generally cylindrical configuration are provided with lock-

ing screws for securing the discs a predetermined axial distance apart on the interior of a hollow structural member and for preventing movement of the discs relative to the structural member. The spring disc may include a portion thereof extending inwardly to connect the outer portion of each to an associated interior support collar. The location of the interior support collars and the locking screws in the outer perimeter of each disc is such that



shear forces are properly transmitted to the sensing beam held by the interior collars, while the discs are able to deform as the axle becomes oblate during bending and thereby react no significant hoop forces back to the structural member. The sensing beam carried by the interior collars is provided with bonded strain gauges connected in a bridge circuit. A protective metal bellows is provided around the strain gauges.

3,521,485

## AIR PRESSURE GAUGE WITH PRESSURE RELEASE MEANS

Francis A. Porter, Sacramento, Calif.

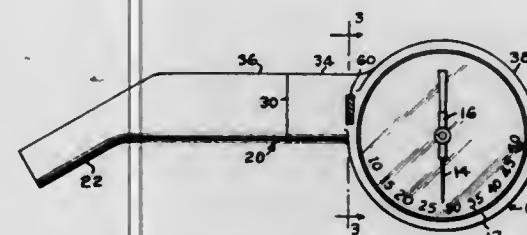
(Box 20, Big Arm, Mont. 59910)

Filed July 23, 1968, Ser. No. 746,982

Int. Cl. B60c 23/02

U.S. Cl. 73-146.3

4 Claims



A pressure gauge having a neck portion with a nozzle on one end and a slidable release valve on the other end and having an indicator portion which is manually set to exert pressure upon the release valve mechanism.

3,521,486

## DIFFERENTIAL PRESSURE-RESPONSIVE DEVICE FOR MEASURING FLUID FLOW RATE INCLUDING A SHAPED SPRING FOR SQUARE ROOT EXTRACTION

William C. Conkling, Essex Fells, N.J., assignor to Pennwalt Corporation, a corporation of Pennsylvania

Filed July 5, 1968, Ser. No. 742,838

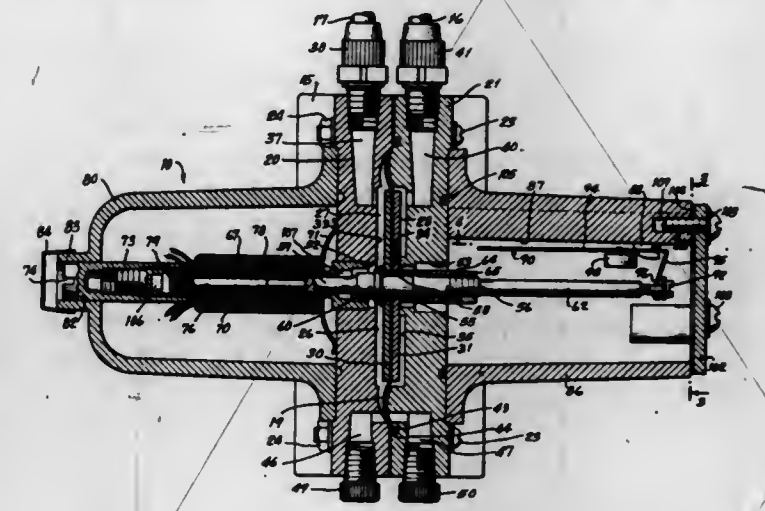
Int. Cl. G01f 1/08; F16f 1/22

U.S. Cl. 73-205

6 Claims

A device for producing an output signal representative of fluid flow rate in response to the sensed magnitude of differential pressure across a restriction established in the path of fluid flow, including, within a housing, a peripherally supported slack diaphragm having opposite sides

acted on by pressures respectively upstream and downstream of the restriction, and a leaf spring connected to one side of the diaphragm and supported by the housing for pivotal movement in correspondence with movement of the diaphragm effected by change in differential pressure. The leaf spring has a free end so positioned that as the diaphragm moves from zero position in response to progressively increasing pressure differential, the resulting pivotal motion of the spring causes this free end to be progressively deformed against a flat surface of the housing structure, and thereby to exert an exponentially increasing biasing force on the diaphragm tending to oppose



the diaphragm displacement. The mounting of the spring, and the configuration of the spring free end, are adapted to produce a biasing force which varies with extent of diaphragm displacement from zero position in such manner that the diaphragm displacement is linearly proportional to the square root of the differential pressure, and hence linearly proportional to the flow rate. Means are provided for producing an electrical output signal proportional to diaphragm displacement; this signal may be applied to actuate apparatus such as a flow rate indicator or recorder, or control instrumentalities, e.g., for adjusting the flow rate.

3,521,487

## DIFFERENTIAL PRESSURE FLOWMETER RUN

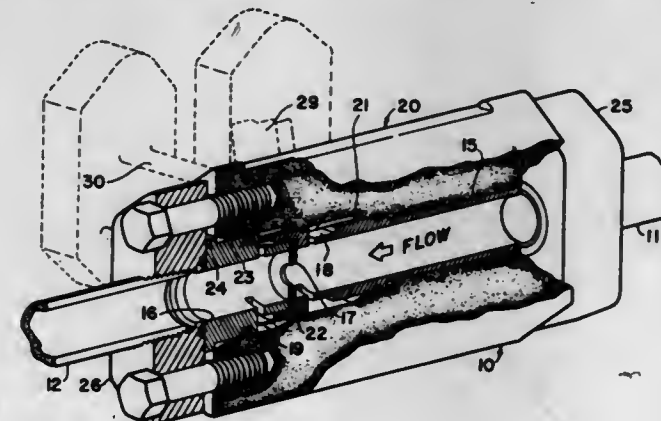
Lloyd T. Akeley, Charlestown, N.H., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts

Filed Mar. 21, 1968, Ser. No. 714,843

Int. Cl. G01f 1/00

U.S. Cl. 73-211

1 Claim



A meter run in the form of a flowmeter assembly using an element such as an orifice plate with special upstream and downstream structures and pressure tap formations to improve performance predictability, especially for small flowmeters and small flows.



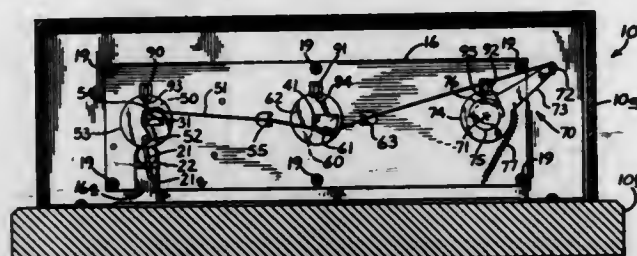
### 3,521,488 TEMPERATURE-HUMIDITY INDEX INSTRUMENT

Ralph H. Preiser, Robert D. Cofold, and Clarence J. Goodwin, La Salle, Ill., assignors to General Time Corporation, Stamford, Conn., a corporation of Delaware

Filed Dec. 1, 1967, Ser. No. 687,317  
Int. Cl. G01w 1/06

U.S. Cl. 73—336

7 Claims



An instrument for determining the temperature-humidity index of the ambient atmosphere. A humidity responsive sensing element is connected to a first cam for producing a first continuous output varying as a predetermined function of the relative humidity (RH) of the ambient atmosphere. A temperature responsive sensing element is connected to a second cam for producing a second continuous output varying as a predetermined function of the dry bulb temperature  $T_d$  of the ambient atmosphere. The two cams act on a common filament, which is connected to a calculator element so that displacement of the filament by the two cams displaces the calculator element according to another predetermined function. A second temperature responsive sensing element is also connected to the calculator element, so that the resultant output displacement produced by the second temperature responsive sensing element and the calculator element follows the formula  $THI = T_d - 0.55(1 - RH)(T_d - 58)$ .

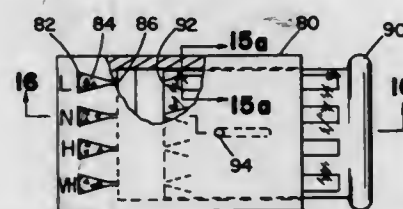
### 3,521,489 DISPOSABLE THERMOMETER

Paul Finkelstein, Karl Laden, and James L. Solan, Silver Spring, Md., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware

Filed Jan. 22, 1968, Ser. No. 699,387  
Int. Cl. G01k 11/06

U.S. Cl. 73—358

4 Claims



An irreversible and disposable thermometer containing a supply of solid material melting at a selected temperature, and a receiver such as a capillary tube or an absorbent material which causes the material to flow irreversibly when in contact with it in molten form, the material being maintained out of contact with the receiver until the thermometer has been activated, the flow of the material providing visible evidence that melting has occurred.

**3,521,490  
TEMPERATURE MEASURING INSTRUMENT**  
Francis L. Henning, Roxbury, and Louis P. Marzella, East Boston, Mass., assignors to Cardinal Instrument Corporation, Cambridge, Mass., a corporation of Massachusetts

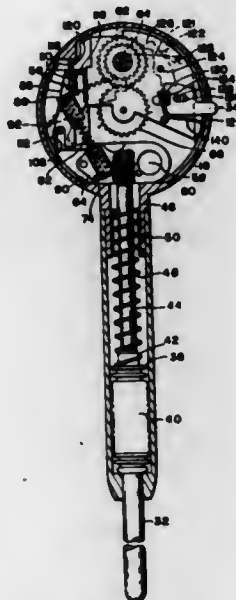
Filed Apr. 22, 1968, Ser. No. 722,973  
Int. Cl. G01k 5/42

U.S. Cl. 73—368.7

12 Claims

A temperature measuring instrument employing an expandable bellows charged with a temperature responsive fluid medium. The bellows is connected to a probe which

is applied to the patient. The patient's body temperature heats the fluid medium, increasing its pressure and causing the bellows to expand. A pre-loading spring maintains the bellows in a contracted condition for normal temperatures. The bellows is drivingly connected through a variable spring rate compensating system to a dial indicator and provides a visible temperature reading on a dial face. The drive system includes cooperating lever and spring members which provide a variable compensating force to the bellows so that the movement of the bellows



will be substantially constant over its range of operation despite a changing spring rate.

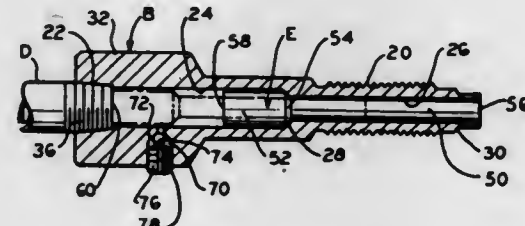
### 3,521,491 PLASTIC FLOW ISOLATOR

Anthony P. Limbach, Downingtown, Pa., assignor to Process Design, Inc., Downingtown, Pa., a corporation of Delaware

Filed Sept. 20, 1968, Ser. No. 761,159  
Int. Cl. G01l 7/16

U.S. Cl. 73—395

6 Claims



An isolator for separating a plastic from the inlet of a pressure gauge includes a tube having a piston therein. The tube is filled with grease on one side of the piston and a melted plastic under pressure contacts the other side of the piston. The piston separates the plastic from the grease. The tube includes a grease inlet and an outlet valve. The tube also has a shoulder which acts as a valve seat in cooperation with a reduced neck portion of the piston.

**3,521,492  
FAST RESPONSE PRESSURE GAGE**  
Frank P. Baltakis, Bethesda, Md., assignor to The United States of America as represented by the Secretary of the Navy

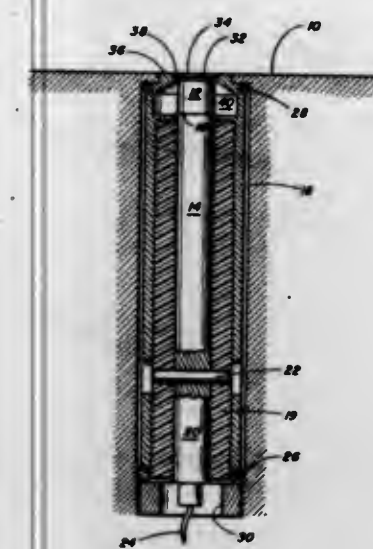
Filed Sept. 18, 1968, Ser. No. 760,401  
Int. Cl. G01l 9/06

U.S. Cl. 73—398

5 Claims

A fast response pressure gage having a pressure sensing element within a housing with a small gap between the sensing element and the housing for admitting restricted

transient flow of a fluid pressure pulse into the housing, and a cavity within the housing between the sensing ele-



ment and the internal portion of the housing to substantially reduce the pressure of the fluid pressure pulse.

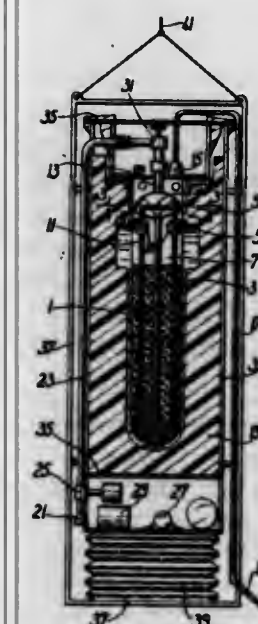
### 3,521,493 DEVICES FOR SAMPLING AIR AT HIGH ALTITUDE

Louis Guizouarn, Grenoble, Isere, Paul Perroud, Meylan, Isere, and Raymond Pannetier, Massy, Essonne, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed Sept. 21, 1966, Ser. No. 588,654  
Claims priority, application France, Sept. 21, 1965,  
32,129, 32,130  
Int. Cl. G01n 1/24

U.S. Cl. 73—421.5

10 Claims

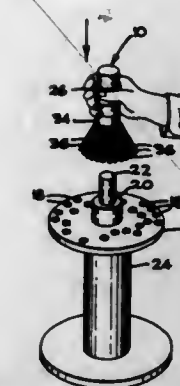


Air is sampled at high altitudes by carrying a device including a molecular sieve to the desired altitude and drawing air into the device and through the molecular sieve. Liquid nitrogen, stored in the device, is evaporated to maintain the molecular sieve at a low temperature. The device is mounted in insulating structure and the operation of the device is triggered by suitable means. On return to the ground the molecular sieve is heated for the desorption of the different gases therein which are then recovered.

**3,521,494  
WHEEL CENTERING GUIDE**  
Tracy Carrigan, Lansing, Mich., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware  
Filed Feb. 23, 1968, Ser. No. 707,553  
Int. Cl. G01m 1/04, 19/00

U.S. Cl. 73—487

3 Claims



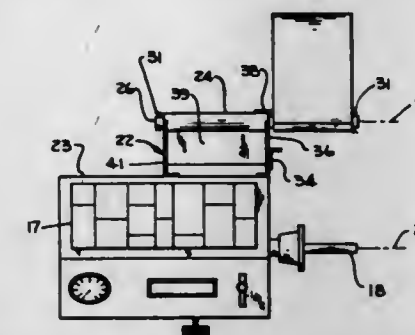
A cylindrical body is arranged to slide over the end portion of an axle which projects through an adapter disc having combinations of apertures matching the mounting apertures of different passenger vehicles. The body is provided with a circular array of resiliently flexible fingers that extend diagonally outward from the longitudinal axis of the body and toward the adapter disc. The fingers engage the edge of the central aperture in the wheel and flex uniformly, radially inward to guide the wheel into concentric relation with the adapter disc.

### 3,521,495 BALANCING MACHINE SAFETY GUARD ASSEMBLY

John Henry Schildmeier, 6038 Crow's Nest Drive, Indianapolis, Ind. 46208  
Filed Feb. 14, 1968, Ser. No. 705,422  
Int. Cl. G01p 1/00

U.S. Cl. 73—487

2 Claims



A wheel dynamic balancing machine with a bracket fixed to a back wall thereof mounting a pivot shaft parallel to the wheel spinning axis. A semi-circular shield pivotally mounted to the shaft and movable from position down over the spinning wheel to a position upward and to the rear thereof for full access of the wheel to the workman.

### 3,521,496 CENTRIFUGAL MECHANISM AND SWITCH ASSEMBLY

Edward J. Schaefer, Bluffton, Ind., assignor to Franklin Electric Co., Inc., Bluffton, Ind., a corporation of Indiana

Filed May 29, 1967, Ser. No. 641,787  
Int. Cl. G01p 3/18

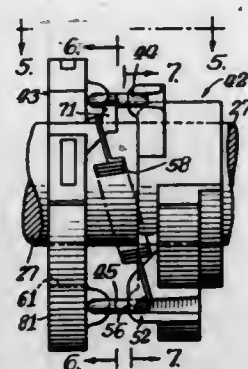
U.S. Cl. 73—538

4 Claims

This disclosure deals with an assembly of a centrifugal mechanism and an electric switch for use with an electric motor, the mechanism being rotated by the motor and the switch being electrically connected to cut out a start winding of the motor at a predetermined motor speed. The centrifugal mechanism includes two inexpensively molded parts, one of the parts being secured to the motor



shaft and the other part being hinged to the first mentioned part. Hinge pins and springs connect the two parts. The parts are assembled off the motor shaft, and once the assembly is fastened to the motor shaft, an interlocking relation between the two parts and the hinge pins



prevents disassembly. The switch includes a molded case and two contact carrying members, one of the two members, in addition to carrying a contact, including a portion which serves as a spring and another portion which engages the centrifugal mechanism.

3,521,497

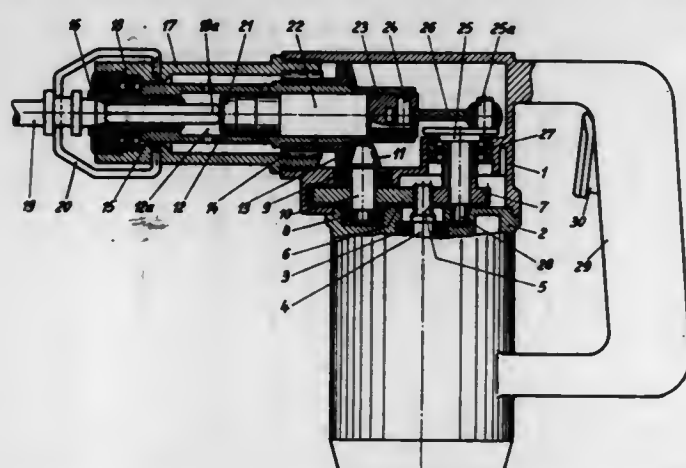
### GEARING ARRANGEMENT FOR ROTARY AND RECIPROCABLE HAMMER DRILL

Peter Schmuck, Mauren, Liechtenstein, assignor to Hilti Aktiengesellschaft, Schaan Fürstentum, Liechtenstein  
Filed July 9, 1968, Ser. No. 743,374  
Claims priority, application Germany, July 24, 1967, H 59,672

Int. Cl. F16h 25/12; B25d 9/00

U.S. Cl. 74-22

1 Claim



A gearing arrangement for a hammer drill of the type including two drives, one rotating the drill and the other reciprocating the drill along the drill axis, includes two gears each meshing directly with the driving pinion of a driving motor, and each included in a respective different one of the two drives. With respect to the driving pinion, the two gears are preferably arranged substantially diametrically opposite each other.

3,521,498

### CONTROL CABLE

Nils Holger Eriksson, Solna, Sweden, assignor to Etablissement de Machines Industrielles, Vaduz, Liechtenstein, a corporation of Liechtenstein  
Filed Sept. 5, 1968, Ser. No. 757,621  
Claims priority, application Sweden, Sept. 11, 1967, 12,529/67

Int. Cl. F16h 21/50; F16c 1/20

U.S. Cl. 74-66

17 Claims

The invention relates to a flexible control cable for the mechanical operation of members that are located at a distance from the place of operation. The control cable consists of a pair of strips which are helically wound together, one of which, the guide strip, is adapted to be

fixed axially at both ends, and the other of which, the control strip, extends at both ends beyond the guide strip



3,521,499

### WINDLASS FOR OPERATION IN ENCLOSED VESSELS

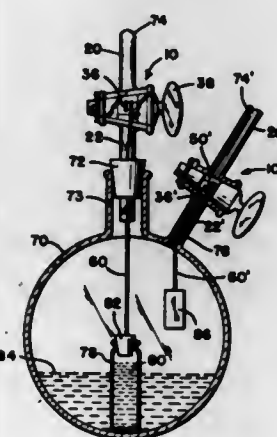
Roger H. Keith, 5348 Red Coach Road, Kettering, Ohio 45429

Filed Aug. 22, 1968, Ser. No. 754,636

Int. Cl. F16h 55/32

U.S. Cl. 74-89.2

5 Claims



A modified stopcock plug installed in conventional stopcock apparatus for transmitting motion to objects inside a sealed vessel. The middle section of a conventional stopcock plug is reduced in diameter to form a spool-like groove such that rotation of the plug will cause a flexible line or wire attached to the middle section and extending therefrom to such an object to be wound about the groove to effect movement thereof relative to the plug without disturbing the seal.

3,521,500

### MECHANICAL DRIVING DEVICE

Robert Goudin, La Varenne, Val-de-Marne, and Jacques Bunel, Vigneux-sur-Seine, Essonne, France, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

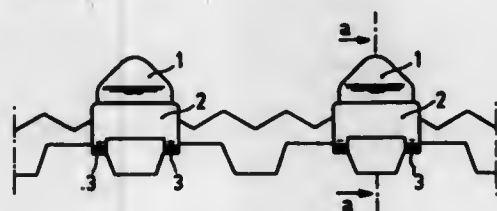
Filed July 1, 1968, Ser. No. 741,667

Claims priority, application France, July 7, 1967, 113,605

Int. Cl. F16g 1/28

U.S. Cl. 74-231

5 Claims



A mechanical driving device adapted for use with a belt drive. A support member is secured in a non-slip

fashion around the teeth on the belt and the support is further provided with projecting knobs for drivingly engaging the perforations of an adjacently placed tape.

3,521,501

### STEERING CONTROL MEANS FOR WATERCRAFT

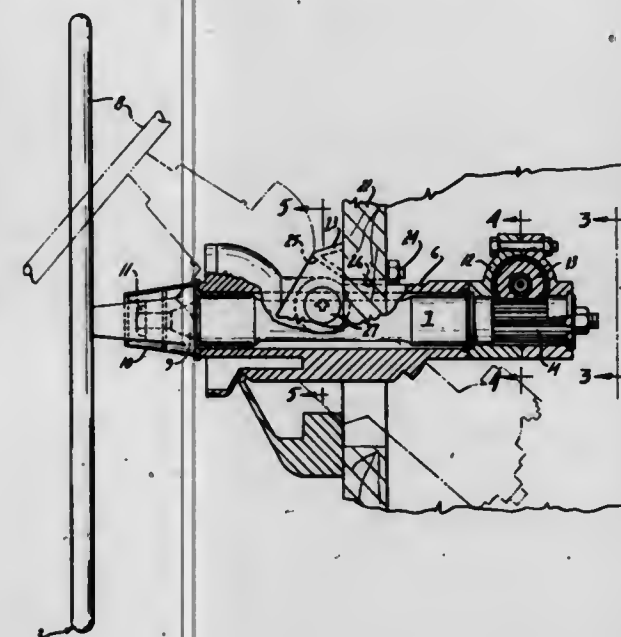
Elmer C. Kiekhafer, Winter Haven, Fla., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware

Filed Sept. 9, 1968, Ser. No. 758,347

Int. Cl. F16c 1/10; G05g 11/00

U.S. Cl. 74-480

3 Claims



The steering means for a watercraft is actuated for steering control of the watercraft by a remote steering control assembly which is vertically tiltable on a horizontal axis for adjustment within a given range. The steering control assembly includes a rack and pinion combination wherein the rack is connected to the outboard steering means by means of a push-pull cable. With vertical adjustment of the steering control assembly, the push-pull cable connection to the rack is not disturbed whereby the cable remains operably unaffected by any such adjustment.

3,521,502

### VERNIER CONTROL DEVICE

Richard D. Houk, Stow, Ohio, assignor, by mesne assignments, to North American Rockwell Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed July 29, 1968, Ser. No. 748,309

Int. Cl. F16c 1/10

U.S. Cl. 74-502

4 Claims



A control device for moving the core of a push-pull control cable axially with respect to the casing thereof in gross amounts and, selectively, in accurately fine, or vernier, increments. The control device has a housing that is secured to the casing of the control cable. A guide sleeve is pivotally mounted in said housing and slidably receives an operating rod, one end of which is connected to the

core of the push-pull control cable. The other end of the operating rod presents a control knob exteriorly of the housing. A spring means biases the pivotally mounted guide sleeve such that threads on the exterior surface of the operating rod are constantly urged toward engagement with mating tooth means presented from the housing. Rotation of said control knob, and thus said operating rod, provides vernier operation; a transverse force applied to said control knob sufficient to overcome said spring means and disengage the thread means from said tooth means followed by axial translation of said operating rod provide gross operation.

3,521,503

### GEAR HOUSING

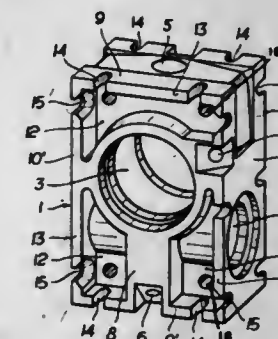
Helmut Jörg, 8/3 Anton Frankgasse, A-1180 Vienna, Austria

Filed July 19, 1968, Ser. No. 746,221

Int. Cl. F16h 57/02, 57/04

U.S. Cl. 74-606

2 Claims



A gear housing of substantially rectangular shape having six boundary surfaces perpendicular to each other. Recesses are provided in two oppositely facing surfaces and are bounded at their edges by flange-like projecting edge parts. The flange-like projecting edge parts have slots therein, open at one end, for the introduction of fixing screws. The housing has at least two through bores or slots open at one end and which are perpendicular to the two oppositely facing boundary surfaces for receiving mounting screws.

3,521,504

### GEAR HOUSING

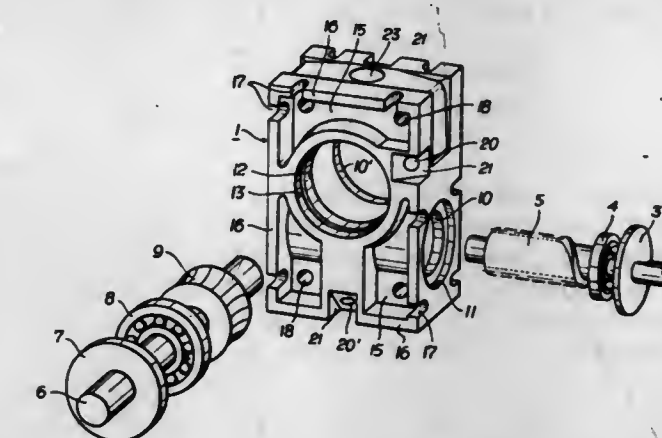
Helmut Jörg, 8/3 Anton Frankgasse, A-1180 Vienna, Austria

Filed July 19, 1968, Ser. No. 746,224

Int. Cl. F16h 57/02, 57/04

U.S. Cl. 74-606

5 Claims



A gear housing having bores therein in which anti-friction bearings are mounted to support two shafts, one of which has a worm gear mounted thereon and the other of which has a worm mounted thereon. The bores are constructed so that the anti-friction bearings are directly seated therein.



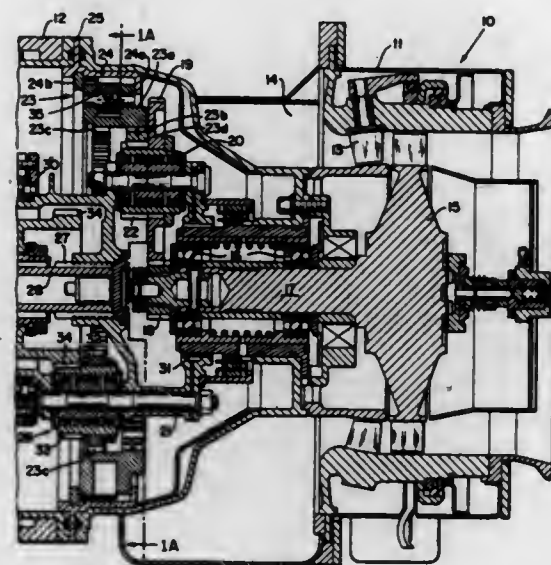
3,521,505

## TRANSMISSION MEANS

Perry D. Sebring, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed July 9, 1968, Ser. No. 743,456  
Int. Cl. F16h 3/44; F02c 7/26; F02d 43/24  
U.S. Cl. 74-785

15 Claims



The subject transmission means is particularly adaptable to starters for gas turbine engines in which a power source, such as a fluid turbine, applies high-speed, low-torque rotary movement which is converted by the transmission to relatively low-speed, high-torque motion and transmitted through an output member to the engine. The transmission has means to permit the engine to drive the output member after engine operation becomes self-sustaining at a speed in excess of the starting speed. Such means includes a pawl and ratchet mechanism to limit rotation of one element of the transmission to a single direction and permits free overrunning movement thereof when the engine drives the output member in excess of a predetermined speed. The mechanism also permits a wind-milling engine to be started in flight without deleteriously affecting the engine, the starter, or components thereof. The transmission is useful also in a constant speed drive and starter mechanism in which a part is held stationary during the engine starting phase and permitted to revolve in the constant speed driving phase.

3,521,506

## METHOD AND APPARATUS FOR FORMING OBLONG HOLES OF PREDETERMINED ORIENTATION IN A BOWLING BALL

Frank Di Nardo, Astoria, N.Y.

(51-27 72nd Place, Woodside, N.Y. 11377)  
Filed May 22, 1968, Ser. No. 731,161  
Int. Cl. B23b 41/00, 49/00, 39/26

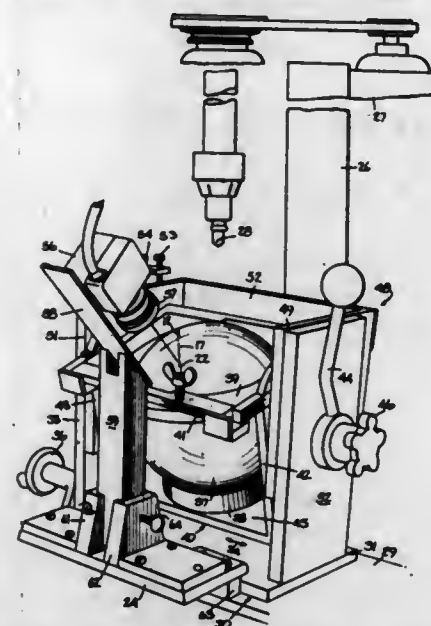
U.S. Cl. 77-5

5 Claims

Producing a specifically located and oriented oblong hole of predetermined size and shape in a bowling ball by superimposing a target with radial lines at predetermined angles, all radiating from a common center on a selected point on a line on the ball, rotating the line on the ball into substantially coincidence with one of the radial lines, making a round hole in the ball, moving the ball a predetermined distance along one of the radial lines, and removing additional material from the side wall of the hole opposite the direction of motion to make the hole oblong.

Apparatus for carrying out the method, including a jig for clamping a bowling ball in a predetermined position, apparatus to superimpose an image having radial lines and a center on a predetermined point on the ball, a drill, means to clamp the ball in a selected orientation

on one of the radial lines, means to place the drill in proper position relative to the ball to drill the ball at the



predetermined point, and means to move the ball laterally to drill a second hole overlapping the first one.

3,521,507

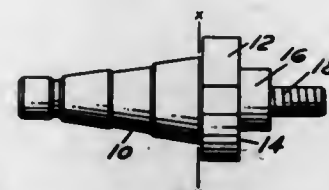
## ADAPTER SHANK AND TWIN-SET SYSTEM

William Yogus, Birmingham, and James J. Robinson, Southfield, Mich., assignors to The Valeron Corporation, a corporation of Michigan

Filed Oct. 11, 1967, Ser. No. 674,460  
Int. Cl. B23b 29/02

U.S. Cl. 77-58

8 Claims



A tooling system for interchangeable use of cutting tools between different makes of machine tools and including a set of shanks, a plurality of cutting tools with spacer bars, means of axially aligned interengagement therebetween, such as tensionable threaded fastener means, and with twin-set cutting tools on the ends of the spacer bars for balanced cutting and counterbalancing use in obtaining faster tool cutting speeds.

3,521,508

## COVERED CORD STRIPPING MACHINE

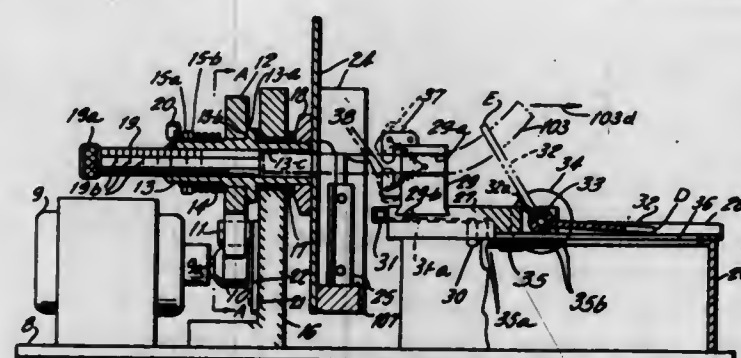
Masato Kamimura and Saburo Fukui, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan

Filed Nov. 28, 1967, Ser. No. 686,147  
Claims priority, application Japan, Nov. 29, 1966, 41/78,542

Int. Cl. H02g 1/12

U.S. Cl. 81-9.51

14 Claims



A substantially fully automatic device for stripping insulating sleeves from covered conductors, coaxial cables,

3,521,511

## CONNECTING NUT FOR CLAMPING TOOLS

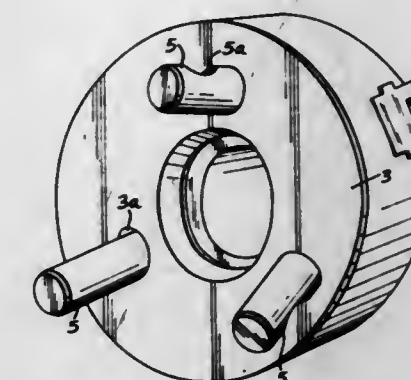
Karl Deuring, Dusseldorf, and Heinz Beckers, Dülken, Germany, assignors to Forkardt Kommanditgesellschaft, Dusseldorf, Germany

Filed Nov. 28, 1967, Ser. No. 686,208  
Claims priority, application Germany, Feb. 18, 1967, F 51,565

Int. Cl. B23b 29/02

U.S. Cl. 82-30

3 Claims



Clamp arrangement for chucks or face plates in which clamp screws extend therethrough and receive nuts for cooperation with cam locking devices of a spindle, and wherein the end of each nut into which the screw extends is inclined so that tightening of the screws before assembly of the chuck or face plate with the spindle will cause tilting of the nuts and thereby prevent assembly of the face plate or chuck with the spindle.

## ERRATUM

For Class 83-76 see:  
Patent No. 3,521,529

3,521,512

## THREE DELIVERY FOLDER

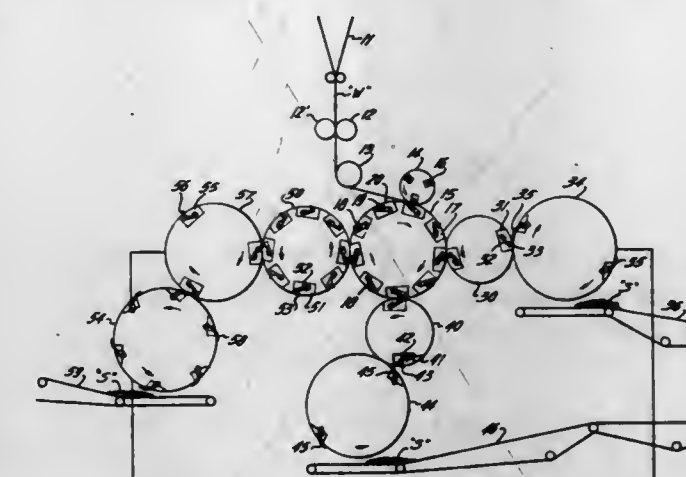
Richard Woessner, Fairlawn, N.J., assignor, by mesne assignments, to James Talcott Inc., New York, N.Y., a corporation of New York

Filed Sept. 26, 1968, Ser. No. 762,897  
Int. Cl. B65h 29/06

U.S. Cl. 83-107

4 Claims

A former folder for rotary printing machines, preferably for the magazine-type machines, with cut-off devices for three signatures placed around the plate cylinders of the printing machine, with three signature deliveries for separately collecting and delivering of each one of the three signatures and with facilities for silencing two of the



three deliveries and of delivering three collected signatures altogether by the third delivery.

3,521,509

## PIPE SPINNER

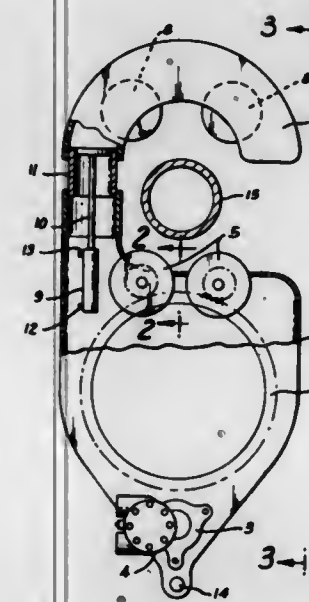
Donald C. Duke and J. L. Hunter Rountree, both of 6620 Long Drive, Houston, Tex. 77017

Filed Aug. 16, 1967, Ser. No. 660,979

Int. Cl. B25b 17/00

U.S. Cl. 81-57.15

1 Claim



Pipe spinners for use in making up a string of pipe for use in well operations, having an air operated motor for rotating a ring gear which in turn spins a pair of driving wheels and a pair of idling wheels in opposing relation to the driving wheels which are adapted to contact the pipe to be spun, and means are provided for moving said idling wheels into and out of engagement with a section of pipe to be spun.

3,521,510

## SPRING OPENED PLIERS

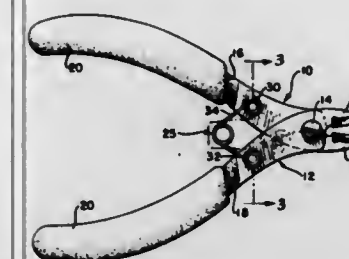
Torsten F. Angquist, West Ellicott, N.Y., assignor to Crescent Niagara Corporation, Buffalo, N.Y.

Filed May 22, 1968, Ser. No. 731,147

Int. Cl. B25b 7/06

U.S. Cl. 81-417

2 Claims



A spring opened plier or nipper or cutter or shears, or gripper or puller or the like, wherein a pair of arms are pivotally connected and spring-biased toward open position; featuring an improved design torsion spring and mounting arrangement therefor whereby the spring is unobtrusively nested between the arm members and operably coupled thereto in novel manner.

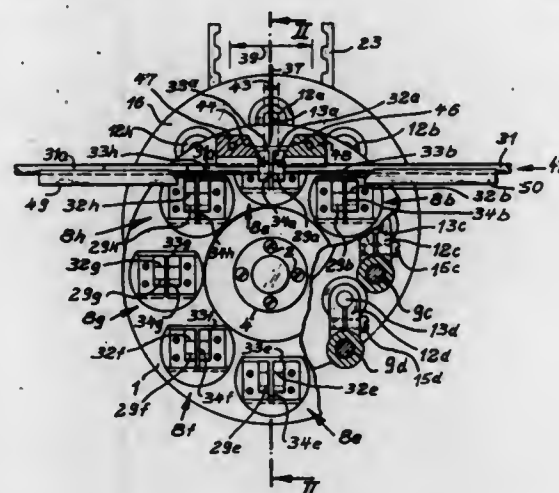


### 3,521,513 TRANSFER APPARATUS FOR ROD-SHAPED ARTICLES

Jürgen Gömann and Wolfgang Grimm, Hamburg, Germany, assignors to Hauni-Werke Korber & Co. K.G., Hamburg-Bergedorf, Germany  
Filed Oct. 30, 1968, Ser. No. 771,915  
Claims priority, application Germany, Nov. 9, 1967, 1,632,213  
Int. Cl. B26d 1/56

U.S. Cl. 83—310

18 Claims



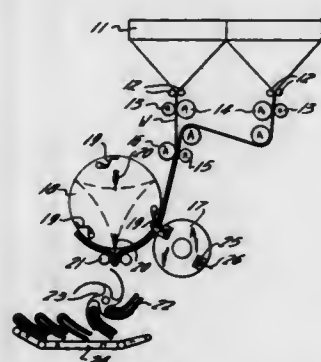
A transfer mechanism for cigarettes or filter rod sections wherein a first rotary support carries several equidistant holders for cigarettes or filter rod sections. Each holder is rotatable with reference to the support by a crank drive which holds it against a change in orientation during orbital movement about the axis of the support. Each crank drive comprises two crank pins which are rigid with a crank arm and one of which is rigid with the corresponding holder. The other crank pin is turnable in a second support rotating about an axis which is parallel to the axis of the first support.

### 3,521,514 CUTTING CYLINDER

Joseph F. Fiezell, Yonkers, N.Y., assignor, by mesne assignments, to James Talcott Inc., New York, N.Y., a corporation of New York  
Filed Jan. 22, 1968, Ser. No. 699,531  
Int. Cl. B26d 1/56

U.S. Cl. 83—347

3 Claims



A cutting cylinder having the knife boxes therein offset from the centerline by approximately one-half the width of the knife box.

### 3,521,515 ADJUSTABLE KNIFE APPARATUS

Salvatore J. Aramini, Merrick, N.Y., assignor to Trufast Products, Inc., New York, N.Y., a corporation of New York

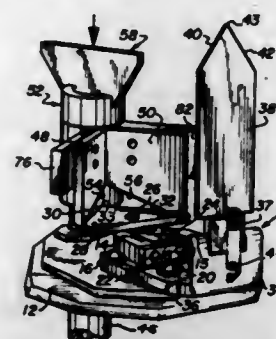
Filed Nov. 27, 1967, Ser. No. 685,902  
Int. Cl. B26d 5/10

U.S. Cl. 83—620

12 Claims

An adjustable knife apparatus for a collar trimming

machine in which the angular relationship between the knife blades may be adjusted easily to trim differently



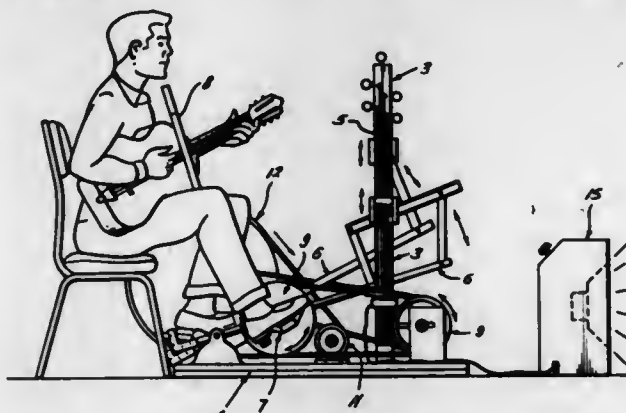
shaped collars thereby eliminating the need for a plurality of knife blade sets.

### 3,521,516 ONE-MAN BAND APPARATUS

Bert Irie Gibbons, 4620 Calmont St., Fort Worth, Tex. 76107  
Filed Sept. 3, 1968, Ser. No. 756,940  
Int. Cl. G10f 1/20; G10d 1/08, 3/11

U.S. Cl. 84—9

3 Claims



A pair of stringed instruments of the electric guitar type each having an upstanding post corresponding to a guitar neck mounted on a common platform or base, in spaced apart relation to each other, with the strings arranged along one side of the respective "necks" or "posts" facing laterally outwardly in opposite directions.

The instruments which comprise the invention may be operated either individually or both at the same time, by use of either the hands or the feet, or any combination of hands and feet, or any one of them, as in a one-man band, where the player is busy with other instruments at the same time, or where the player is an amputee.

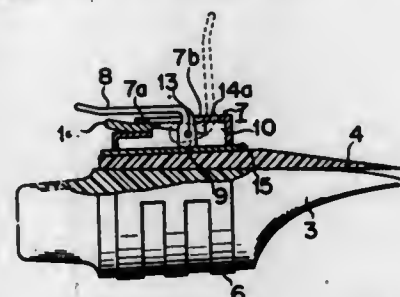
### 3,521,517 LIGATURE FOR A MOUTHPIECE WITH A REED IN A MUSICAL INSTRUMENT

Fusao Sato, Hamamatsu-shi, Japan, assignor to Nippon Gakki Seizo Kabushiki Kaisha, Hamamatsu-shi, Japan, a corporation of Japan

Filed June 11, 1968, Ser. No. 736,197  
Claims priority, application Japan, June 23, 1967, 42/53,523  
Int. Cl. G10d 9/02

U.S. Cl. 84—383

4 Claims



A ligature is provided with a lever with a cam which

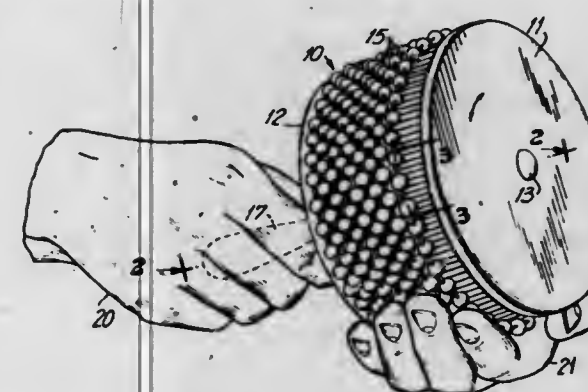
is adapted quickly to engage a reed with a mouthpiece at the resting face thereof and disengage it therefrom.

area as the undeformed shaft portion. This is accomplished by providing a plurality of planar surfaces around

### 3,521,518 MUSICAL INSTRUMENT

U.S. Cl. 84—402

7 Claims



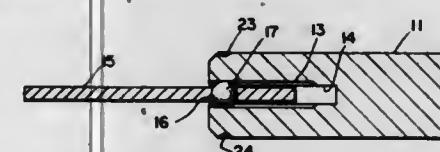
An apparatus for simulating the sound of a natural cabasa instrument, consisting of a drum, having a hollow chamber including a plurality of ball chains coupled around the surface of the drum. The surface of the drum is textured with serrations which run transversely to the travel of the ball chain over the surface so that the movement of the chains over the drum surface produces the cabasa sound.

### 3,521,519 PIVOTABLE MEANS

Dwight H. Chester, 151 Grant Central Ave., Amityville, N.Y. 11701  
Filed Oct. 26, 1967, Ser. No. 678,299  
Int. Cl. F16b 21/00

U.S. Cl. 85—3

3 Claims



A pin has a bifurcated end formed with opposed recesses across the gap in the bifurcated end for accommodating a ball. A flat blade is formed with an opening for accommodating the ball so that the flat blade may pivot about the ball when the ball is seated in the opposed recesses between typically an unlocked position, coextensive with the pin axis, to typically a locked position, at right angles to the pin axis.

### 3,521,520 SECURING ELEMENT

Karl-Ernst Udert, Triesen, Liechtenstein, and Elmar Thurner, Gisingen, Austria, assignors to Hilti Aktiengesellschaft, Schaan, Fürstentum, Liechtenstein  
Filed June 6, 1968, Ser. No. 735,104  
Claims priority, application Germany, June 14, 1967, 1,575,158  
Int. Cl. F16b 15/00, 39/00

U.S. Cl. 85—30

7 Claims

A nail, bolt, or similar anchoring device which is to be driven into a hard receiving material such as by an explosive charge-operated driving tool comprises a shaft portion, an end point portion and an intermediate deformed zone or transition portion. The construction is such that the deformed transition portion has the greater circumference at substantially the same cross sectional



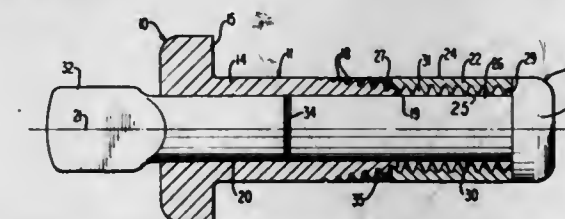
the periphery of the deformed zone alternately arranged with a plurality of rounded or bulging surfaces.

### 3,521,521 BLIND FASTENER WITH EXPANDABLE THREADED NUT

John O. King, Jr., 110 Lake Forest Lane NE., Atlanta, Ga. 30305, and Charles F. Marschner, 595 Wisteria Drive, Marietta, Ga. 30060  
Filed Sept. 3, 1968, Ser. No. 756,910  
Int. Cl. F16b 39/36

U.S. Cl. 85—74

16 Claims



A fastener for connecting together workpieces through aligned apertures in the workpieces from one side of the workpieces, including a tubular, internally threaded nut, a mandrel connected to one end of the nut and extending through the opening of and beyond the nut, and a bolt defining a through bore which is slidable over the mandrel. The nut is approximately the same outside diameter as the shank of the bolt, and is expandable so that it is threadable up over the threads of the shank of the bolt to engage the blind side of the workpieces.

### 3,521,522 EXPANSION BOLT FOR EXCAVATION ROOF

Stephen W. Zoldok, E. 1425 40th St., Spokane, Wash. 99203  
Filed May 14, 1968, Ser. No. 729,004  
Int. Cl. F16b 13/10

U.S. Cl. 85—79

3 Claims



A bolt for securing the roof of an underground ex-



cavation comprising companion segments of a wooden cylinder having means for expanding the peripheral size radially during relative axial movement of the segments.

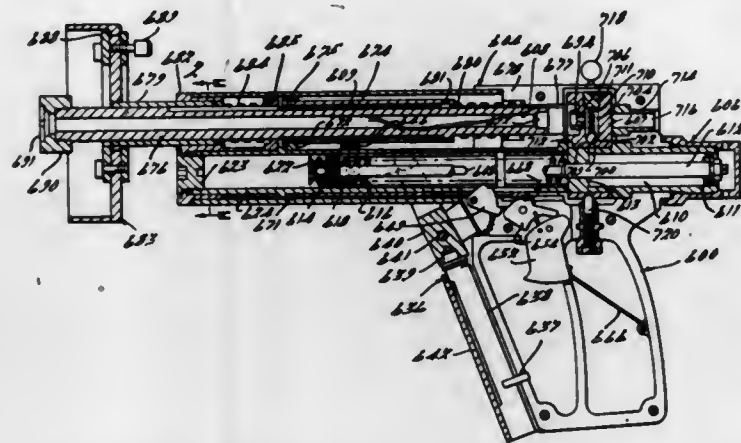
3,521,523

**AIR OPERATED PROJECTILE FIRING APPARATUS**  
Jules Edmond Van Langenhoven, Benton County, Ark., assignor, by mesne assignments, to Victor Comptometer Corporation, Chicago, Ill., a corporation of Illinois  
Application July 7, 1965, Ser. No. 473,556, which is a continuation-in-part of application Ser. No. 189,621, Apr. 23, 1962. Divided and this application July 18, 1968, Ser. No. 760,106

Int. Cl. F41f 1/00

U.S. Cl. 89—7

7 Claims



A device for firing a projectile having an associated propellant ignitable by surface contact with high temperature air in which an air cylinder is connected to a firing chamber at the rear of an axially movable barrel by an air passage extending through a breech member pivotally movable relative to the barrel and the air cylinder between a loading position and a firing position in which an obturated firing chamber is formed between the barrel and the breech. The device may be provided with an automatic cocking system comprising coaxial air and gas expansion pistons mounted on a common piston rod.

3,521,524

# CONTROL APPARATUS FOR CHECKING AND CONTROLLING SEQUENTIAL MACHINE OPERATIONS

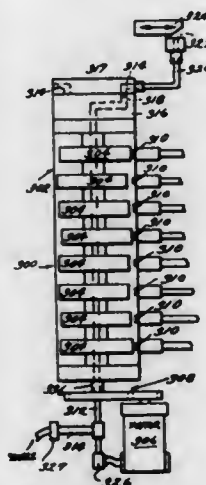
Ernst J. Hunkeler and Robert A. Waasdorp, Fairport, N.Y., assignors to The Gleason Works, Rochester, N.Y., a corporation of New York

Filed Oct. 1, 1968, Ser. No. 764,220

Int. Cl. B23f 1/00; G05b 19/06

U.S. Cl. 90—1

20 Claims



A work loader and transfer device for handling and moving gear blanks and gear pieces from one station to another in a gear cutting apparatus is disclosed. The work

loader and transfer device is constructed to operate between at least two cutting or working positions of a machine and includes means for being lifted and lowered as well as rotated back and forth about a vertical axis of rotation. Work holding devices are positioned on the ends of arms associated with the work loader and transfer device, and more than one type of work holding device may be associated with a single work loader and transfer means. Each work holding device includes a centering cup means for contacting a gear piece and for centering the same relative to the work loader and transfer device, and jaw members are provided for affecting a tight grip of the workpiece. Means may be provided for rotating or indexing the workpiece relative to the loader and transfer device so that the workpiece is properly oriented for a cutting operation. A control system is provided for checking and controlling a sequence of operations of a machine, and the control system may be combined with the work loader and transfer device to effect its sequential operations. The control system includes means for taking air read-outs of various functions of a machine to detect a failure of any given function in a sequence, and the control system includes means for shutting down automatic operation of a machine if such a failure occurs. In addition, a checking device is provided on a bevel gear cutting machine to determine proper stock division and seating of a workpiece after it has been transferred to a work station. The checking device may be included in the control system so that improper positioning of a workpiece will result in a shutdown of handling operations for a gear cutting machine. Also, a method for handling work blanks and workpieces between two or more stations of gear cutting apparatus is described.

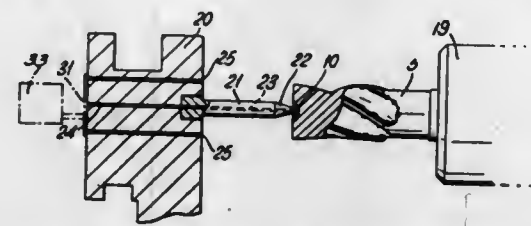
3,521,525

# MACHINE TOOLS

David T. N. Williamson, Deptford, London, England, assignor to Molins Machine Company Limited, London, England, a corporation of Great Britain

Filed May 21, 1968, Ser. No. 730,755

Claims priority, application Great Britain, May 31, 1967, 25,135/67

Int. Cl. B23c 1/00; B27g 23/00; B26d 1/12  
U.S. Cl. 90—11 16 Claims

Setting the cutting edge of a cutting tool in known relationship to the tool holding means of a machine tool by moving the tool loosely gripped in the tool holding means to wards a fixed reference element attached to the machine tool or the workpiece carrier, setting the relationship by abutment of a datum surface on the tool against the reference element and closing the tool holding means to grip the cutting tool.

3,521,526

# METHOD AND APPARATUS FOR POSITIONAL CONTROL COMPENSATION FOR TEMPERATURE CHANGES IN MACHINE TOOL SPINDLES

Eugene A. Olig and Steven E. Klabunde, Fond du Lac, Wis., assignors to Giddings & Lewis, Inc., Fond du Lac, Wis., a corporation of Wisconsin

Filed Nov. 18, 1968, Ser. No. 776,406

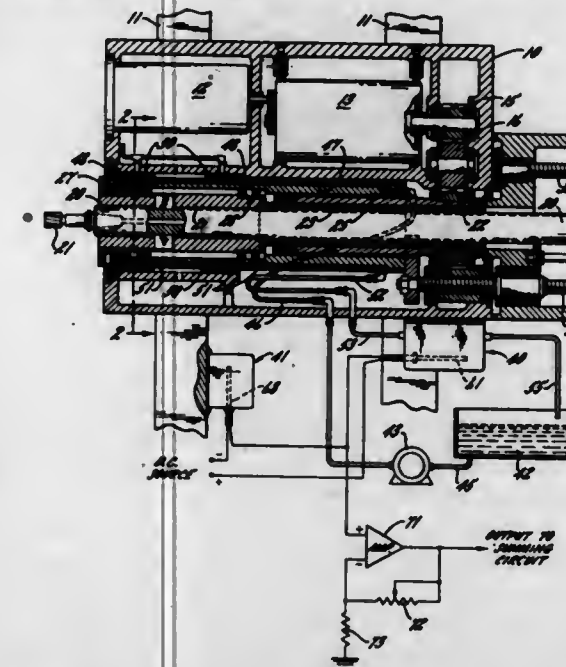
Int. Cl. B23c 1/02

U.S. Cl. 90—14

5 Claims

A positional control compensation system and method of operation are disclosed in which a coolant is circulated

between a reservoir and the bearings of a translatable machine tool spindle from which the returning fluid passes through a heat exchanger. The heat exchanger is separated from an insulated heat sink by a thermal delay path of adjustable length so that a thermistor in the heat



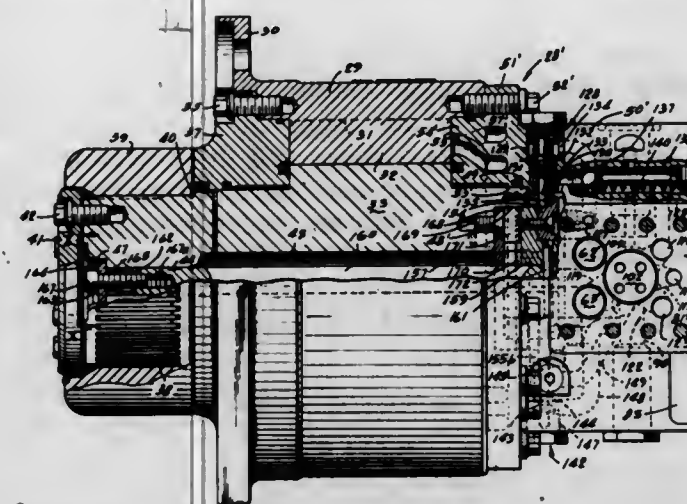
sink senses a temperature which is at all times analogous to the actual internal spindle temperature. Circuit means is provided to generate a temperature-responsive error signal which applies the compensating positional correction to the spindle through a servomotor.

3,521,527

# ROTARY VANE SUSPENSION UNITS FOR ENDLESS TRACK VEHICLES AND THE LIKE

Paul E. Gies, Eggertsville, Gottlieb Sperl, Buffalo, and Ralph A. Branten, Kenmore, N.Y., assignors to Hondaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan

Original application Mar. 28, 1966, Ser. No. 537,916, now Patent No. 3,444,787. Divided and this application Dec. 12, 1968, Ser. No. 798,539

Int. Cl. F01b 31/12; F15b 21/00  
U.S. Cl. 91—1 10 Claims

A rotary vane hydraulic actuator includes a housing providing a working chamber having abutment means therein and a wing shaft mounted oscillatably in the working chamber and having vane means cooperatively related to the abutment means, with means on one end of the housing for attachment thereto of a hydro-pneumatic accumulator, hydraulic operating circuitry communicating with the working chamber and with the accumulator and including control valves having cam followers. A control cam is mounted on and oscillatable with the wing shaft and is operatively engaged by the

3,521,528

# JOINT SEALING DEVICE

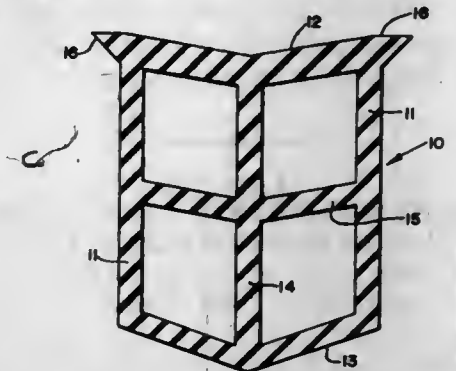
Leroy C. Wangerow, Oak Lawn, Ill., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Continuation of application Ser. No. 537,539, Mar. 25, 1966. This application Feb. 28, 1969, Ser. No. 806,003

Int. Cl. E01c 11/00; F16j 9/00

U.S. Cl. 94—18

3 Claims



A flexible, preformed concrete joint seal is disclosed having chevron-shaped top and bottom walls, smooth-surfaced, parallel side walls, an internal vertical support diaphragm and a continuous projection at the junction of each of the side walls with the top wall whereby contact between the preformed element and the opposing concrete structures is maintained during movement of the concrete.

3,521,529

# CYCLICALLY OPERATING MATERIAL CUT-OFF APPARATUS WITH ADJUSTABLE SPEED AND POSITION CONTROL

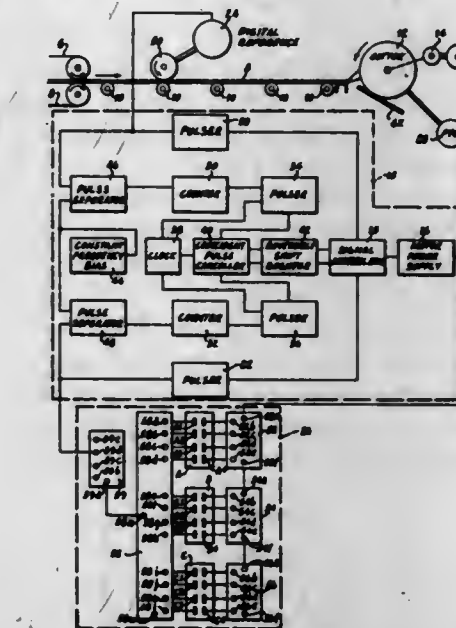
Sanford M. Strand, Milwaukee, Wis., assignor to Cutler-Hammer Inc., Milwaukee, Wis., a corporation of Delaware

Filed June 17, 1968, Ser. No. 737,409

Int. Cl. B26d 5/40, 1/56

U.S. Cl. 83—76

6 Claims



An apparatus for selecting and closely controlling the length of individual pieces cut off from a continuously moving length of material. It comprises a continuously rotating electric motor driven cutter or knife and a known form of digital speed and position phase control system for continuously controlling the rotational speed and position or phase of the cutter in a desired relation to the linear rate of advance of the material toward and past the cutting station. A reference pulse generator feeds



pulses to the control system at a rate in accordance with the linear rate of advance of the material, and a second feedback pulse generator feeds pulses to said control system at a rate in accordance with the rate of cutter or knife rotation. A known form of adjustable pulse deleter is interposed between the second generator and the control system, and according to selected adjustment thereof affords deletion of selected numbers of pulses produced by the latter. The control system functions to increase the desired rate of cutter or knife rotation in an inverse relation to the number of pulses deleted by the deleter to afford corresponding decrease in length of pieces cut off from the moving material. The pulse deleter can be provided with switches and circuits controlled thereby arranged so that selected switch settings will be indicated in terms of the desired numerical length of pieces to be cut.

3,521,530

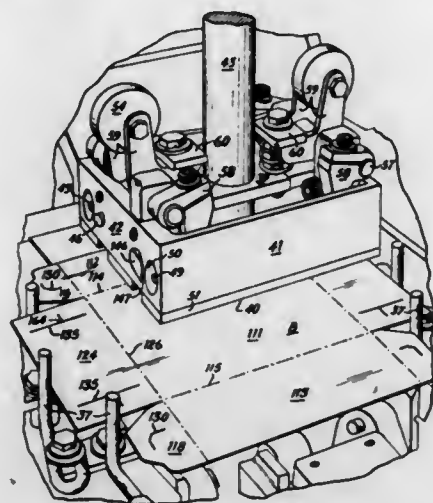
### PLUNGER AND DIE DEVICES FOR INTERLOCKING BOX WALLS

Chester J. Pierce, Jr., Palo Alto, Calif., assignor to Kliklok Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 2, 1968, Ser. No. 749,759  
Int. Cl. B31b 1/44

U.S. Cl. 93—51

6 Claims



A plunger-and-die device is provided for converting a flat box blank into box form and interlocking the blank at the box corners in which the plunger comprises the customary projecting element on the plunger wall for opening an insertion slot in a wall panel for a corner lock flap and a movable finger which displaces a tab, tip or lug of the blank past an edge of an aperture to set a safety catch which keeps the flap lock engaged. The finger is retracted before the plunger reaches the end of its stroke, and the setting of the safety catch is assisted by a back-up element opposing the finger motion. This element is a bar, plate or roller on the die or a flat blade on the plunger projecting slightly from a plunger wall and serves the double function of opening the insertion slot and acting as a back-up element.

3,521,531

### TRUNK-TYPE PISTON FOR INTERNAL COMBUSTION ENGINES

Werner Kaesemodel, Zurich, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company

Filed Nov. 6, 1967, Ser. No. 680,762  
Claims priority, application Switzerland, Nov. 17, 1966, 16,531/66

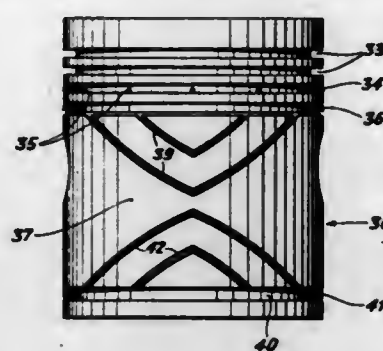
Int. Cl. F01b 31/10

U.S. Cl. 92—160

2 Claims

There is disclosed a trunk-type piston for internal combustion engines having an oil control ring between the compression rings and piston skirt, this oil control ring

being disposed in a groove which is sealed off from the interior of the piston, but which communicates with one or more grooves formed in the surface of the piston skirt for the delivery of oil thereto. A second oil control ring may be provided above the first, in a groove having bores



leading to the interior of the piston, and an oil distributing ring may be provided below the control rings, this distributing ring having a rounded lower edge and a sharp upper edge, disposed in a groove communicating with additional grooves extending upwardly over the surface of the skirt.

3,521,532

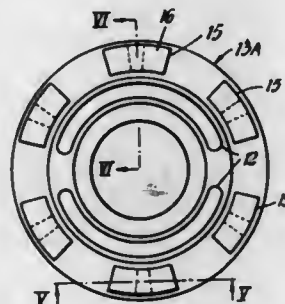
### HYDRODYNAMIC BEARINGS

Hans Roger Espig, Berkshire, Peter Michael Myatt Price, Surrey, and Glyn Alan Vinni Combe, Middlesex, England, assignors to Vickers Limited, London, England, a British company

Filed July 17, 1968, Ser. No. 745,479  
Claims priority, application Great Britain, July 21, 1967, 33,797/67

Int. Cl. F01b 1/02, 13/04; F16c 17/06  
U.S. Cl. 92—57

3 Claims



A piston pump or motor in which a hydrodynamic bearing is provided in association with two relatively rotatable components of the pump or motor. One of the components constitutes a slider and the other includes a bearing pad, the slider and pad having facing bearing surfaces. In use, the pad deforms under the action of the pressure of a liquid film between the bearing surfaces so that a film is created which is of nonuniform thickness and is convergent in the direction of motion of the slider with respect to the pad.

3,521,533

### ROTARY MACHINE, SUCH AS A ROTARY INTERNAL COMBUSTION ENGINE, TURBINE, COMPRESSOR, AND THE LIKE

Gilbert Van Avermaete, 20 Avenue Nothomb, Arlon, Belgium

Filed Nov. 16, 1967, Ser. No. 683,674  
Claims priority, application Luxembourg, Nov. 25, 1966, 52,437; Feb. 10, 1967, 52,973; June 2, 1967, 53,810; Nov. 10, 1967, 54,838

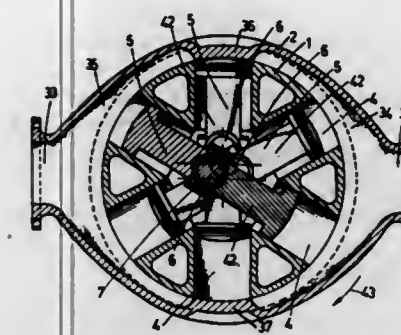
Int. Cl. F01b 13/06; F02b 57/06; F04b 27/06

U.S. Cl. 91—496

6 Claims

This invention concerns a rotary machine such as a motor, a turbine, a pump, a compressor and the like, comprising at least one rotor rotating inside a stator coaxial therewith, provided with at least one cylindrical

chamber, a piston being fitted in this chamber and mounted on the crank-pin of a crank-shaft carried by the stator, the crank-pin and the crank-shaft being



offset with reference to the axis of rotation of the rotor, so as to impel the piston with a reciprocating motion inside the chamber during the rotation of the rotor.

3,521,534

### HYDRAULIC LINK IN A CONTROL SYSTEM

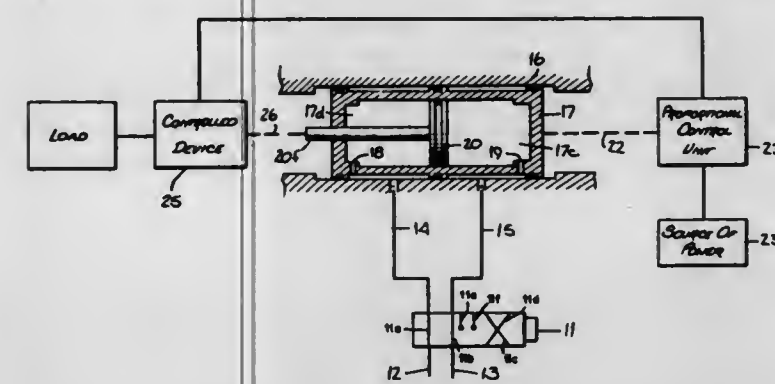
Lesley C. Casterline, Hurst, and Francis E. De Pauw, Fort Worth, Tex., assignors to Bell Aerospace Corporation, Wheatfield, N.Y., a corporation of Delaware

Filed July 18, 1968, Ser. No. 745,755

Int. Cl. F15b 13/16; F01b 15/02

U.S. Cl. 91—385

9 Claims



A control system is disclosed in which a proportional control device controls power to and the movement of a controlled device, the latter being coupled to a load. A pair of hydraulic power elements, such as a piston and cylinder, hydraulically link the controlled device and the proportional control unit to insure that the controlled device will not be subjected to sudden changes in power applied to it by the proportional control device. This provides gradual acceleration and deceleration of the controlled device and the load it moves thereby minimizing chances of shock and/or jolt occurring in the system from sudden changes in motion of the load. The system also provides for the gradual stopping of the controlled device after it has undergone a predetermined amount of travel. This system is of particular use in hydraulic systems and especially those that are used in aircraft.

3,521,535

### TIME MODULATED PNEUMATICALLY ACTUATED POSITION CONTROL MECHANISM

John A. Oelrich, Avon, Conn., assignor to Chandler Evans Inc., West Hartford, Conn., a corporation of Delaware

Filed Nov. 7, 1967, Ser. No. 681,130

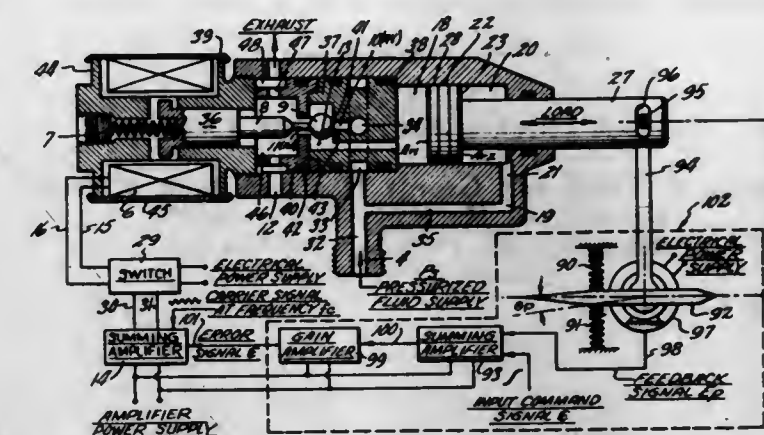
Int. Cl. F15b 13/02, 13/16, 15/17

U.S. Cl. 91—47

8 Claims

Control apparatus having a variable electrical error signal comprising the difference between the command input and load feedback signals, said error signal combined with a time referenced carrier signal to produce a

time modulated output signal that is applied to the solenoid of a solenoid operated valve to produce a substan-



tially non-fluctuating pneumatically generated control force that positions a compliant load.

### ERRATA

For Classes 92—160, 92—52, and 93—51 see:  
Patent Nos. 3,521,530, 3,521,531, and 3,521,532

3,521,536

### PLUNGER AND DIE MECHANISM FOR FORMING TRAYS

Wilhelm Waldbauer, Stuttgart-Lederburg, Richard Osterle, Stuttgart-Wanger, and Heinz Hinderer, Stuttgart, Germany, assignors to The Finn Industries, Chicago, Ill., a corporation of Delaware

Filed Sept. 23, 1965, Ser. No. 505,605

Int. Cl. B31b 1/44; B21d 5/02, 51/00

U.S. Cl. 93—51

7 Claims



Apparatus for assembling or erecting a folded box or tray from a cardboard blank or the like wherein the blank includes a generally rectangular bottom wall, opposed side and end walls hingedly connected to the periphery of the bottom wall along fold lines and locking means at the four corners or side juncture of the side and end walls for securing the side and end walls in an erected position. The bottom wall may be mounted on a rectangular base of larger width and length to define a peripheral rim portion. The folded or erected member may be utilized as a lid or body of a container or box. The box forming apparatus, also referred to herein as a plunger and die mechanism, includes a frame, a die having opposing stop members adapted to engage the corresponding margins of the base of the blank, a pair of opposed guide members operable when a blank is positioned in the die by the plunger to pivot one pair of opposed walls of the blank, for example, the end walls to a predetermined desired angle, and actuating means for moving at least one of the guides. The box forming apparatus further includes a jaw pivotally mounted at each of the other pair of opposed margins of the die, linkage means interconnecting the movable guide with said jaws thereby to fold the side walls to an erected position and pivotal folding members to fold the end wall panel extensions to a position overlying or confronting the end walls. The apparatus is characterized by an arrangement whereby when the plunger is operated to position a blank in the die, the side and end walls are partially erected and when the movable guide is actuated the end



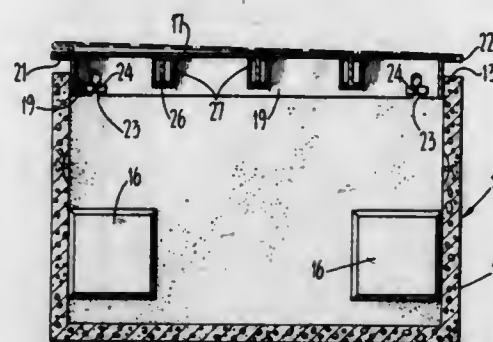
walls are erected to the desired angle, the corner extensions are folded, the opposing side walls are erected by the jaws and the folding means folds in the extension panels to lock the box member in its erected position.

### 3,521,537 COVER ARRANGEMENT FOR LARGE RECEPTACLES

George P. Forni and George D. Forni, both of 3600 Depot Road, Hayward, Calif. 94545  
Filed Mar. 19, 1968, Ser. No. 714,250  
Int. Cl. E02d 29/14

U.S. Cl. 94-34

4 Claims



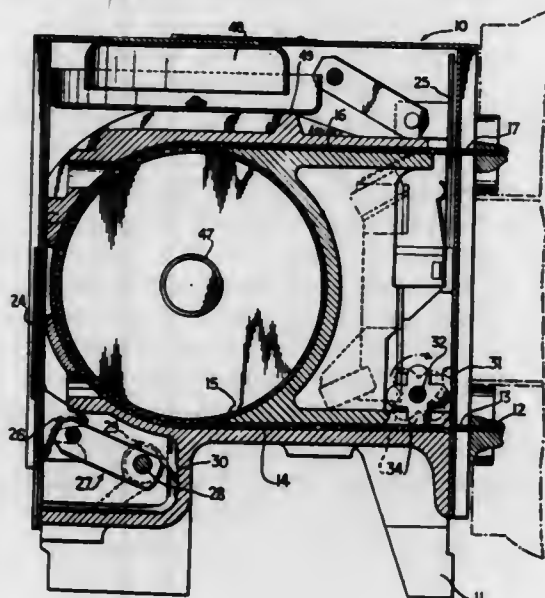
A cover arrangement is described for massive extremely large receptacles of the type typically formed of concrete and sunk beneath a street or other roadway to house electrical junction boxes, terminal strips, valves, meters, etc. The arrangement provides substantial structural strength to support heavy vehicular traffic flow, while yet enabling relatively thin light weight covers to be employed therewith. Although the arrangement is such as to reinforce thin covers, the reinforcing means are readily removable to permit entry of service personnel into the receptacle interior.

### 3,521,538 FILM MAGAZINE FOR PHOTOTYPOGRAPHICAL MACHINES

Uri Z. Escoli, New York, N.Y., assignor to Eltra Corporation, a corporation of New York  
Filed June 20, 1967, Ser. No. 647,481  
Int. Cl. B41b 21/32

U.S. Cl. 95-4.5

6 Claims



A film magazine comprising a perforated drum over which a sensitized web is trained and to which a vacuum source is connected. The vacuum is continuously applied to the drum so that the web is securely held on the drum both when lines of typographical characters are being

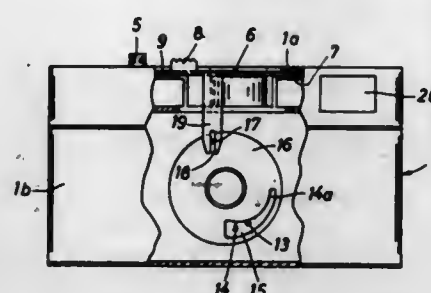
photographed thereon and when the drum is stepped to bring an unexposed portion of the web into photographing position.

### 3,521,539 PHOTOGRAPHIC CAMERA

Wilhelm Kunze, Calw, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany  
Filed Nov. 29, 1967, Ser. No. 686,415  
Claims priority, application Germany, Apr. 29, 1967, R 45,918

Int. Cl. G03b 9/70, 19/00

10 Claims



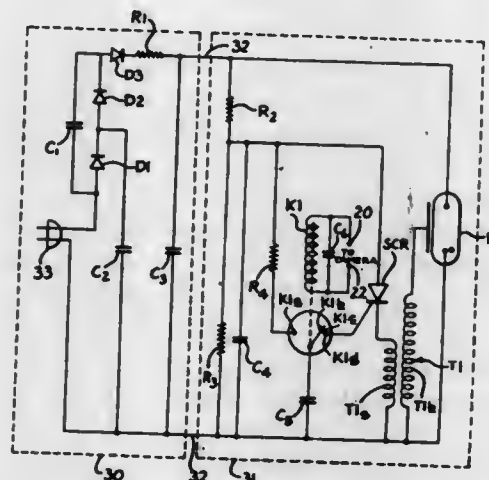
A slide which is reciprocable below the top panel of the housing in a camera can cover or expose a socket for flash bulbs or multiple flash bulb holders and is coupled to the shutter to select the exposure time. Appropriate symbols provided on the housing or on the slide are observable through a window in the top panel to indicate the positions of the slide and the setting of the shutter. That exposure time which is satisfactory for exposures with artificial illumination of the subject can be set for exposures in daylight when the intensity of scene light is low.

### 3,521,540 ELECTRONIC FLASH UNIT FOR CAMERAS ADAPTED TO RECEIVE FLASHCUBES

William C. Cavallo, 2231 Lockport Road, Lockport, Ill. 60441  
Filed Aug. 26, 1968, Ser. No. 755,323  
Int. Cl. G03b 9/70

U.S. Cl. 95-11.5

8 Claims



An electronic flash unit for use with a camera adapted to receive flashcubes. The flash unit includes a circuit for delaying activation of the electronic flashtube following actuation of the camera shutter release so as to synchronize the flash with the opening of the shutter. The circuit comprises an SCR connected between a power supply and the flashtube trigger coil, a capacitor operatively associated with the power supply and the flashtube, and a reed relay responsive to the activating signal from the camera for automatically connecting the second

capacitor to the power supply during the presence of the activating pulse from the camera, and then connecting the capacitor to the gate of the SCR so as to render the SCR conductive and thereby fire the flashtube.

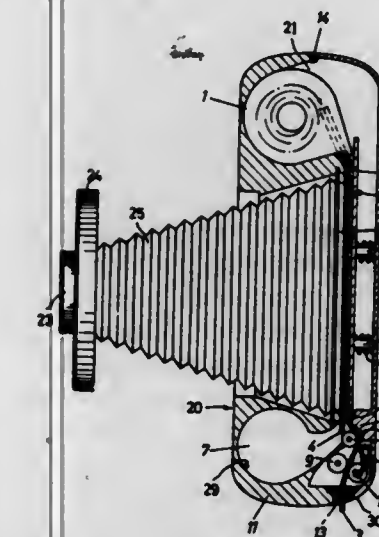
### 3,521,541 APPARATUS FOR IMAGE TRANSFER PHOTOGRAPHY

Rolf Schmidt, Cologne-Stammheim, Hildegard Schnöring, Wuppertal-Eilberfeld, Harald von Rintelen, Leverkusen, and Karl-Wilhelm Schranz, Opladen, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany  
Filed Oct. 24, 1967, Ser. No. 677,525  
Claims priority, application Germany, Oct. 25, 1966, A 53,899

Int. Cl. G03b 17/50

U.S. Cl. 95-13

8 Claims



A camera for image transfer photography with magazines for roll film including a flexible carrier provided with spaced image receptive positive sheets, a photo-sensitive negative sheet hinged to the carrier along its trailing edge ahead of each positive sheet and a rupturable fluid container between each negative sheet and the associated positive sheet. The housing of the camera defines a chamber for the magazine and a channel accommodating a portion of the carrier behind an opening which admits scene light to an unexposed negative sheet in the channel. The housing accommodates a roller which folds or inverts exposed negative sheets over the associated positive sheets downstream of the channel, and a breaking or rupturing device which destroys a container during folding of the corresponding negative sheet over the associated positive sheet in automatic response to withdrawal of the carrier from the housing. During folding, a freshly exposed negative sheet first enters and is thereupon withdrawn from a compartment defined by the housing adjacent to the roller. The breaking device comprises a portion which defines with the roller a gap whose width is less than the thickness of a container so that the latter is destroyed while moving past the roller.

### 3,521,542 REFLEX CAMERA WITH BUILT-IN EXPOSURE METER

Arie Cornelis de Goederen, Burgemeester Eelsenlaan 16, Rijswijk, Zuid Holland, Netherlands  
Filed Oct. 26, 1966, Ser. No. 589,717  
Claims priority, application Netherlands, Nov. 1, 1965, 6514120

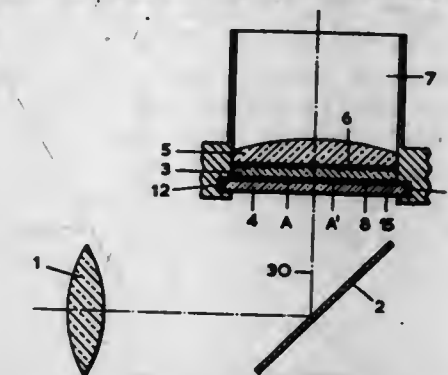
Int. Cl. G03b 19/12

U.S. Cl. 95-42

8 Claims

A reflex camera with built-in exposure meter of the through-the-lens metering kind. A beam splitter plate is arranged to the rear of the reflex mirror, as seen from

the objective, perpendicular to the optical axis of the beam of light forming the view-finder image. The surface of the plate remote from the reflex mirror is provided with a number of spaced tiny grooves. Highly reflective



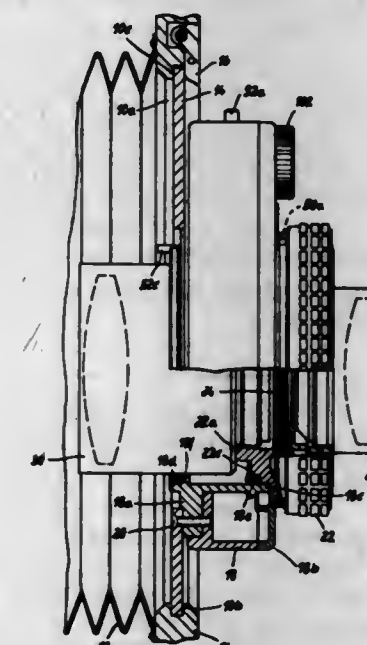
walls of the grooves serve to split off a fraction of the beam and to direct it sideways through the interior of the plate towards light sensitive means conjunct to at least one side edge of the plate.

### 3,521,543 PHOTOGRAPHIC CAMERA

Franz Singer, Munich, Germany, assignor to Compar-Werk Gesellschaft mit beschränkter Haftung & Co., Munich, Germany, a firm of Germany  
Filed July 21, 1967, Ser. No. 655,230  
Int. Cl. G03b 9/00

U.S. Cl. 95-53

12 Claims



A camera having shutter operating and control mechanism in a housing which may be mounted to project either forwardly or rearwardly from a camera front plate member, and shutter blades in a second housing detachably mountable on either the front or rear of the first housing, and lens mounts detachably mountable on either front or rear of the second housing. The shutter blade mechanism of the second housing is automatically engaged with the driving parts in the first housing by the act of mounting the second housing on the first housing. The operating parts in the first housing are electrically controlled.

### 3,521,544 TOP DRIVE FOR PHOTOGRAPHIC PROCESSING MACHINES

Paul J. Good, Springwater, N.Y., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware  
Filed Oct. 25, 1967, Ser. No. 677,948

Int. Cl. B65h 17/20, 17/22; G03d 3/12

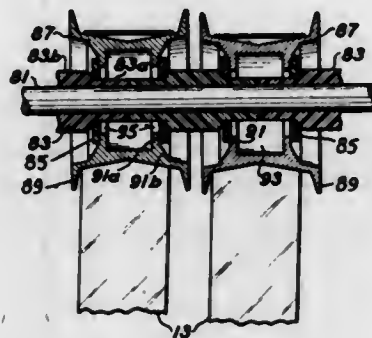
U.S. Cl. 95-94

8 Claims

A photographic processing machine designed for advancing continuous strips of film, such as motion-picture



film, through various processing baths in a path of travel which goes repeatedly upwardly and downwardly in a liquid bath, around idle guide rollers near the bottom of the bath, and over drive rollers near the top of the bath. Each set of drive rollers is loosely mounted on a driven shaft, each roller having an internal annular flange having frustoconical or tapered sides, engaged between flexible drive disks fixed to and rotating with the drive shaft, so arranged that when the downward pull on the drive roller is increased, due to an increase in the tension on the film passing over the roller, the roller is pulled downwardly relative to the shaft on which it is loosely mounted, thus causing the flexible drive disks to be forced



slightly apart and to engage in driving relation with a portion of the annular flange closer to the periphery of the drive roller, thereby causing slower rotation of the drive roller. On the other hand, when there is less tension on the film passing over the drive roller, there is less downward pull on the drive roller and the drive disks make driving contact with a portion of the annular flange closer to the center of the drive roller, so that the drive roller is driven at a faster rate. In this way, the speed of the drive roller is varied in accordance with the degree of tension on the film passing over the roller, so that the film is kept taut but without excessive tension which might break the film.

### 3,521,545 PHOTOGRAPHIC VESSEL

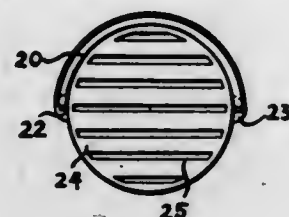
Werner W. Buechner, 4407 Gladding Court,  
Midland, Mich. 48640

Continuation-in-part of applications Ser. No. 342,198,  
Feb. 3, 1964, Ser. No. 342,459, Feb. 4, 1964, and Ser.  
No. 632,842, Jan. 23, 1967. This application Oct.  
23, 1967, Ser. No. 677,130

Int. Cl. G03d 1/04

U.S. Cl. 95—96

13 Claims



A photographic treating vessel having a half or full cylindrical wall portion, a circular opening in the top portion of the wall, a bottom portion, and vertical sealing elements on opposite sides of the cylindrical wall parallel to the axis of the cylinder. The vessel is inserted into a treating compartment of a developing apparatus such that a passageway is formed between the bottom of the vessel and the compartment. The sealing elements cooperate with juxtaposed parts in the compartment so that a stream of water flowing through the compartment will flow in a vertical direction along the entire cross section of one side

of the cylindrical wall, beneath the lower passageway formed by the vessel and the compartment, and subsequently along the cross section of the other side of the cylindrical wall.

### 3,521,546 ATMOSPHERIC PRESSURE EQUALIZING MEANS

Leslie Day, Chicago, Ill., assignor to Vacuum Concrete

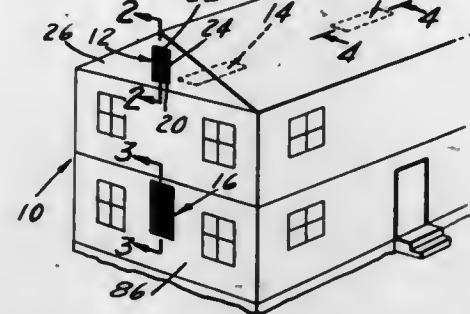
(Overseas) Co. Est., Vaduz, Liechtenstein, a corporation of Liechtenstein

Filed Mar. 1, 1967, Ser. No. 619,792

Int. Cl. F24f 13/10; F16k 17/18

U.S. Cl. 98—32

10 Claims



Means for automatically equalizing air pressure between that within a building and atmosphere when there is a sudden and/or extreme drop in atmospheric pressure in the vicinity of the building. The equalizing means provides normal ventilation air flow through said means in accordance with the normal relatively slight changes in atmospheric pressure causing differential of pressure between that within the building and atmosphere as well as providing means for the return to normal of the air pressure within the structure as the atmospheric pressure returns to normal after the passage of the extreme low pressure area. Accordingly, the abnormal and/or destructive inwardly acting pressure on the walls and roof of the building is avoided.

### 3,521,547 VENT CONSTRUCTION

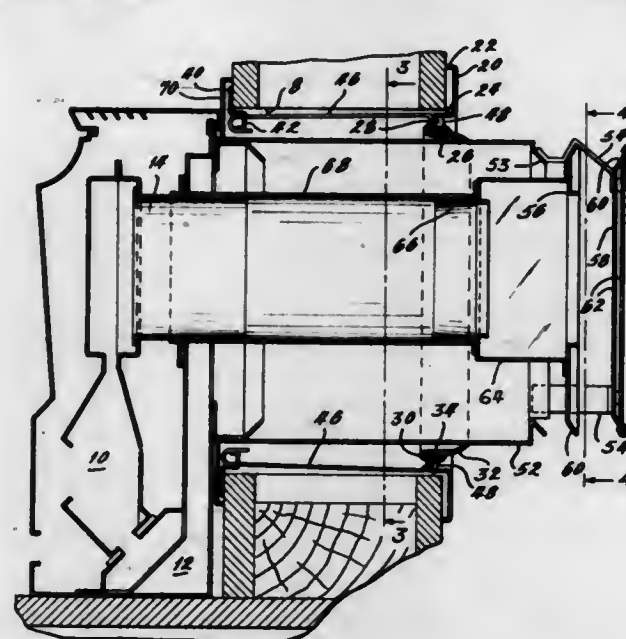
Ralph R. Hodges, Belleville, Ill., assignor to Empire  
Stove Company, Belleville, Ill., a corporation of  
Illinois

Filed Mar. 4, 1969, Ser. No. 804,151

Int. Cl. F24f 13/00

U.S. Cl. 98—32

11 Claims



A vent construction including a pair of flanges surrounding the ends of an opening in a wall and being held to one another and to the wall by connecting straps. One of the flanges can be passed through the other flange,

as well as through the opening, so that both flanges can be installed from the same side of the wall. A vent housing having end baffles passes through the flanges and opening from the interior of the building, and its outer surface is engaged by seals on one of the flanges.

### 3,521,548 DAMPER MECHANISM FOR KITCHEN VENTILATING SYSTEMS

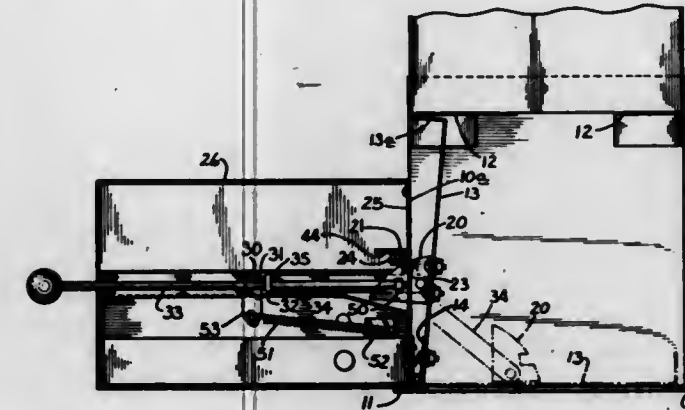
De Witt H. Doane, Long Grove, Ill., assignor to Cockle  
Ventilator Company, Inc., a corporation of Illinois

Filed Aug. 19, 1968, Ser. No. 753,607

Int. Cl. F23j 11/00

U.S. Cl. 98—115

6 Claims



A damper mechanism for kitchen ventilators including a damper door hinged to a sidewall of the ventilator system, and a mechanical latch including a first element mounted on the door and a second element mounted outside the ventilator for latching cooperation with the first element when the door is in its open position. A spring biases the second latching element toward its unlatched position, and a solenoid holds the second element in its latched position where the solenoid is energized. Another spring urges the damper door toward its closed position, so that in the event of a fire, the power shutdown deenergizes the solenoid so that the first spring unlatches the door, and the second spring moves the door to its closed position, thereby providing a fail-safe system. A manual cocking rod is also provided for returning the damper door from its closed position to its open position.

### 3,521,549 FOOD SMOKING APPARATUS

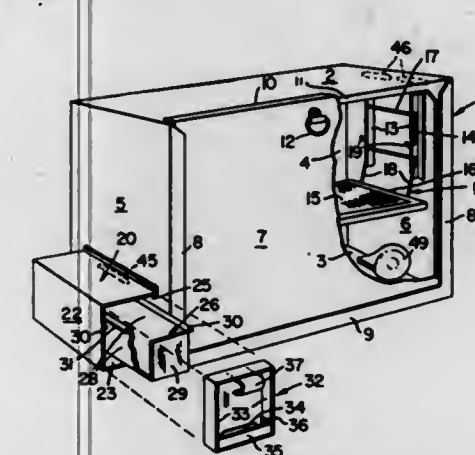
Fred W. Funke, 3186 Coffey Lane,  
Santa Rosa, Calif. 95401

Filed Sept. 23, 1966, Ser. No. 581,649

Int. Cl. A23b 1/04, 3/04

U.S. Cl. 99—259

7 Claims



A method and apparatus for "cold-smoking" foods in which a wet smoke pellicle is deposited on the food in a short time by means of said apparatus, which includes a rectangular combustion chamber having an open side

within which is supported a perforate screen on which a charge of sawdust is held for combustion. The combustion chamber is fastened to the lower portion of a lateral wall of a rectangular smoking chamber, in which wall there is a restricted opening permitting communication between the combustion chamber and the smoking chamber. A perforate support means for the food is suspended in the smoking chamber between the restricted opening and a discharge outlet at a higher level in an opposite lateral wall of the smoking chamber. An air inlet is located in one end of the combustion chamber below the level of the screen which supports the sawdust. Areas of the various openings for draft and smoke passage are chosen to keep the temperature at a level which will not evaporate the moisture from air entering the smoke generator and smoke-house.

### 3,521,550 BALE STRAPPING APPARATUS

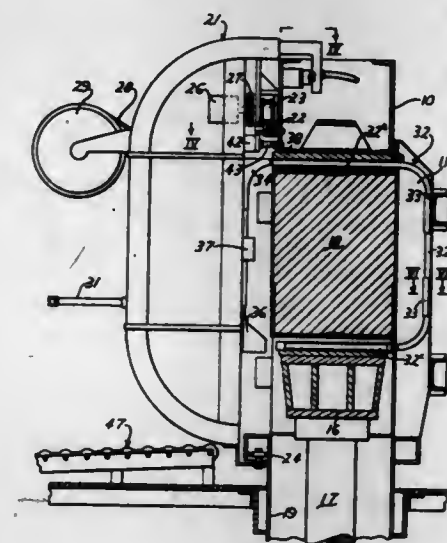
Donald W. Van Doorn and William C. Pease III, Colum-  
bus, and Jack L. Colquett, Hamilton, Ga., Jack H.  
Tinkler, Phenix City, Ala., and Ted E. Huguley, Colum-  
bus, Ga., assignors to Lummus Cotton Gin Company,  
a corporation of Georgia

Filed Sept. 25, 1968, Ser. No. 762,474

Int. Cl. B65b 13/04

U.S. Cl. 100—26

12 Claims



Apparatus for strapping and securing about bales, bundles, and the like a plurality of securing band or straps in which the band feeding and securing means is mounted for reciprocation alongside the package to be banded. Means is provided to cause the apparatus to position itself for feeding, successively or selectively, lengths of said material about the package, together with means to move the apparatus to a position removed from the package, whereby the package which has been banded may be discharged from the position where it was banded through the space formerly occupied by the band feeding and securing mechanism while it was placing such straps or bands about the package.

### 3,521,551 APPARATUS FOR CONTROLLING CALENDERS

William D. Boxmeyer, Mahwah, N.J., assignor to Morris-  
son Machine Company, Paterson, N.J.

Filed Mar. 19, 1968, Ser. No. 714,306

Int. Cl. B30b 15/14

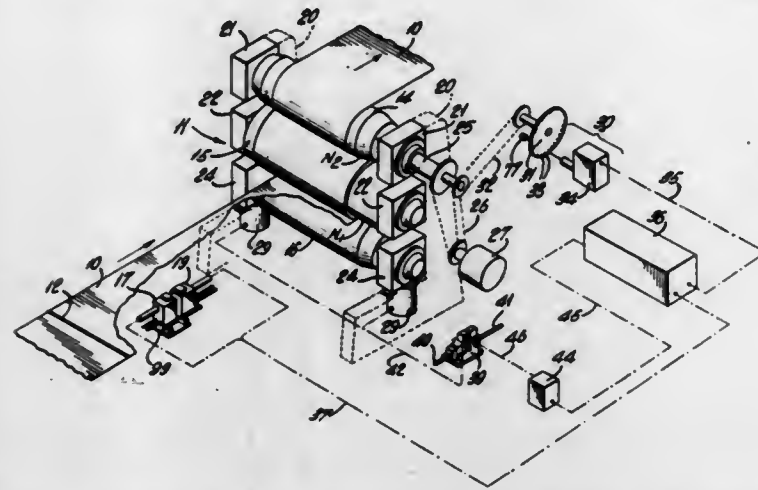
U.S. Cl. 100—47

15 Claims

A system which is unaffected by changes in web speed for automatically unloading the nips of a calender to permit the passage of seams, slubs, and the like, herein-after called "seams," in the web through the nips without damage to the calender rolls. The system is provided

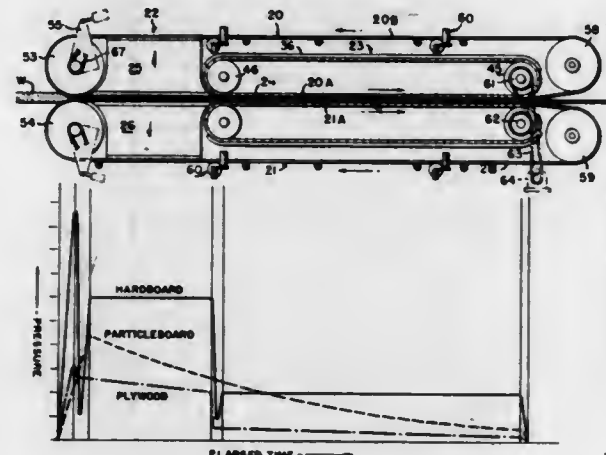


with a web speed monitor which generates a series of pulses; a first number of such pulses is proportional to the length of travel of the web from the location of the seam detecting heads to the first nip, a second number of such pulses is proportional to the distance through the nips in machines having multiple nips. A web detector in advance of the calender initiates the counting of the



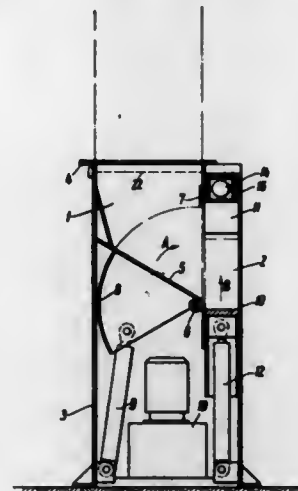
first number of pulses. After the first number of pulses has been counted, mechanism is actuated to unload the calender rolls, thereby permitting the seam on the web to pass safely through the calender. After the second number of pulses has been counted, indicating that the seam has passed through the calender, the mechanism is actuated so as again to load the calender rolls.

**3,521,552**  
**ENDLESS CAUL BELT CONTINUOUS PRESS**  
Hans John Knapp, 2035 SW. 58th Ave.,  
Portland, Oreg. 97221  
Filed July 29, 1968, Ser. No. 748,499  
Int. Cl. B30b 5/06  
U.S. Cl. 100-93 14 Claims



A multi-stage continuous press of the endless caul belt type is provided in which the tensile forces in the linear squeezing run exerted by the frictional loading of a stationary press section to exert a first pressure are isolated in the squeezing run rather than being added to the tensile component of the bending stress at the return loops of the belts, and in which pretensioning of the belts is not required. This is accomplished by opposed caterpillars along the squeezing run having flat platen links which frictionally pull the caul belts through the stationary press section and at the same time exert a squeezing pressure with a second pressure. The platens of the stationary press section are faced with a solid lubricant to which a liquid is applied having the property of decreasing the friction between the solid lubricant and the caul belts without effecting the coefficient of friction between the platen links of the caterpillars and the caul belts.

**3,521,553**  
**APPARATUS FOR COMPRESSING GARBAGE**  
Kurt Smolka, 82-86 Wittenauer Str., 1 Berlin 26, Germany, and Werner Arendt and Gerhard Schulze, Berlin, Germany; said Arendt and Schulze assignors to said Smolka  
Filed May 16, 1968, Ser. No. 729,679  
Claims priority, application Germany, May 19, 1967, S 109,931  
Int. Cl. B30b 15/08, 15/30, 15/32  
U.S. Cl. 100-98 6 Claims

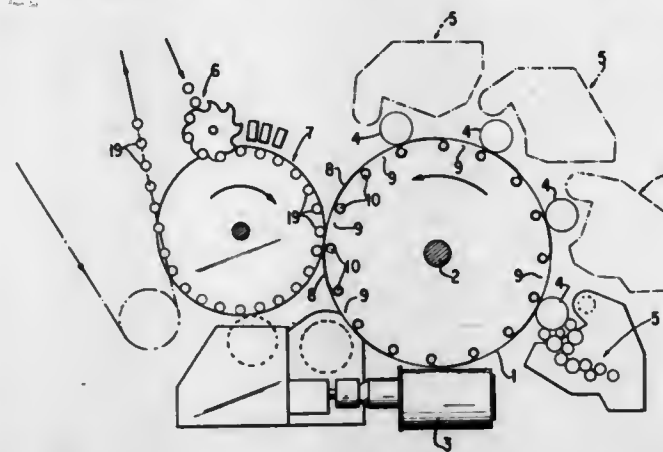


An apparatus for compressing garbage dropping through shafts are characterized in that the garbage is consecutively compressed in three stages in a compression chamber by pressures extending perpendicularly to each other, whereby in the course of the first stage a pressure plate causes compression in horizontal direction while separating the shaft from the compression chamber, the plate being moved into a position wherein it forms a wall of the final compression space, while in the second stage a second pressure plate carries out compression in a vertical direction perpendicularly to the direction of the first compression and is moved to form a second wall of the final compression space, and while during the third stage a horizontal compression against a counter-support takes place, the support being moved away from the final compression space at the end of the compression.

#### ERRATUM

For Class 101-40 see:  
Patent No. 3,521,298

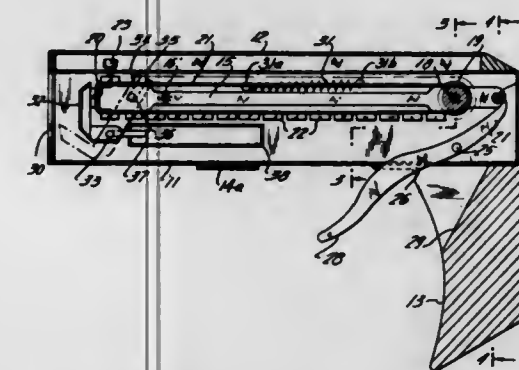
**3,521,554**  
**APPARATUS FOR CONTINUOUS CAN PRINTING**  
Albert T. Zurick, Aldan, Pa., assignor to Cities Service Company, a corporation of Delaware  
Filed May 24, 1967, Ser. No. 640,895  
Int. Cl. B41f 17/22  
U.S. Cl. 101-40 6 Claims



Continuous, high-speed can printing apparatus in which the adverse effects of impact printing are minimized.

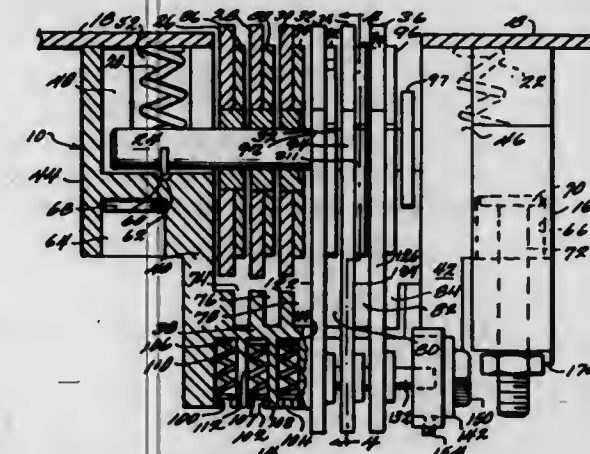
Printing of the can by the impression blanket and inking of the impression blanket by the plate cylinder at the same time are avoided. Spaced apart, independently movable impression segments are provided, each at least as long as the circumference of the can being printed. The gap between each impression segment is the same length or greater than that of the impression segments. Plate cylinders are positioned so as to contact impression segments at the time that contact between a different impression segment and the printed can is broken.

**3,521,555**  
**MARKING GUN EMPLOYING ENDLESS BELT PRINTING MEANS**  
Howard Price, Whitestone, and Bela Szilagyi, Flushing, N.Y., assignors, by mesne assignments, to International Patent & Development Corporation, a corporation of Delaware  
Filed July 31, 1968, Ser. No. 749,211  
Int. Cl. B41j 1/36, 1/10, 27/00  
U.S. Cl. 101-103 1 Claim



Hand operated marking device with settable indicia for stamping preset indicia on articles to be marked. A finger operated trigger provides the stamping pressure without the necessity of pressing the device on the article to be marked.

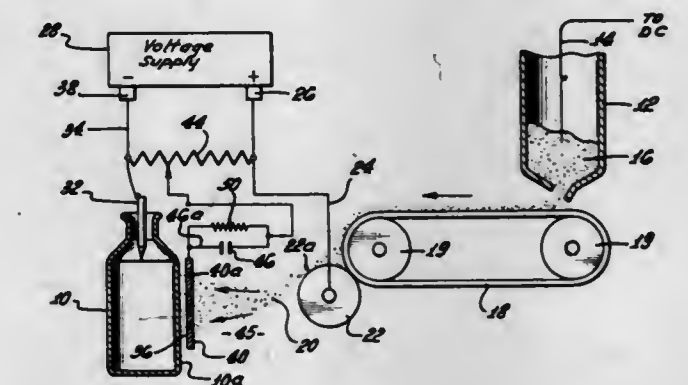
**3,521,556**  
**DIGIT WHEEL ASSEMBLY**  
William P. Barbour, Fairfax County, Va., assignor to Farrington Business Machines Corporation, Springfield, Va., a corporation of Massachusetts  
Filed Jan. 30, 1968, Ser. No. 701,747  
Int. Cl. B41f 3/04; B41j 7/92, 7/32  
U.S. Cl. 101-110 7 Claims



A digit wheel assembly is disclosed for use with imprinters, the assembly consisting of (1) a digit wheel unit including a plurality of digit wheels mounted on a

common digit wheel shaft; (2) a carrier unit for the digit wheel unit, the carrier unit being slotted at both ends thereof to respectively receive the ends of the digit wheel shaft and the carrier unit being downwardly biased by a compression spring with respect to the underside of the print bed portion of the base of the imprinter; (3) a pair of U-shaped brackets fixedly secured to the underside of the base, each of the brackets including vertically disposed guide paths for the respective ends of the digit wheel unit carrier; (4) a pair of adjustment screws respectively threaded through the U-shaped brackets to vertically move the carrier unit upwardly against the compression springs to thereby establish an optimum initial vertical position of the digit wheel unit; (5) a plurality of L-shaped pawls, the vertical legs of which respectively engage gear faces respectively connected to the digit wheels and the horizontal legs of which are downwardly biased by a plurality of detent compression springs mounted in the base of the carrier unit; (6) a pawl shaft which passes through the vertex of all of the pawls, the pawls being attached for rotational movement around the shaft by the action of the detent compression springs to thereby engage the respective gear faces; (7) a pair of eccentric bearings rotatably mounted in said carrier unit, the pawl shaft being eccentrically mounted at both ends thereof in eccentric bearings; and (8) means for rotating the eccentric bearings to transfer vertical movement to the pawl shaft and the pawls connected thereto and thus rotational movement to the digit wheels whereby an optimum, initial rotational position of the digit wheel unit is effectuated.

**3,521,557**  
**CHARGE CONTROL IN ELECTROSTATIC PRINTING**  
William T. Fisher, Los Alamitos, Robert D. Thompson, Anaheim, Charles B. Patterson, Lakewood, and Stanley M. Dahl, Whittier, Calif., assignors to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California  
Continuation-in-part of application Ser. No. 767,018, Aug. 26, 1968, which is a continuation-in-part of application Ser. No. 651,946, July 7, 1967. This application Sept. 6, 1968, Ser. No. 757,883  
Int. Cl. B41m 1/12; B41f 15/00  
U.S. Cl. 101-114 12 Claims



In the printing method in which electrically charged particles are launched from an electrode and pass through a stencil and onto a target surface, free charges flow sporadically from the launching electrode to the stencil. The resultant disruption in the uniform intensity of the printing field between stencil and target surface interferes with particle trajectories and printing definition. This invention limits variation in printing field intensity from this cause by accumulating away from the field, stencil charges deposited which tend to disrupt uniform field intensity during printing.



### 3,521,558 ELECTROSTATIC PRINTING WITH POTENTIAL CONTROL

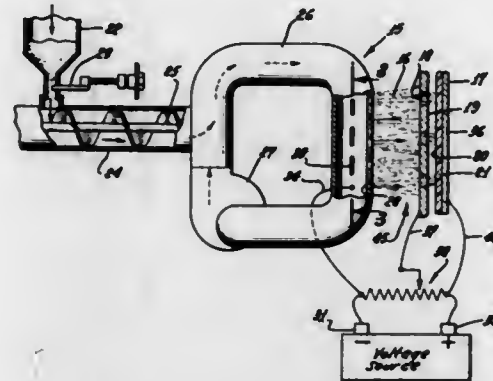
William T. Fisher, Los Alamitos, Robert D. Thompson, Anaheim, Charles B. Patterson, Lakewood, and Stanley M. Dahl, Whittier, Calif., assignors to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California

Continuation-in-part of application Ser. No. 651,946, July 7, 1967. This application Aug. 26, 1968, Ser. No. 767,018

Int. Cl. B41f 15/14

U.S. Cl. 101—114

19 Claims



Highly controllable configurations in the printing of images by electrostatic deposition of particles through a stencil and onto a surface is realized by provision for independent control of the aperture area potential relative to the surface.

### 3,521,559 TWO-COLOR OFFSET PRINTING

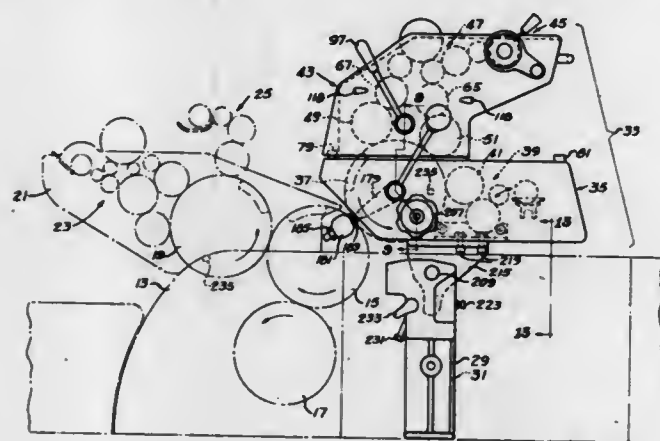
Arthur W. Sejeck, Kirtland, and James C. Garman, Wickliffe, Ohio, assignors to Addressograph-Multi-Graph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed July 29, 1966, Ser. No. 568,838

Int. Cl. B41f 7/08, 13/14

U.S. Cl. 101—137

9 Claims



A rotary offset lithographic duplicator is provided with an attachment in the form of an auxiliary head which can be mounted on the frame of the main machine, and which carries an auxiliary master cylinder positioned in operative relation to the blanket cylinder of the main machine and arranged to be driven from the blanket cylinder gear. The auxiliary head embodies an auxiliary frame which is rockably affixed to the main machine frame and an ink system frame which is shiftable on the auxiliary frame to allow the ink rollers to be placed in operative relation to the auxiliary master cylinder, or to be withdrawn therefrom to provide operator access permitting ready changes of masters and cleaning of the blanket between runs. The ink form rolls are arranged to shift well clear of the auxiliary master cylinder to permit such shifting action

without interference, and axial adjustment of the auxiliary master cylinder position is provided for to permit, during a run, exact lateral register of the auxiliary impression with the main impression on the blanket.

Special mounting means are provided which make it possible to achieve ready alignment of the auxiliary cylinder axis parallel to the blanket cylinder axis plus proper printing pressure, and this means includes the rockable mounting of the auxiliary frame, as aforesaid, enabling shifting the attachment between the running position with gears meshed and a standby position with gears unmeshed, but without disturbing its fully adjusted condition.

### 3,521,560 LITHOGRAPHIC PRINTING

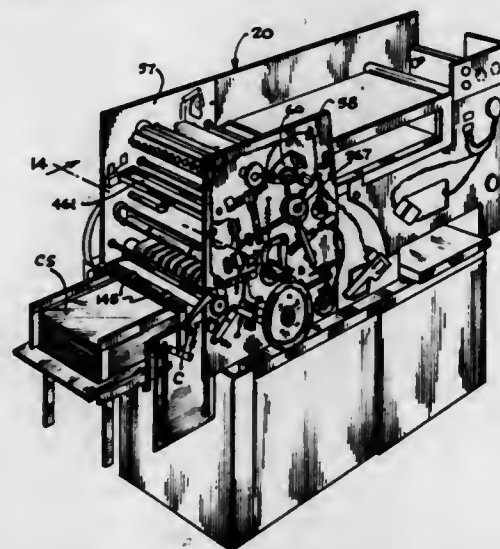
Raymond J. Schmidlin, Lyndhurst, and Donald J. Miller, Lakewood, Ohio, assignors to Addressograph-Multi-Graph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Oct. 20, 1966, Ser. No. 588,100

Int. Cl. B41f 7/00, 33/02

U.S. Cl. 101—145

21 Claims



A lithographic duplicator embodies a two cylinder printing arrangement with the master cylinder and a directly contacting impression cylinder so disposed that their common axial plane is situated at an angle to the vertical. Masters are fed generally horizontally and tangentially to the bottom of the master cylinder and are ejected at the top. Copy sheets are fed generally horizontally and tangentially to the bottom of the impression cylinder at a position somewhat less than 180° away from the printing line, and are fed away at the top, just after passing the printing line. The mechanism for separating the cylinders in case a copy sheet fails to feed embodies a delay mechanism to permit completion of printing of the previous copy sheet after misfeed is detected for a time long enough to enable the previous copy sheet to clear the printing line. Automatic controls are provided, including especially means for predetermining the number of times the master is inked before copy sheet feeding is started, and means for withdrawing the moistening fluid from the fountain except during a duplicating run.

### 3,521,561 METHOD AND APPARATUS FOR CONTOURING A ROTOGRAVURE DOCTOR BLADE

Christopher Pall, Ramsey, and Jack Bryer, Paramus, N.J., assignors, by mesne assignments, to James Talcott Inc., New York, N.Y., a corporation of New York

Filed Jan. 15, 1968, Ser. No. 699,014

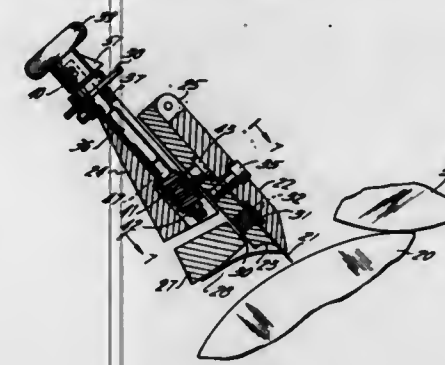
Int. Cl. B41f 9/10

U.S. Cl. 101—169

17 Claims

A device for contouring a doctor blade to conform it to the deflection in a roto gravure printing cylinder. A pair of clamping jaws, supporting therebetween a doctor

blade, mounted on a support member having a rotatable shaft at a plurality of points along the support member connected at these points to the pair of jaws by means of



worm, worm wheel and threaded bolt combination so that as the shaft is rotated the jaws holding the blade will be pulled toward the support member and the blade will be contoured.

### 3,521,562 PLATEN ROLLER PRINTING MACHINES WITH PRINTING PLATE SUPPORT MEANS

William P. Barbour, Alexandria, Va., assignor to Farrington Business Machines Corporation, Springfield, Va., a corporation of Massachusetts

Filed Jan. 24, 1967, Ser. No. 611,331

Int. Cl. B41f 1/54, 3/54

U.S. Cl. 101—269

2 Claims



An apparatus and a method of shimming a printing plate support in a printing machine by utilizing a deformable material in the shimming process to level the printing plate support, the deformable material being displaced through a printing cycle, and then hardening the material in its displaced state to provide optimum print quality for subsequent printing operations on the machine.

### 3,521,563 TANK MINES

Franz Becker, Bonn, Germany, assignor to Dynamit Nobel AG, Troisdorf, Bezirk, Cologne, Germany

Filed Apr. 5, 1965, Ser. No. 446,482

Claims priority, application Germany, Apr. 4, 1964, D 44,085

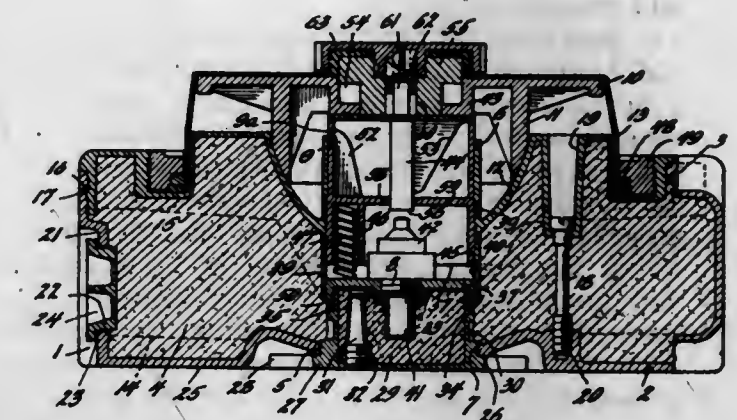
Int. Cl. F42b 23/26

U.S. Cl. 102—8

12 Claims

1. A tank mine comprising a housing, a pressure member, means movably mounting the pressure member on top of the housing, an explosive charge within the housing, the housing having a central opening in the bottom wall thereof aligned with the pressure member, a detonator mechanism, and means removably mounting the detonator mechanism in said opening in a position in operative relation to said pressure member, said housing being formed of upper and lower parts having means along their meeting peripheral edges securing them together, the lower part having an internally threaded hole therein constituting the central opening and the upper part having a hollow cylindrical guide member, said hole and guide member being coaxial and forming parts of said opening, said detonator mechanism comprising a closure part threaded in said hole, a carrier resting on said closure part and

vertically slidably guided in said guide member, a detonator carried by said carrier, and an operating member



vertically slidably guided in said guide member above said carrier and operatively connected with said pressure member.

### 3,521,564 MINIATURE ROCKET

Bert B. Gould, Alameda County, and Arthur T. Biehl and Robert Mainhardt, Contra Costa County, Calif., and William D. Barton, Panama, Republic of Panama, assignors to MB Associates, a corporation of California

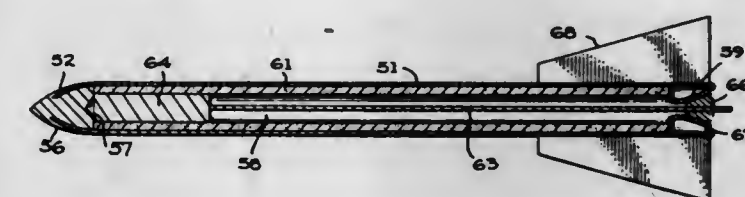
Original application Feb. 11, 1965, Ser. No. 435,780.

Divided and this application Oct. 22, 1965, Ser. No. 515,513

Int. Cl. F42b 13/28

U.S. Cl. 102—49.7

7 Claims



1. A miniature rocket for use as an anti-personnel kinetic energy kill mechanism comprising in combination, (a) a tubular casing capable of withstanding the pressure rise and thermal shock load of a high performance propellant with nose and rear end portions defining a combustion chamber therebetween, (b) a weighted nose providing a center of gravity for said rocket at least 60% of the length of said rocket from the rear end and forming a forward restraining portion to said combustion chamber, (c) a propellant grain having a central bore extending continuously axially therethrough lining the interior of said tubular casing abutting said forward restraining portion capable of accelerating said rocket to velocities in excess of 2500 feet per second and adapted to burn uniformly radially outwardly from the surface of the propellant bore to said casing with the gases of combustion exhausting rearwardly through the bore, (d) means integral to said rocket for preventing the flame front of the burning propellant from reaching the case along its length before substantially all of said propellant grain is consumed, (e) fusing means for providing relatively instantaneous uniform longitudinal ignition of the interior surface of the propellant grain, said fusing means further including a booster and means for securing said booster in said propellant bore, said booster comprising a mixture of approximately 36% boron potassium nitrate and 64% thermite as approximately 53% of the formula plus approximately 40%



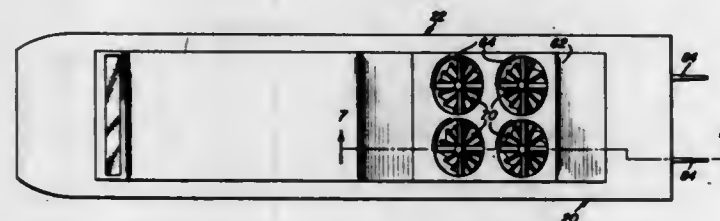
boron chlorate, 2% boron (90-92% pure), and 5% nitrocellulose binder,  
 (f) means being provided in said rocket for preventing end burning, core burning and premature ignition of said propellant grain,  
 (g) at least three tail fins securely affixed to said casing and extending radially outward therefrom, and  
 (h) nozzle means having a constricted throat there-through secured in the rear end of said casing abutting said propellant grain and formed for constricting the exhaustion of the gases or combustion from said propellant through said port to raise the pressure within the casing after ignition of the propellant, said nozzle means forming a rear bulkhead for said combustion chamber and supporting said propellant grain for preventing the flame front of the burning propellant from proceeding between the grain at the forward restraining portion and at the rear bulkhead to the casing.

**3,521,565**  
**APPARATUS FOR REPLACING AN OLD TRACK BY A NEW TRACK**  
 Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna I, Austria  
 Filed June 20, 1968, Ser. No. 738,475  
 Claims priority, application Austria, June 29, 1967, A 6,076/67  
 Int. Cl. E01b 29/05  
 U.S. Cl. 104-4 12 Claims



A work train is moved continuously along a right of way, with a forward section moving on the rails of an old track section and a rear section moving on the rails of a newly laid track section. In an intermediate section, the ends of the old rails are lifted up and supported on the cars of the rear train section as the train advances and the old rail ends remain connected to the rails. Simultaneously, continuous lengths of new rails are supported on the cars of the forward train section and their ends are laid in the intermediate section while the ends remain connected to the rails.

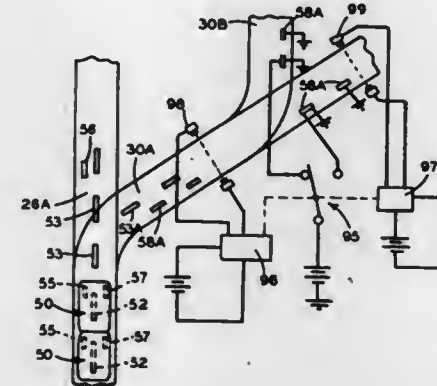
**3,521,566**  
**AMPHIBIOUS BOAT**  
 John Van Veldhuizen, 31601 SW. 197th Ave., Homestead, Fla. 33030  
 Filed Oct. 27, 1967, Ser. No. 678,630  
 Int. Cl. B60v 1/04, 3/04  
 U.S. Cl. 104-23 19 Claims



An air propelled vehicle including means operative to discharge sufficient quantities of air downwardly about the periphery of the vehicle to support the vehicle from a generally horizontal surface such as land or water, the

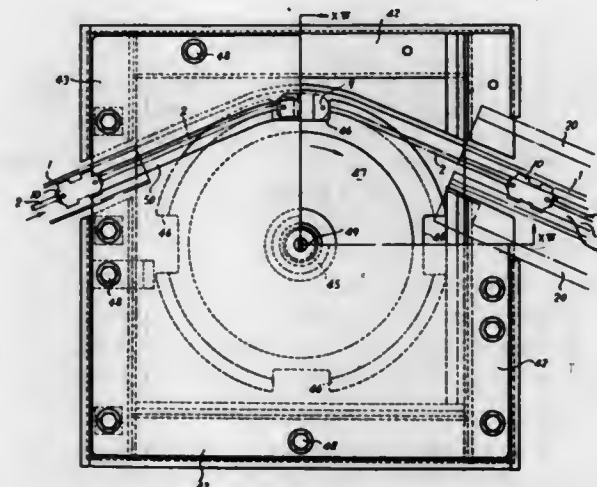
bottom of said vehicle also being contoured to coact with the areas of downward discharge of air to enable the vehicle to automatically guide itself along a prepared bed.

**3,521,567**  
**AUTOMATIC SWITCHING SYSTEM FOR PROPELLED CARRIERS**  
 Mihai Alimanestianu, 4 Locust Drive, Upper Nyack, N.Y. 10960  
 Filed Aug. 21, 1968, Ser. No. 754,379  
 Int. Cl. B61j 3/00; B61k 1/00  
 U.S. Cl. 104-88 12 Claims



An automatic switching system for carriers propelled along a main path at a substantially constant, relatively high speed, the carriers being in closely spaced, serial relation; wherein each carrier may be directed to a selected branch path extending from the main path for continued movement along the branch path without the diminution of speed.

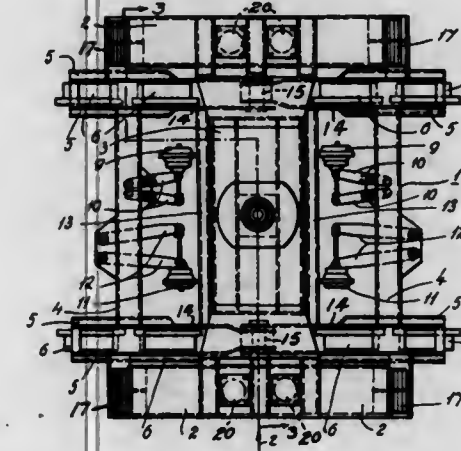
**3,521,568**  
**CABLE TOW CONVEYOR**  
 Takeo Kato, Tokyo, and Toshiyuki Takahashi, Yokohama-shi, Japan, assignors to Sanki Engineering Co., Ltd., Tokyo, Japan  
 Filed Aug. 22, 1967, Ser. No. 662,522  
 Int. Cl. B61b 9/00; E01b 25/14  
 U.S. Cl. 104-172 2 Claims



The present carrier tow system has a driven cable carrying lugs in a channel shaped guide rail embedded in a supporting surface on which moves carriers each having a slidable tow pin thereon for engaging one of said lugs whereby said carriers are moved and include pits in said supporting surface each having a driven wheel with catches for mating with said cable lugs to drive said cable

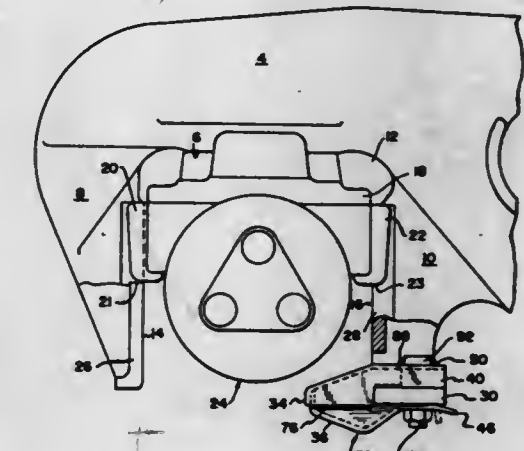
and means for guiding said tow pins, at times, into a diverging guide opening from said guide rail. on railroad cars. The construction of the key is such that it can be bolted to existing side frames in a manner which

**3,521,569**  
**ARTICULATED RAILWAY BOGEY**  
 Ragnar Ludvig Muotka, Kyrkogatan 46; and Sune Torsten Henriksson, Kvartsvagen 6, both of Kiruna, Sweden; and Lars Erik Landeborg, Exercisgatan 2, Malmo, Sweden  
 Filed Apr. 3, 1967, Ser. No. 628,076  
 Claims priority, application Sweden, Apr. 5, 1966, 4,545/66  
 Int. Cl. B61f 5/00, 3/12; B61d 3/00  
 U.S. Cl. 105-182 9 Claims



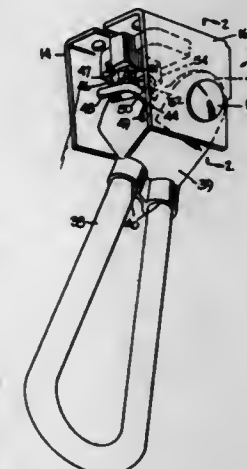
A bogey for low-built railway carriages comprising a pair of wheel axle units, each including transversely spaced apart longitudinal beams, a separate transverse beam connecting the longitudinal beams of each wheel axle unit, one end of the longitudinal beams of each wheel axle unit being resiliently pivotally connected to one end of a corresponding longitudinal beam of the other wheel axle unit whereby the wheel axle units may swing vertically about a transversely extending horizontal pivot axis, and a pair of longitudinally spaced apart wheels rotatably mounted in each longitudinal beam, a frame girder unit positioned above and extending transversely of the wheel axle units, including surfaces inclined to the vertical adjacent to opposed surfaces inclined to the vertical on each of the longitudinal beams, resilient means acting between the opposed inclined surfaces tending to swing each of the wheel axle units downwardly and away from each other, resilient pivot means for mounting railway carriage body elements on the frame girder unit centrally of the frame girder unit for pivotal movement in a horizontal plane about a vertical pivotal axis, and resilient means positioned between the frame girder unit and carriage body elements at the sides of the carriage body elements for helping to support the carriage body elements and for maintaining the carriage body elements substantially horizontal.

**3,521,570**  
**RETAINING KEY FOR PEDESTAL SIDE FRAMES**  
 Erwin J. Hasten, Jr., 7 S. Dearborn St., Chicago, Ill. 60603  
 Continuation-in-part of application Ser. No. 618,045, Feb. 23, 1967. This application Aug. 21, 1968, Ser. No. 766,658  
 Int. Cl. B61f 5/26, 15/02  
 U.S. Cl. 105-221 18 Claims  
 A light-weight, high-strength frame key formed from a hollow box member and used primarily in connection with a vehicular pedestal type sideframe. The frame key is designed to prevent the accidental dislodgment of an unsupported wheel, axle and bearing assembly from the pedestal type side frame now being used with frequency



will lock the head and nut of the bolt against relative rotation during periods of use of the side frame.

**3,521,571**  
**HAND HOLD**  
 Charles F. Rosellus, Kinnelon, N.J., and Albert C. Magglo, Brooklyn, N.Y., assignors to Elcom National, Inc., Totowa Borough, N.J., a corporation of New York  
 Filed Jan. 30, 1968, Ser. No. 701,676  
 Int. Cl. B61d 37/00, 49/00  
 U.S. Cl. 105-354 7 Claims

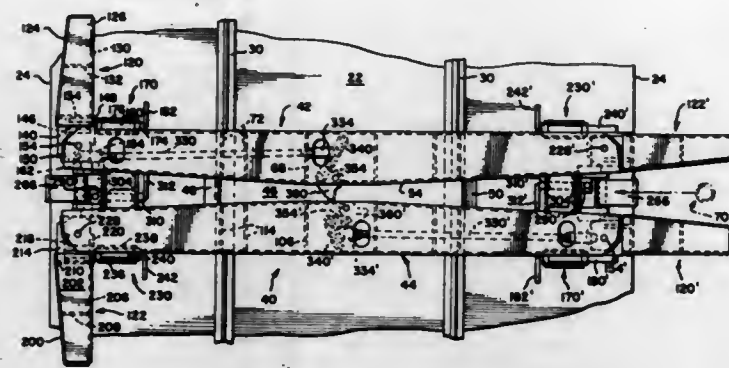


A hand hold assembly including a bracket carrying an axle made in two removably connected parts, each having an external overlapping head; and a handle mounted on the axle for pivotal movement.

**3,521,572**  
**KINGPIN RECEIVER**  
 Samuel C. Hamilton, Clifton, N.J., assignor to Major Railcar Division, Fruehauf Corporation, Clifton, N.J., a corporation of Michigan  
 Filed Apr. 15, 1968, Ser. No. 721,391  
 Int. Cl. B65j 1/22; B60p 7/08  
 U.S. Cl. 105-366 2 Claims  
 A kingpin receiver is provided including a kingpin receiving slot extending throughout the width thereof. Extension arms are provided fore and aft of each end of the slot and are mounted for swinging movement from a folded stowed position to a projecting kingpin receiving and guiding position. A kingpin latching means is movably mounted at the center portion of the slot and is



interconnected with said extension arms so as to be automatically operated between locked and unlocked positions.



tion upon movement of said extension arms between stowed and kingpin receiving positions.

3,521,573

## RAILROAD CAR SIDE

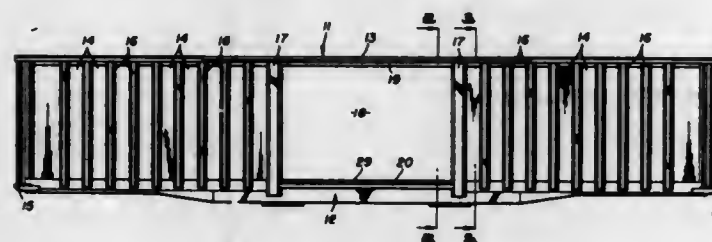
Carl E. Johansson, South Euclid, Ohio, assignor to The Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 25, 1966, Ser. No. 596,858

Int. Cl. B61d 17/08

U.S. Cl. 105-409

8 Claims



The railroad car side is constructed of a light weight material such as aluminum. The car side has specially shaped components because of the fabrication requirements of aluminum and includes a side sill which is channel-shaped and face inwardly of the car. A side plate extends along the top of the car side, and post-supported side walls extend between the side sill and side plate. An opening is formed in the side wall and plates supported on the side plate and sill extend along the top and bottom of the door opening. A channel-shaped threshold plate is formed on top of the channel-shaped sill, faces in the same direction as the sill and supports the floor of the car. The sill includes a vertical extension to which the lower edge of the side wall is attached. Similarly, the side plate includes a depending leg to which the upper edge of the side wall is attached.

3,521,574

## RAILROAD CAR SIDE END CORNER CONSTRUCTION

Carl E. Johansson, South Euclid, Ohio, assignor to The Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 25, 1966, Ser. No. 596,969

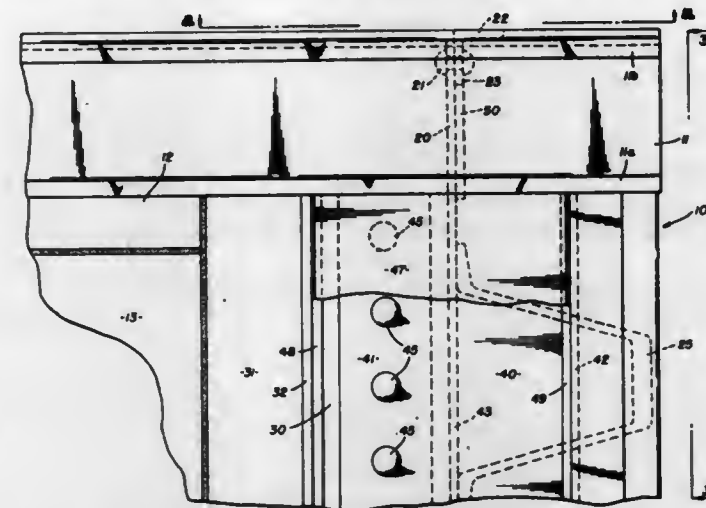
Int. Cl. B61d 17/06, 17/08

U.S. Cl. 105-409

11 Claims

The railroad car side is fabricated from lightweight metal such as aluminum. The disclosure relates to the corner connection between the side wall and the end wall of the railroad car. The side wall includes a side corner post connected to the side wall and an end corner post connected to the end wall. The end post and side post each includes a portion which overlaps the other with the overlapping portions being disposed beneath the side plate which extends the entire length of the car. The

overlapped portions is the point of connection between the end wall and the side wall thereby permitting sub-assembly of the end wall separate from the side wall. All



of the component parts of the corner construction involve either flat sheets or extruded shapes requiring virtually no cutting or coping to subassemble and assemble.

3,521,575

## SIDE PLATE CONSTRUCTION FOR RAILCAR

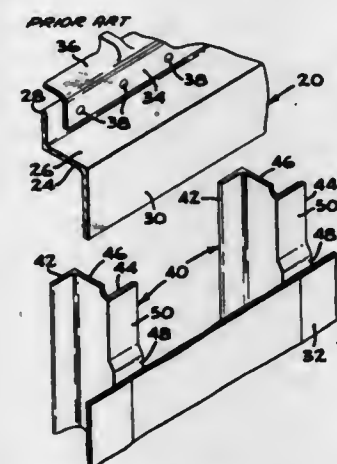
Elwood W. Hannah, Portland, Oreg., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Nov. 29, 1967, Ser. No. 686,398

Int. Cl. B61d 17/08

U.S. Cl. 105-409

9 Claims



The upper sideplate of a railway boxcar is formed of two coextensive members, an upright plate and an inwardly turned substantially C-shaped channel welded to the plate. These two members are secured to the wall posts and cooperatively form a continuous, integral box section, between the end walls of the car, with an inwardly extending horizontal roof support flange.

3,521,576

## BRIDGE PLATE SECURING MECHANISM

Robert H. Murray, Wescoesville, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware

Filed Nov. 16, 1967, Ser. No. 683,502

Int. Cl. B65j 1/10

U.S. Cl. 105-458

4 Claims



A mechanism for counterbalancing the weight of a hinged bridge plate while it is being moved between its lowered and raised positions, and for securing said bridge plate resiliently when in its raised or storage position.

3,521,577

## BRIDGE PLATE LIFTING DEVICE

Robert M. Akers, 1300 S. Robinson Ave.,

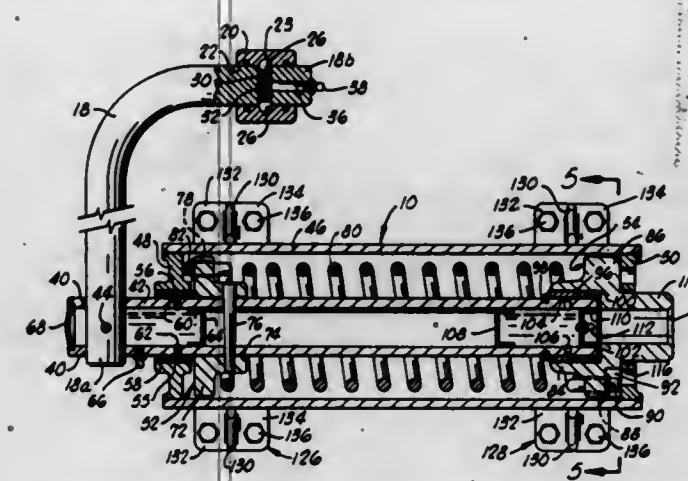
Oklahoma City, Okla. 73125

Filed Dec. 28, 1967, Ser. No. 694,147

Int. Cl. B61d 45/00, 47/00

U.S. Cl. 105-458

18 Claims



A device for supporting, and aiding in lifting, a bridge plate of the type used to span the space between two coupled railroad cars comprising lifting arm means including a lifting arm adapted to contact the underside of the bridge plate, and an elongated member connected to one end of the lifting arm or formed integrally therewith and extended concentrically through a cylindrical housing. A torsion spring is mounted within the housing and connected to the elongated member so as to be loaded in tension when the arm is pivoted and the elongated member is rotated about its axis. The ends of the cylindrical housing are closed by end plates, and spring anchoring and hub assemblies are located within the housing, and function to connect one end of the torsion spring to the elongated member, and the other end of the torsion spring to one of the end plates. The spring anchoring and hub assembly which is connected to one of the end plates can be detached therefrom, and is accessible from outside the housing to permit it to be rotated a predetermined amount relative to the end plate before its securement thereto so as to preload the torsion spring to a selected degree.

3,521,578

## BAKING DOUGH ROUNDER AND MOLDING MACHINE

Joseph Fraloli, Sr., 300 Martine Ave.,

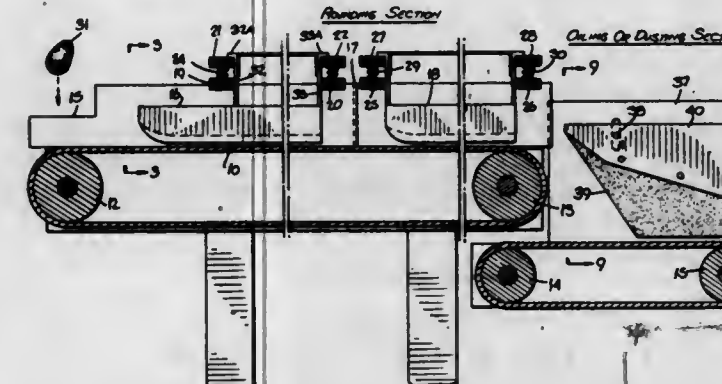
White Plains, N.Y. 10601

Filed Apr. 26, 1968, Ser. No. 724,534

Int. Cl. A21c 11/00

U.S. Cl. 107-4

7 Claims



A dough rounder and molding machine wherein raw dough is divided into individual unshaped pieces which are deposited onto a continuous conveyor belt that transports the pieces through a bank of channels defined by parallel partitions disposed above the belt, a floating shoe having a molding surface being deposited within each channel, whereby the advancing piece engages the mold-

ing surface of the shoe and is rolled thereby to assume a round form.

3,521,579

## ARTICLES OF FURNITURE

John N. Stafford, London, England, assignor to Shepherd Furniture Limited, London, England

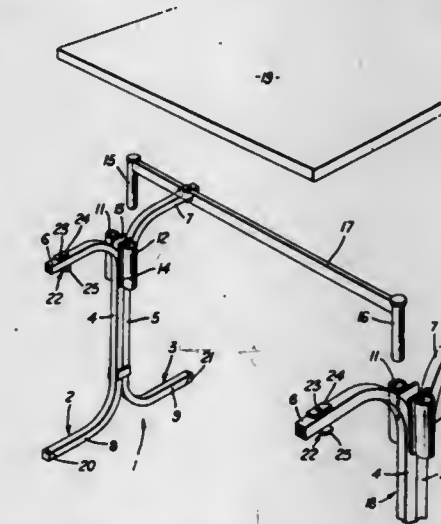
Filed June 4, 1968, Ser. No. 734,360

Claims priority, application Great Britain, June 6, 1967, 26,108/67

Int. Cl. A47b 97/00

U.S. Cl. 108-64

7 Claims



For multi-unit load-bearing furniture, apparatus comprising: at least three supporting legs; the first part of a two-part connector on each of a pair of opposite sides of each said leg; a connecting member for location between each pair of supporting legs; the second part of said connector at or adjacent each end of said connecting member, each of said connecting members being adapted to be located between a pair of supporting legs to space apart the legs of such pair; a plurality of load-bearing units adapted to be supported by the said legs and of which the connecting members may form the whole or a part, each said leg conveniently being so formed, for example, bifurcated, as to permit the passage therebeyond of a connecting member so that the said second part of said connector may be optionally located in either of the said first parts of the connector of such supporting legs, and the arrangement desirably being such that the furniture may be erected with each load-bearing unit abutting an edge of at least one other load-bearing unit to provide a continuous load-bearing surface.

3,521,580

## SHELTER FOR MILITARY USE

Ryoji Kimoto, Mito-shi, Japan, assignor to Tokyo, Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

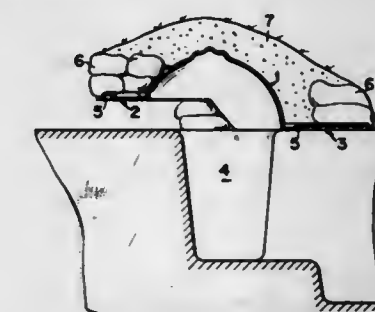
Filed Jan. 15, 1969, Ser. No. 791,431

Claims priority, application Japan, Jan. 16, 1968, 43/1,928

Int. Cl. F41h 5/08

U.S. Cl. 109-49.5

3 Claims



A shelter for military use consists of a dome having a protecting brim integrally formed therewith at the front



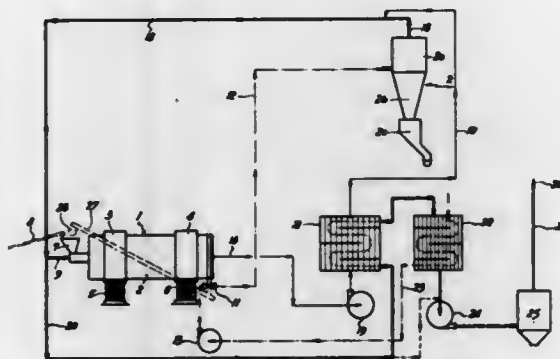
side, and a skirt integrally formed therewith at the back side and spread around the substantially half periphery thereof.

### 3,521,581 INSTALLATION FOR BURNING SEWAGE SLUDGES

Guy Quesnel, Gif, France, assignor to Stein & Roubaix, Paris, France, a French company  
Filed Feb. 18, 1969, Ser. No. 800,149  
Claims priority, application France, Feb. 23, 1968, 141,109  
Int. Cl. F23g 5/04

U.S. Cl. 110—8

6 Claims



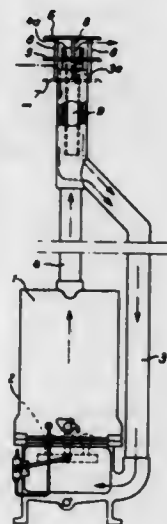
An installation for burning sewage sludges in a cyclone hearth includes a drier, the moist gases from which are mixed with the hot combustion gases from the cyclone hearth to effect deodorization. Part of the mixed gases are fed back to the inlet of the drier and the other part discharged to atmosphere through heat exchangers which warm the moist gases from the drier and the combustion air which blows the dried sludges to the cyclone furnace.

### 3,521,582 HEATING APPARATUS

Odd Gunnar August Liden, Hagersten, Sweden; Karin Elonora Liden, Odd Hakan Liden, and Kajsa Margaretha Liden, the sole heirs of said Odd Gunnar August Liden, deceased, assignors to Liden Varmer AB, Norrfjärden, Sweden  
Filed Mar. 26, 1968, Ser. No. 716,071  
Int. Cl. F23i 17/04

U.S. Cl. 110—147

4 Claims



A device for regulating the air intake as well as the exhausting gases in order to get a heating apparatus working with high efficiency. A number of different embodiments are shown but each of them is constructed so the

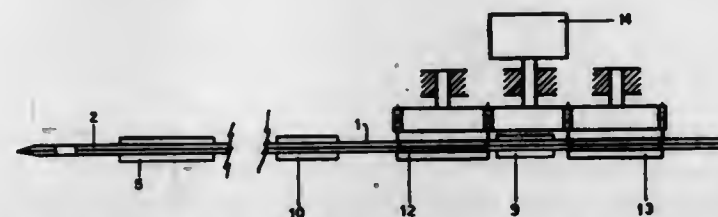
air intake as well as the exhausting gases may be regulated at the same time. This is achieved by the fact that the tube for the air intake and the tube for the exhausting gases are arranged so that differences in the atmospheric pressure act equally upon both tube openings.

### 3,521,583 FRINGING MACHINE HAVING A NEEDLE AND COOPERATING GUIDE STRUCTURE OF NON- CIRCULAR CROSS SECTION

Giovanni Battista Pozzolo, Lovere, Italy, assignor to SMIT S.p.A.—Società Macchine per l'Industria Tessile, Milan, Italy, a company of Italy  
Filed May 22, 1967, Ser. No. 640,056  
Claims priority, application Italy, May 25, 1966, 18,250/66  
Int. Cl. D05b 23/00, 85/00

U.S. Cl. 112—64

6 Claims



A threading needle and cooperating guide structure in a fringing machine which automatically form fringes in a fabric, the cross-sectional shapes of the needle and its cooperating guide structure being noncircular so that the eye of the needle is maintained at a constant axial orientation when the needle is driven through the fringes in order to tie them together and prevent their unrolling.

### 3,521,584 AUTOMATIC MULTI-HEAD EMBROIDERING MACHINE

Ludwig Trageser, 32 Von Bahren Strasse, Hamburg 70, Germany  
Filed Sept. 4, 1968, Ser. No. 757,345  
Claims priority, application Germany, Sept. 15, 1967, 1,685,140  
Int. Cl. D05c 3/02

U.S. Cl. 112—102

1 Claim



The invention provides an automatic multi-head embroidering machine which comprises a punched control mechanism, transmission means and connecting elements for controlling the movements of the embroidery frames, wherein needle heads are disposed on a carrier between embroidering heads and each individual embroidering head and needle head is disconnectable by a clutch from a common drive shaft and the loopers of the needle heads derive their drive from a neighboring embroidering head through a transmission below the table of the machine.

### 3,521,585 CYLINDER BED SEWING MACHINE

Josef Rouha, Boskovice, Czechoslovakia, assignor to Elitex Zavody Textilního Strojírenství Generalní Ředitelství, Liberec, Czechoslovakia  
Filed Mar. 4, 1969, Ser. No. 804,155  
Claims priority, application Czechoslovakia, Mar. 5, 1968, 1,716/68  
Int. Cl. D05b 27/00

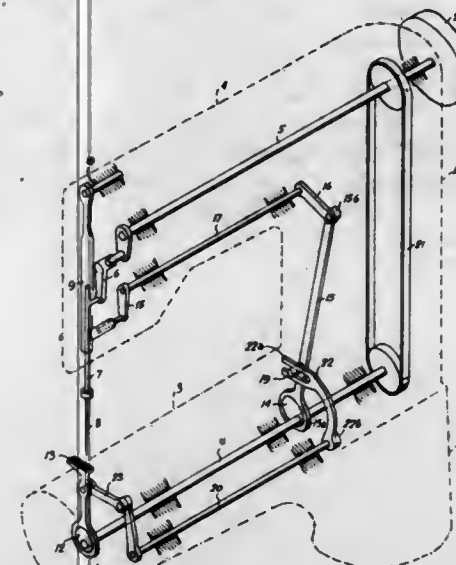
U.S. Cl. 112—206

15 Claims

A cylinder bed sewing machine with bottom and needle advancement of the workpiece, wherein the needle and

the feeder are moved up and down by two rotary shafts and are oscillated by two additional shafts. The addi-

rolled into tubular configuration and the strips twisted through 90 degrees and wrapped around and attached to the outer surface of the tubing.



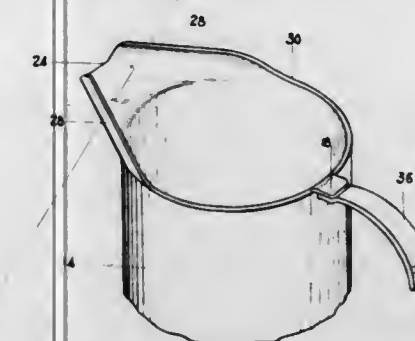
tional shafts derive oscillatory motion from one of the rotary shafts by way of an eccentric.

### 3,521,586 METHOD OF MAKING SPOUTED HOLLOW-WARE

Parker L. Basterfield and Norman E. W. Basterfield, Johannesburg, Transvaal, Republic of South Africa, assignors to Basterfield Holding (Proprietary) Limited, Johannesburg, Transvaal, Republic of South Africa  
Filed Aug. 22, 1967, Ser. No. 662,496  
Claims priority, application Republic of South Africa, Aug. 31, 1966, 66/5,256  
Int. Cl. B21d 51/00

U.S. Cl. 113—116

2 Claims



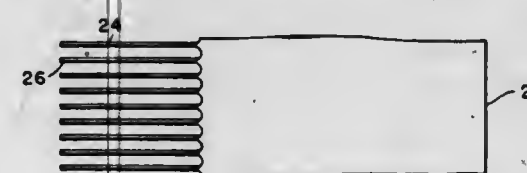
A method of making spouted hollow-ware consists in bending a blank of sheet material to form a cavitated body having a flange parallel to the base of the body and substantially flush with the upper edge of the body, and then bending the sides of the flange upwardly into the shape of an open-topped channel to form a spout.

### 3,521,587 METHOD OF MAKING AN EXTENDED SURFACE DOUBLE WALL TUBING FROM STRIP STOCK

Edward P. Haddas, Dearborn, Mich., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
Original application Jan. 2, 1968, Ser. No. 695,098.  
Divided and this application Mar. 27, 1969, Ser. No. 811,150  
Int. Cl. B21d 53/04; B23p 15/26

U.S. Cl. 113—118

5 Claims



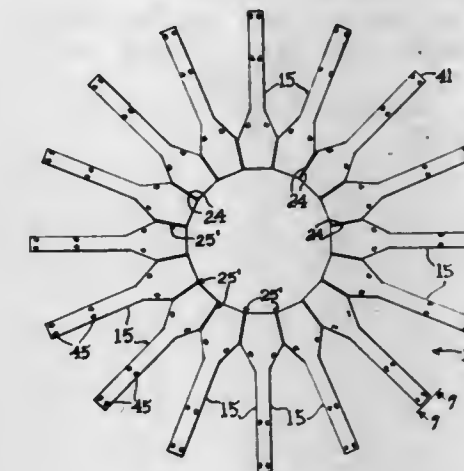
The method of making finned tubing formed from strip having one edge slotted to provide fins, the strip being

### 3,521,588 MOVABLE FLOATING BOAT ANCHORAGE

Gerald D. Atlas, 2940 W. Balmoral, Chicago, Ill. 60625  
Filed Nov. 20, 1968, Ser. No. 777,349  
Int. Cl. B63b 35/00

U.S. Cl. 114—5

9 Claims



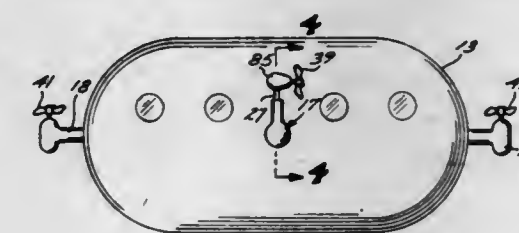
A movable floating boat anchorage of modular construction for a multiplicity of boats, the modules of such anchorage providing therebetween individual boat slips. The corresponding inner end portions of the modules have substantially identical configuration in plan view and in side-by-side abutment with respect to each other to permit various arrangements of the modules, i.e., with the modules defining a circular anchorage in plan view or of longitudinal formation or other forms and arrangements as conditions may require.

### 3,521,589 UNDERWATER VESSEL

Frederick O. Kemp, 701 Echo St., Anaheim, Calif. 92804  
Filed Feb. 19, 1969, Ser. No. 800,471  
Int. Cl. B63g 8/00; B63h 5/12

U.S. Cl. 114—16

7 Claims



An underwater vessel comprising a shell having a pair of propelling and maneuvering devices mounted on opposite sides thereof. Each of the propelling devices includes a transversely extending hollow gooseneck, having an arm-receiving opening in one side thereof. An L-shaped arm assembly includes a hollow base portion extending coaxially through the gooseneck and a hollow secondary portion extending transversely of the base portion, geared thereto, and projecting through said arm-receiving opening. The secondary arm section includes a drive shaft-receiving bore in its sidewall. A drive shaft assembly extends coaxially through the arm assembly and includes a segment which projects transversely of



the secondary arm and out the drive shaft-receiving opening and mounts a propeller on its projecting end. Means are provided for rotating the gooseneck, primary arm, and drive shaft independently whereby the gooseneck may be rotated on a horizontal axis, the primary arm pivoted on an axis perpendicular to the horizontal axis, and the drive shaft rotated to drive the propeller.

3,521,590

**SHIP'S BOW CONSTRUCTION**

John German, Montreal, Quebec, and Scott E. Alexander, Ottawa, Ontario, Canada, assignors to Alexbow Canada Ltd., Calgary, Alberta, Canada

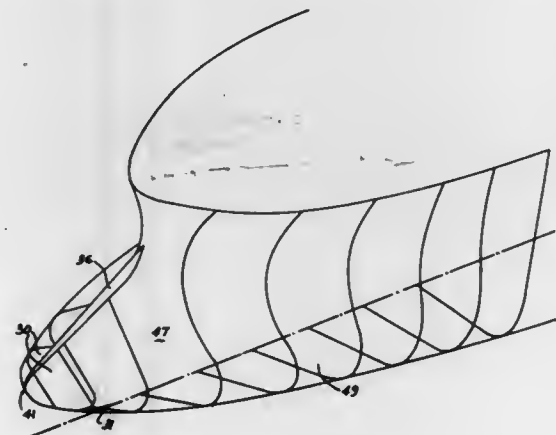
Filed Aug. 6, 1968, Ser. No. 750,582

Claims priority, application Canada, Aug. 15, 1967, 997,888

Int. Cl. B63b 1/00, 35/08

U.S. Cl. 114—41

18 Claims



A bow for use in both ice breaking and normal sea-going service takes the form of a bulbous bow projecting forward below the waterline, the cross-section of the bow being relatively flat, i.e. generally having a greater horizontal than vertical dimension. An upstanding blade projects upwardly to a relatively sharp edge along the upper central region of the bulbous bow. The surfaces extending rearwardly and outwardly of the bow are shaped for elevating pieces of ice cut by the bow and for moving these pieces outwardly for stacking on pack ice beside the ship.

3,521,591

**NAUTICAL ICE-BREAKING STRUCTURES**

Scott E. Alexander, Ottawa, Ontario, Canada, assignor to Alexbow Canada Ltd., Calgary, Alberta, Canada

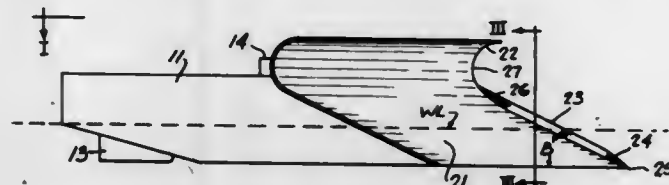
Filed Aug. 6, 1968, Ser. No. 750,583

Claims priority, application Canada, Aug. 15, 1967, 997,885

Int. Cl. B63b 35/08

U.S. Cl. 114—41

8 Claims



A bow for a vessel for ice-breaking has a forwardly projecting forefoot extending under the ice, an upstanding blade that projects upwardly to a relatively sharp edge extending along the upper central region of the forefoot. Outwardly and rearwardly, there are surfaces shaped for elevating pieces of ice cut by the bow and for moving these pieces outwardly for stacking on pack ice beside the vessel.

3,521,592

**ICE CHANNEL CUTTER**

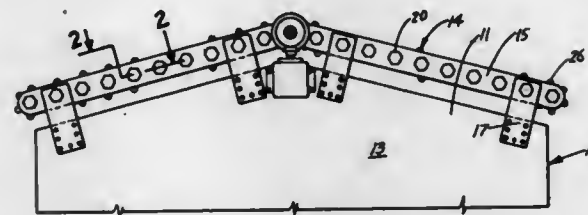
Michael W. Rosner, 1344 Midway Parkway, St. Paul, Minn. 55108; Louis D. Boileau, Grant Drive, Rte. 3, Stillwater, Minn. 55082; and Frank J. Greipel, 49 Larpeur Ave. E., St. Paul, Minn. 55107

Continuation-in-part of application Ser. No. 673,785, Oct. 9, 1967. This application May 13, 1968, Ser. No. 728,389

Int. Cl. B63b 35/12

U.S. Cl. 114—42

8 Claims



An ice channel cutter for opening and maintaining channels for winter navigation in streams otherwise frozen over. The cutter is a marine vessel whose prow is fitted with a plurality of rotary vertically extending ice engaging units each presenting an array of radially extending ice chopping blades or cutters. The ice choppers are rotated simultaneously with forward movement of the vessel to chop the ice into relatively small chunks and carry them sideways and rearwardly, or downwardly so the vessel may pass over it. The ice engaging units are desirably movable vertically for positioning for optimum efficiency. Optionally additional ice engaging units are pivotally mounted on opposite sides of the vessel adjacent the prow and adapted to be swung outwardly from the vessel for widening the channel initially cut.

3,521,593

**PHASE CONTROLLED ROLL STABILIZATION SYSTEM FOR SHIPS**

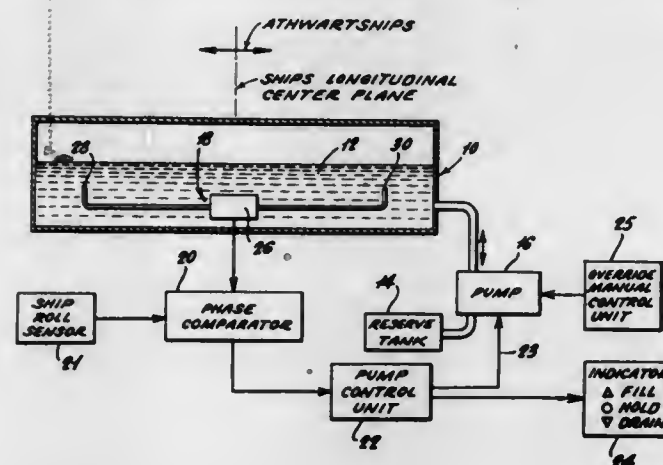
Frans V. A. Pangalila, Matawan Township, N.J., assignor to Flume Stabilization Systems, Inc., Hoboken, N.J., a corporation of New Jersey

Filed Apr. 19, 1968, Ser. No. 722,642

Int. Cl. B63b 43/06

U.S. Cl. 114—125

8 Claims



A phase controlled roll stabilization system for ships comprising an elongated tank extending athwartship and containing a body of liquid in a free surface condition. A pump is provided to raise and lower the liquid level within the tank in accordance with control signals received from a phase comparison unit, the inputs of which represent the tank oscillation and ship roll. The system is designed to automatically and continuously adjust the liquid level so as to maintain the tank liquid oscillation near the optimum 90° phase lag relative to the ship's roll.

3,521,594

**UNDERDAMPED PASSIVE SHIP STABILIZER WITH DEACTIVATING MEANS**

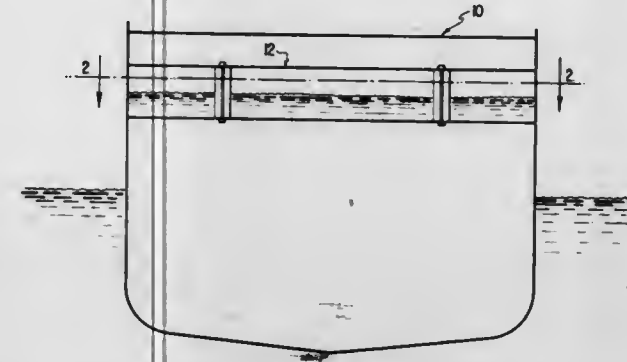
Sheldon B. Field, Floral Park, N.Y., and Frans V. A. Pangalila, Matawan Township, N.J., assignors to Flume Stabilization Systems, Inc., Hoboken, N.J., a corporation of New Jersey

Continuation-in-part of application Ser. No. 645,723, June 13, 1967. This application June 18, 1968, Ser. No. 744,272

Int. Cl. B63b 43/06

U.S. Cl. 114—125

6 Claims



An underdamped passive ship stabilizer with deactivating means operated during certain parts of the roll cycle to trap tank liquid at one end of the tank to lengthen the time during which the peak stabilizing moment is imparted to the ship. Since the tank is underdamped, a greater moment can be developed by reason of a greater liquid mass flowing per cycle of roll, and the tank liquid can be filled to a level significantly above the tuned level without creating phasing problems.

3,521,595

**SNOWMOBILE FOR TRAVEL ON WATER**

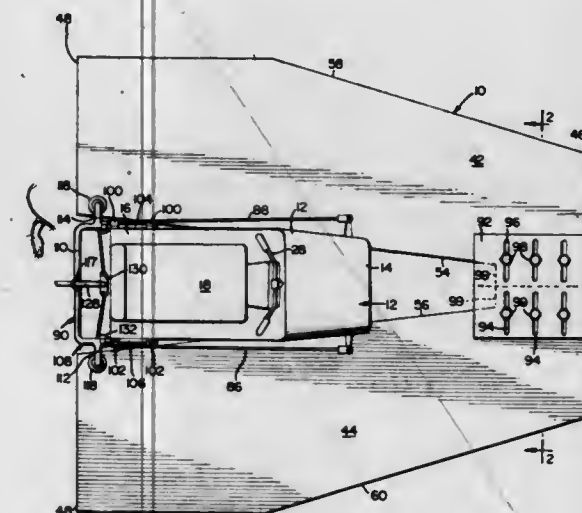
James A. Mix, Longville, Minn. 56655

Filed Jan. 23, 1969, Ser. No. 793,451

Int. Cl. B60f 3/00

U.S. Cl. 115—1

10 Claims



The conversion of a conventional snowmobile into an aquatic vehicle for travel on water involving replacement of the steerable ground engaging snowskis with a buoyant supporting and steering arrangement including pontoons attached to the snowmobile body in the mounting manner and place of the snowskis and a rudder steering arrangement coupled to the steering linkage of the snowmobile with the pontoons being so related to the engine driven endless cleat track extending lengthwise under the body that the track functions in the water as the propulsion means.

3,521,596

**LOCATION MARKER**

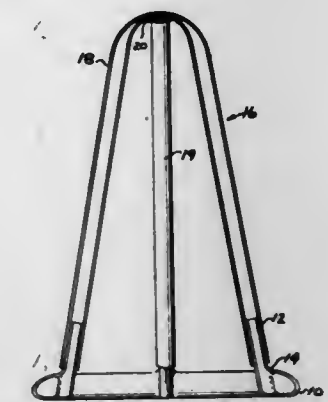
Seymour N. Schlein, University Heights, Ohio, assignor to The Fanner Manufacturing Company, a division of Textron Inc., Cleveland, Ohio, a corporation of Rhode Island

Continuation-in-part of application Ser. No. 593,100, Nov. 9, 1966. This application June 13, 1967, Ser. No. 660,536

Int. Cl. G08b

U.S. Cl. 116—63

10 Claims



A location marking device having a plurality of circumferentially spaced, brightly colored curved plastic tube members. These members can be secured to lines near air fields to mark their location, or they may also be mounted on a base for use as markers on a surface such as a roadway, or fields, or used as marker buoys on water. The tubes are arranged to present an optical illusion of rotation when viewed by a person in a moving vehicle.

3,521,597

**HEADING-SETTING CONTROLS**

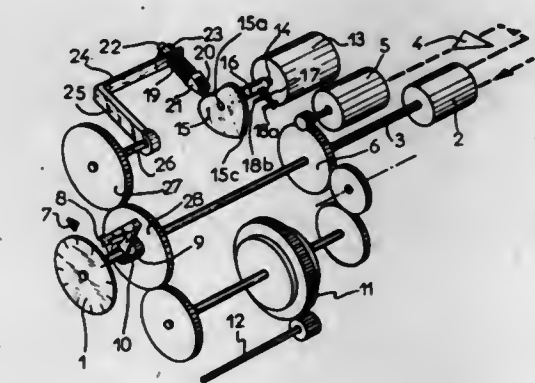
Pierre André Chombard, Boulogne, France, assignor to Societe Francaise d'Equipements Pour la Navigation Aeriennne, Neuilly-sur-Seine, Hauts-de-Seine, France, a joint-stock company of France

Filed Apr. 8, 1969, Ser. No. 814,274

Int. Cl. G09f 9/00

U.S. Cl. 116—129

6 Claims



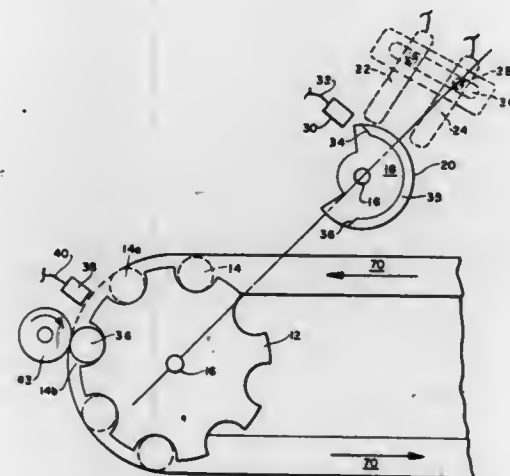
Heading-setting apparatus with nonlinear coupling between the shaft of the pointer of heading to be kept and the rotor of a detector-transmitter. This coupling consists in the combination of a cam keyed on the shaft of the rotor comprising a hollow and a point, of a pressure roller mounted on the extremity of a rotatable arm, in constant contact with the cam and acting thereon, and travel limiting means for the cam-rotor assembly. With this arrangement the pilot has the possibility of registering changes of heading greater than  $\pm 180^\circ$  by effecting the turn in the direction corresponding to that registered, that is to say by carrying out a turn of more than  $\pm 180^\circ$ .



**3,521,598**  
**SPRAY COATING CONTROL APPARATUS**  
 Dorsey Wayne Straw, Richmond, Va., assignor to  
 Reynolds Metals Company, Richmond, Va., a cor-  
 poration of Delaware  
 Filed June 7, 1968, Ser. No. 735,306  
 Int. Cl. B05c 11/00

U.S. Cl. 118-2

22 Claims



A device for spray-coating cans wherein a spray control valve is turned on by a first solenoid and turned off by a second solenoid. Each can is passed through a cycle of operation which includes precoating and coating steps. A first signal is generated when a given can is in the proper portion of its cycle to be coated; and a second signal is generated to indicate that a can is in fact in the coating position. A gating means is operative response to the simultaneous occurrence of the first and second signals to both actuate the ON solenoid so as to begin the spraying operation and turn on a timer which generates a timing signal at the end of a selected time for the can to be sprayed. The timing signal then actuates the OFF solenoid so as to terminate that can's spraying operation. The time at which the timing pulse is generated is selectively variable without requiring the spraying machine to be shut down; and the spray duration is accurately controlled by means of the dual solenoids.

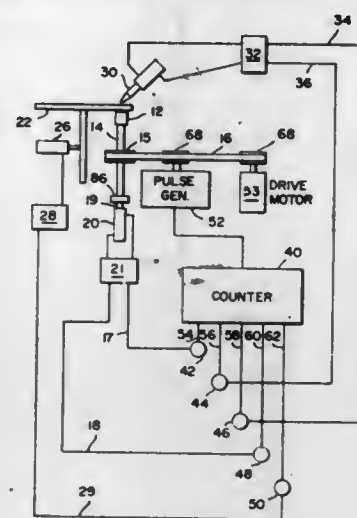
**3,521,599**  
**GASKETING MACHINE**  
 Harlan A. Bentzinger, Rehoboth, Mass., assignor to  
 Chemical Products Corporation, Providence, R.I.,  
 a corporation of Rhode Island  
 Filed Aug. 5, 1968, Ser. No. 750,243  
 Int. Cl. B05c 7/02, 11/00

U.S. Cl. 118-6

7 Claims

A machine for applying gaskets performs a number of its operations under the control of a pulse counter. Pulses

are produced by a pulse generator mechanically coupled to a rotating spindle upon which a container closure or other part is placed. The pulse-controlled operations in-

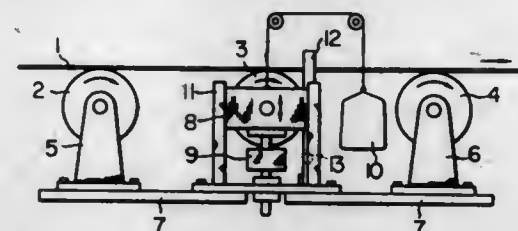


clude opening and closing the nozzle for the gasket material, spindle elevation and retraction, and closure loading and indexing.

**3,521,600**  
**AUTOMATIC MEASUREMENT AND CONTROL OF WEIGHT UNIFORMITY OF TRAVELING SHEET MATERIAL**  
 Kazuo Toya, 143 3-chome, Kugayama, Suginami-ku, Tokyo-to, Japan  
 Filed Mar. 14, 1968, Ser. No. 713,229  
 Claims priority, application Japan, July 20, 1967, 42/46,339  
 Int. Cl. B05c 11/02

U.S. Cl. 118-8

8 Claims



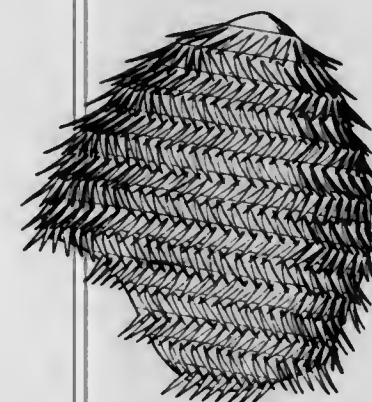
A long sheet material traveling in a production line is supported on three spaced apart, transverse rollers, the middle measuring roller transmitting the weight load imposed on it by the sheet material to force-detecting devices at its ends, which devices convert the detected forces into electrical quantities from which the weight and weight uniformity of the sheet material are determined and indicated or compared with predetermined standard values. Deviations cause one or more control devices to control process variables in the line governing the weight so as to maintain the weight constant and uniform in the longitudinal and lateral directions of the sheet material.

## DESIGNS

JULY 21, 1970

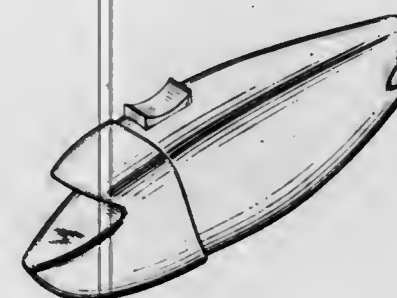
**218,084**  
**BATHING CAP**  
 Carlos Capella Nogue, Calle Roman Macaya, Barcelona 6, Spain  
 Filed Sept. 3, 1969, Ser. No. 18,982  
 Term of patent 14 years  
 Int. Cl. D2-03

U.S. Cl. D2-238



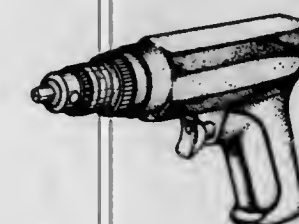
**218,085**  
**COMBINED ELECTRIC SCISSORS AND COVER FOR ITS BLADES**  
 Robert N. Freedman, Great Neck, N.Y., assignor to  
 Endura Appliance Corporation, Freeport, N.Y., a corporation of New York  
 Filed Jan. 3, 1969, Ser. No. 15,203  
 Term of patent 14 years  
 Int. Cl. D8-02

U.S. Cl. D8-61



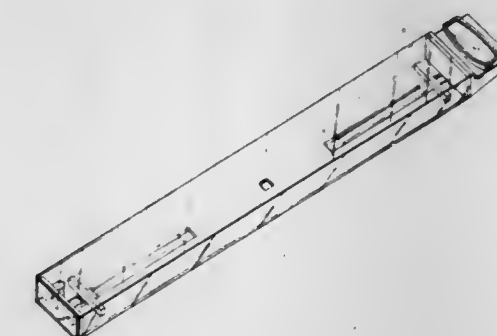
**218,086**  
**PNEUMATIC DRILL**  
 Harvey B. Rodstein, 6419 Shenandoah Ave., Los Angeles, Calif. 90056  
 Filed June 11, 1969, Ser. No. 17,651  
 Term of patent 14 years  
 Int. Cl. D8-02

U.S. Cl. D8-68



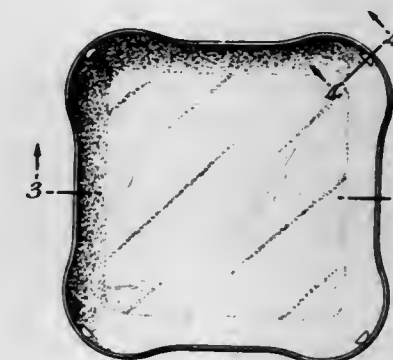
**218,087**  
**WATCHBAND DISPLAY BOX**  
 Michael P. Arnone, North Bergen, N.J., assignor, by  
 mesne assignments, to Kreiser Manufacturing Corporation, North Bergen, N.J., a corporation of Delaware  
 Filed Mar. 3, 1969, Ser. No. 15,985  
 Term of patent 14 years  
 Int. Cl. D9-04

U.S. Cl. D9-237



**218,088**  
**PACKAGING TRAY**  
 Gilbert R. Chadbourne, Oakland, Maine, assignor to  
 Keyes Fibre Company, Waterville, Maine, a corporation of Maine  
 Filed Aug. 21, 1969, Ser. No. 18,786  
 Term of patent 14 years  
 Int. Cl. D9-99

U.S. Cl. D9-243



**218,089**  
**PACKAGING TRAY**  
 Gilbert R. Chadbourne, Oakland, Maine, assignor to  
 Keyes Fibre Company, Waterville, Maine, a corporation of Maine  
 Filed Aug. 21, 1969, Ser. No. 18,797  
 Term of patent 14 years  
 Int. Cl. D9-99

U.S. Cl. D9-243



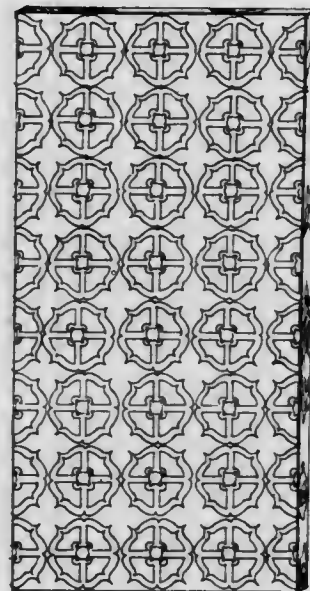


218,090

## WALL PANEL

John Inglis, 142 Cottage St., Trumbull, Conn. 06611  
 Filed Feb. 19, 1968, Ser. No. 10,624  
 Term of patent 14 years  
 Int. Cl. D25—01

U.S. Cl. D13—1



218,091

## BIN CONSTRUCTION

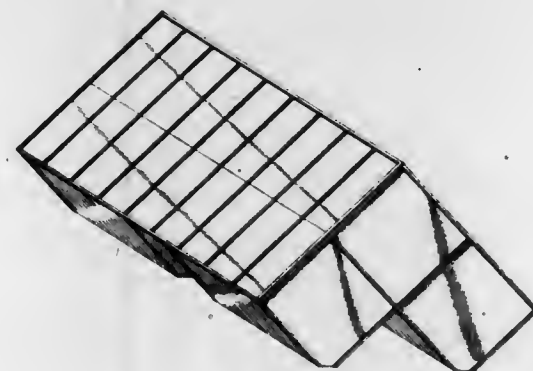
Rodney D. Jacobson, Ray, N. Dak., assignor to Jacobson  
 & Son Construction Company, Inc., Ray, N. Dak.,  
 a corporation of North Dakota

Filed Oct. 16, 1968, Ser. No. 14,010

Term of patent 14 years

Int. Cl. D25—04

U.S. Cl. D13—1



218,092

## FOLDABLE HOME

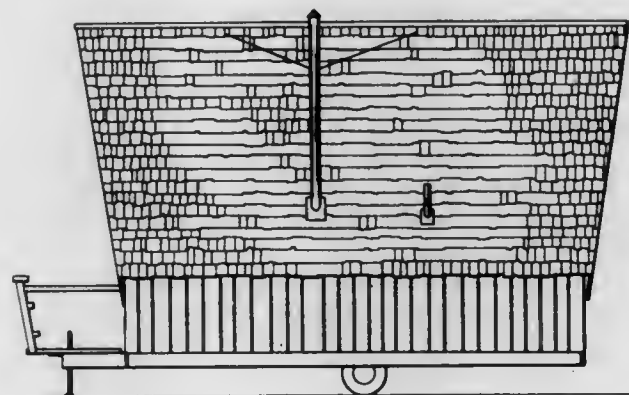
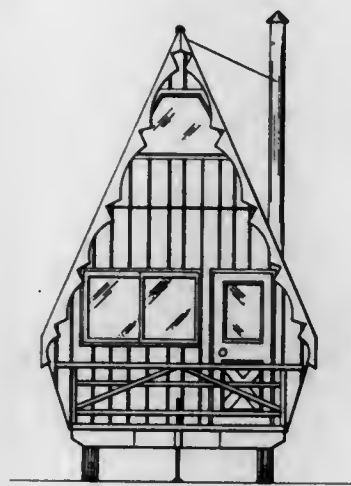
Roger A. King and Keith O. Burton, Elkhart, Ind., as-  
 signors to Bur Kin Homes Corporation, Whitepigeon,  
 Mich., a corporation of Indiana

Filed Aug. 14, 1969, Ser. No. 18,682

Term of patent 14 years

Int. Cl. D12—10; D25—04

U.S. Cl. D14—3



218,093

## RESCUE LADDER

Milton J. Corwin, 2511 Castle Heights Ave.,  
 Los Angeles, Calif. 90034

Filed July 12, 1968, Ser. No. 12,720

Term of patent 14 years

Int. Cl. D6—01

U.S. Cl. D15—8



218,094

TEST DEVICE FOR DETECTING VARIOUS  
CONSTITUENTS IN FLUIDS

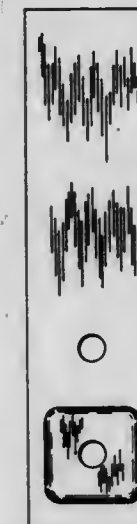
Richard Gordon Rosenfield, South Bend, Ind., assignor to  
 Miles Laboratories, Inc., Elkhart, Ind., a corporation  
 of Indiana

Filed Apr. 1, 1969, Ser. No. 16,548

Term of patent 14 years

Int. Cl. D10—99

U.S. Cl. D16—2



218,095

## FISHING LURE

Clarence S. Turbeville and Ike J. Walker, Gainesville,  
 Tex., assignors to Bomber Bait Company, Gainesville,  
 Tex., a corporation of Texas

Filed July 11, 1968, Ser. No. 12,699

Term of patent 14 years

Int. Cl. D22—07

U.S. Cl. D22—27



218,096

## BRINE STORAGE CABINETS

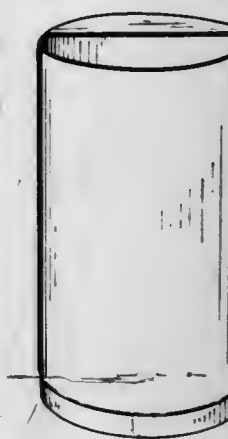
Walter J. Craig, Prospect Heights, Ill., assignor to  
 K and M Rubber Company, Elk Grove Village,  
 Ill., a corporation of Illinois

Filed Jan. 28, 1969, Ser. No. 15,542

Term of patent 14 years

Int. Cl. D23—01

U.S. Cl. D23—2



218,097

## DENTAL INSTRUMENT

Charles L. Dimmer, Toledo, Ohio, assignor to The Dresch  
 Laboratories Company, Toledo, Ohio, a corporation  
 of Ohio

Filed Mar. 11, 1969, Ser. No. 16,187

Term of patent 14 years

Int. Cl. D24—03

U.S. Cl. D24—1





218,098

**SPELLING TEACHING MACHINE**

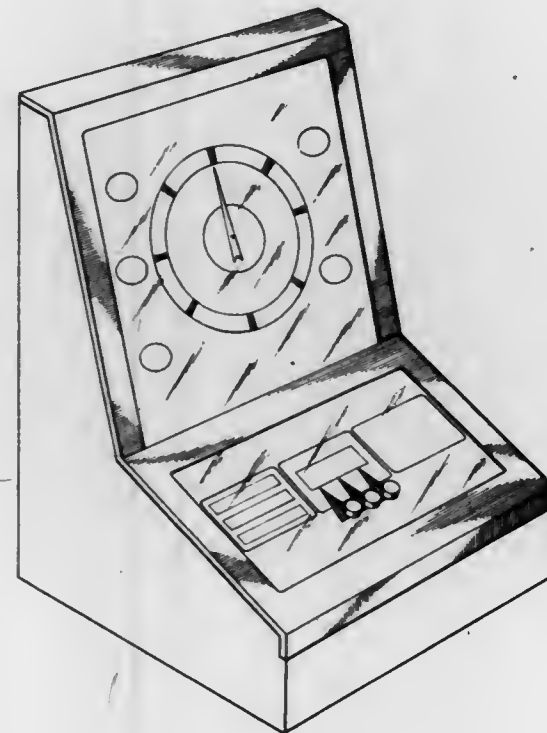
Ronald D. Halliburton, Miami, Fla., assignor to Allied Leisure Industries, Inc., Hialeah, Fla., a corporation of Florida

Filed June 6, 1969, Ser. No. 17,557

Term of patent 14 years

Int. Cl. D19-08

U.S. Cl. D25-1



218,100

**DISPLAY CONSOLE**

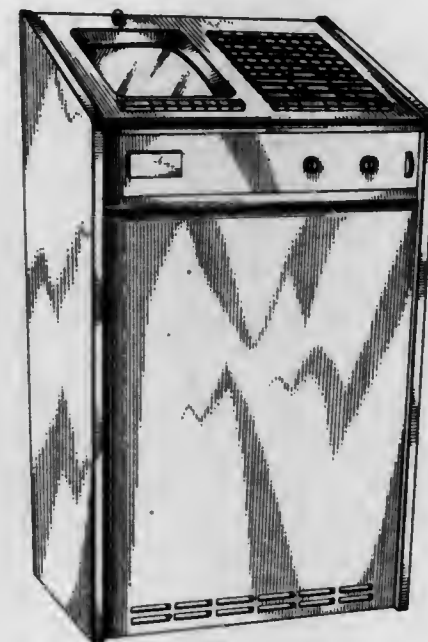
Dave H. Dabney, Eugene, N.J., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York

Filed Feb. 10, 1969, Ser. No. 15,703

Term of patent 14 years

Int. Cl. D14-02

U.S. Cl. D26-5



218,101

**DATA TERMINAL**

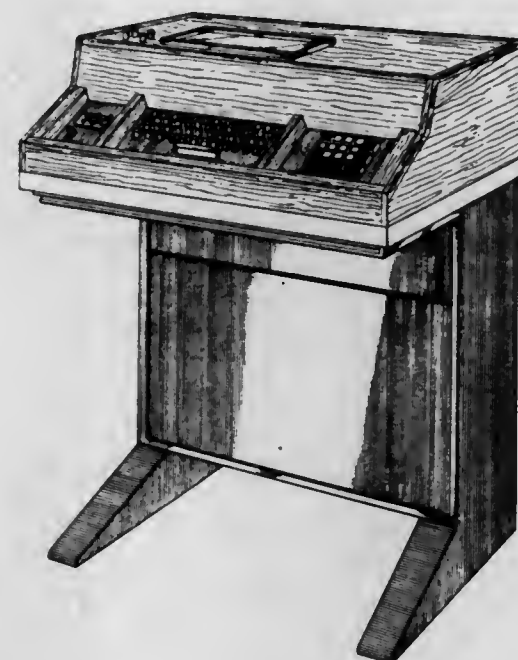
Lawrence J. Kamm and James D. Byrne, San Diego, Ulf R. Helgesson, Woodland Hills, and Rodman A. Sharp, La Jolla, Calif., assignors to Typagraph Corporation, San Diego, Calif., a corporation of California

Filed June 23, 1969, Ser. No. 17,803

Term of patent 14 years

Int. Cl. D14-02

U.S. Cl. D26-5



218,099

**ELECTRICAL TERMINAL**

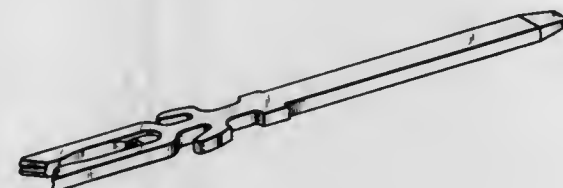
James Edward Lynch, Harrisburg, and Dexter Wyman Erline, Lancaster, Pa., and Ronald Charles Morehart, Columbia, Nebr., assignors to AMP Incorporated, Harrisburg, Pa.

Continuation-in-part of design application Ser. No. 5,481, Jan. 19, 1967. This application Apr. 19, 1968, Ser. No. 11,533

Term of patent 14 years

Int. Cl. D13-03

U.S. Cl. D26-1



218,102

**REMOTE STARTER SWITCH**

Edwin L. Schwartz, Los Angeles, Calif., assignor to Rite Autotronics Corporation, Los Angeles, Calif., a corporation of California

Filed June 12, 1969, Ser. No. 17,674

Term of patent 14 years

Int. Cl. D13-03

U.S. Cl. D26-13



218,103

**HEADPHONE EARPIECE**

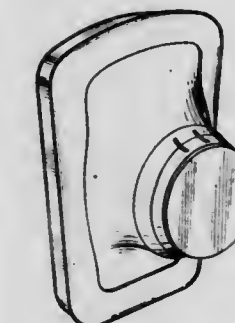
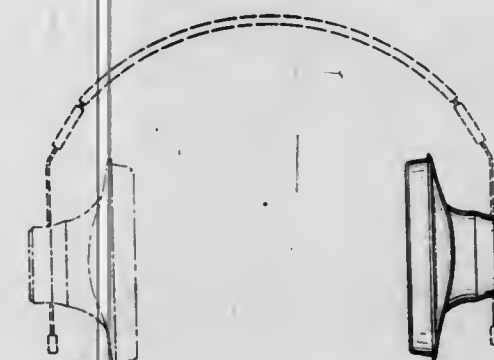
Donald L. Kliever, Minneapolis, Minn., assignor to The Telex Corporation, Tulsa, Okla., a corporation of Delaware

Filed Dec. 9, 1968, Ser. No. 14,851

Term of patent 14 years

Int. Cl. D14-01, 02

U.S. Cl. D26-14



218,104

**INDOOR TELEVISION ANTENNA OR SIMILAR ARTICLE**

Gerson Snyder, Philadelphia, and Charles R. Margolies, Orelan, Pa., assignors to Snyder Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Sept. 16, 1969, Ser. No. 19,171

Term of patent 7 years

Int. Cl. D14-99

U.S. Cl. D26-14



218,105

**BATTERY CHARGER**

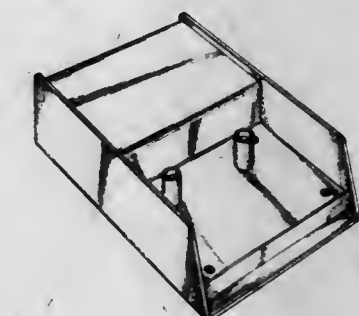
Stephens N. Sato, San Diego, Calif., assignor to Ivac Corporation, San Diego, Calif., a corporation of California

Filed Sept. 24, 1969, Ser. No. 19,277

Term of patent 14 years

Int. Cl. D13-02

U.S. Cl. D26-15





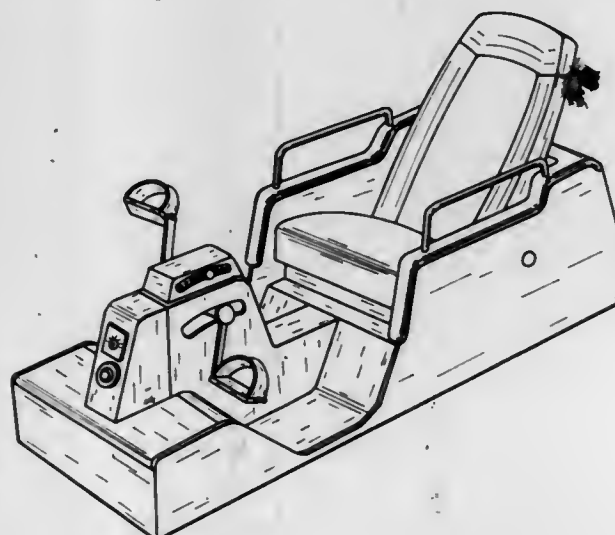
**218,106**  
**BILLIARD TABLE OR SIMILAR ARTICLE**  
 Charles M. O'Leary, 525 S. Irving Blvd.,  
 Los Angeles, Calif. 90005  
 Filed Nov. 22, 1968, Ser. No. 14,600  
 Term of patent 14 years  
 Int. Cl. D21-01

U.S. Cl. D34-3



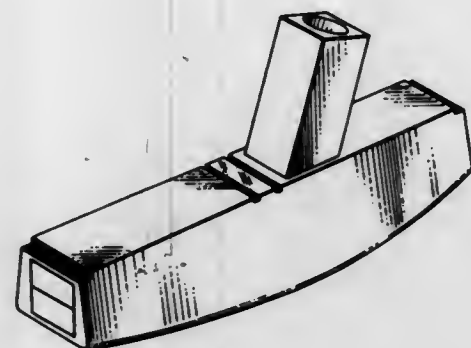
**218,107**  
**EXERCISING MACHINE**  
 Jack Vincent Feather, 11293 Kerrigan Drive, Oakland,  
 Calif. 94605, and John W. Walker, 157 Clarence  
 Ave., Arroyo Grande, Calif. 93420  
 Filed Apr. 18, 1969, Ser. No. 16,809  
 Term of patent 14 years  
 Int. Cl. D21-03

U.S. Cl. D34-5



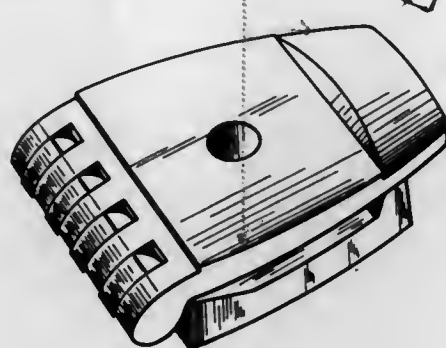
**218,108**  
**GOLF PUTTER HEAD**  
 Henry W. Wegener, Jr., 5120 Rambler Way,  
 Sacramento, Calif. 95841  
 Filed Aug. 27, 1969, Ser. No. 18,880  
 Term of patent 14 years  
 Int. Cl. D21-03

U.S. Cl. D34-5



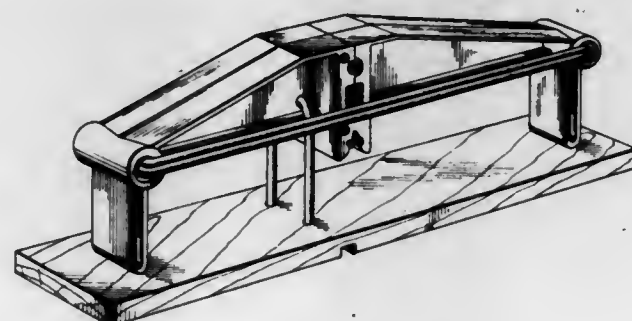
**218,109**  
**MOLDING TOY**  
 Gale D. Jenkins, Jr., Cincinnati, Ohio, assignor to Rain-  
 bow Crafts, Inc., a corporation of Delaware  
 Filed Apr. 21, 1969, Ser. No. 16,832  
 Term of patent 14 years  
 Int. Cl. D21-02

U.S. Cl. D34-15



**218,110**  
**NOVELTY ITEM**  
 James M. Cleary, McCallum Road, Box 541,  
 Falmouth, Mass. 02541  
 Filed May 29, 1969, Ser. No. 17,419  
 Term of patent 14 years  
 Int. Cl. D21-04

U.S. Cl. D34-15



**218,111**  
**ICE CREAM SCOOP**  
 Bernard L. Rothhardt, Sherman Oaks, Calif., assignor to  
 Baskin-Robbins Inc., Burbank, Calif., a corporation of  
 California  
 Filed Sept. 2, 1969, Ser. No. 18,949  
 Term of patent 14 years  
 Int. Cl. D7-99

U.S. Cl. D44-29



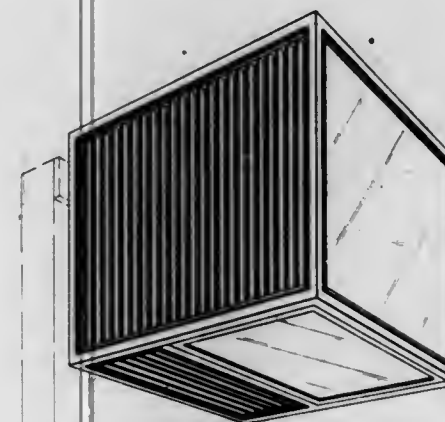
**218,112**  
**WATCH BRACELET OR SIMILAR ARTICLE**  
 Ananta Uengsakul, Bangkok, Thailand, assignor to Stelux  
 Manufacturing Company, Ltd., San Po Kong, Kowloon,  
 Hong Kong, a corporation of Hong Kong  
 Filed July 3, 1968, Ser. No. 12,612  
 Term of patent 14 years  
 Int. Cl. D11-01

U.S. Cl. D45-4



**218,113**  
**FLOODLIGHT**  
 Buell Moore, Houston, Tex., assignor to Esquire, Inc.,  
 New York, N.Y., a corporation of Delaware  
 Filed Apr. 10, 1969, Ser. No. 16,682  
 Term of patent 14 years  
 Int. Cl. D26-02

U.S. Cl. D48-20



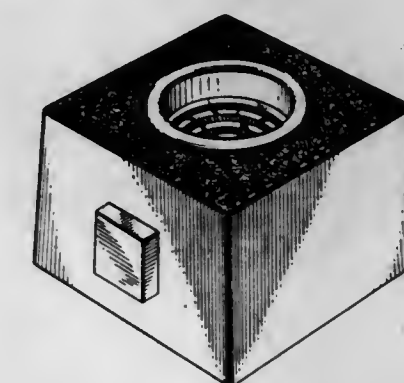
**218,114**  
**LANTERN**  
 Robert D. Kahn, Rockville Centre, N.Y., assignor to  
 Fedtro, Inc., a corporation of New York  
 Filed May 19, 1969, Ser. No. 17,204  
 Term of patent 14 years  
 The portion of the term of the patent subsequent to  
 Jan. 30, 1982, has been disclaimed  
 Int. Cl. D26-04

U.S. Cl. D48-24



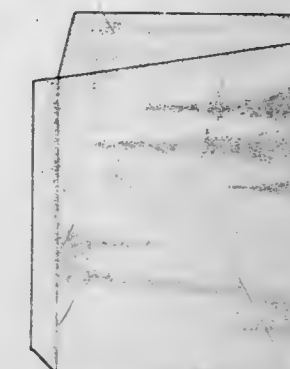
**218,115**  
**CIGARETTE LIGHTER**  
 Robert D. Kahn, Rockville Centre, N.Y., assignor to  
 Fedtro, Inc., a corporation of New York  
 Filed Apr. 25, 1969, Ser. No. 16,901  
 Term of patent 14 years  
 Int. Cl. D27-05

U.S. Cl. D48-27



**218,116**  
**DISHWASHER**  
 Roger L. Crispell, Bloomfield Hills, Donald A. Schneider,  
 Birmingham, and Gordon W. Severson, Royal Oak,  
 Mich., assignors to General Motors Corporation,  
 Detroit, Mich., a corporation of Delaware  
 Filed Feb. 26, 1969, Ser. No. 15,923  
 Term of patent 14 years  
 Int. Cl. D15-07

U.S. Cl. D49-1





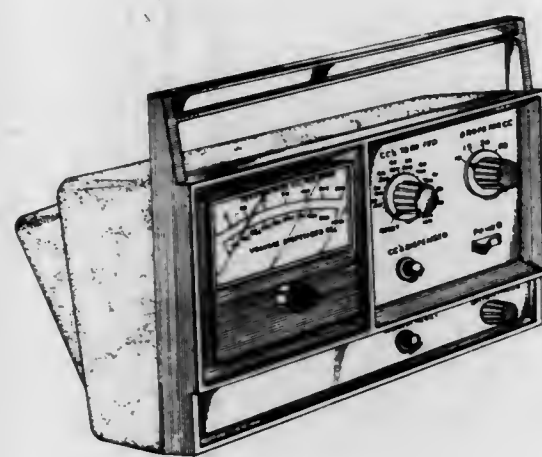
218,117

## FLOW MONITOR

Stephens N. Sato, San Diego, Calif., assignor to Ivac Corporation, San Diego, Calif., a corporation of California

Filed Mar. 17, 1969, Ser. No. 16,269  
Term of patent 14 years  
Int. Cl. D10-11

U.S. Cl. D52-6



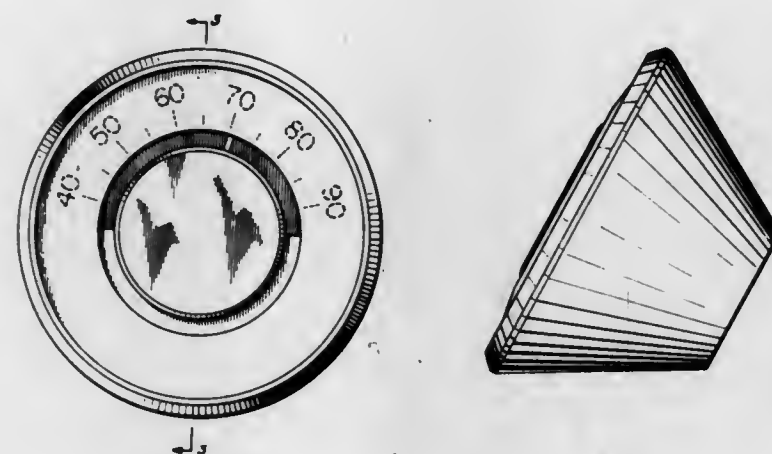
218,119

## SPACE CONDITION RESPONSIVE INSTRUMENT

Leo F. Wildgen, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Nov. 25, 1968, Ser. No. 14,617  
Term of patent 14 years  
Int. Cl. D10-09

U.S. Cl. D52-7



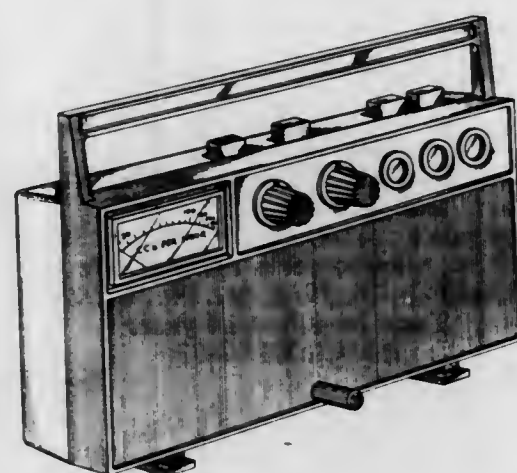
218,118

## FLOW MONITOR

Stephens N. Sato, San Diego, Calif., assignor to Ivac Corporation, San Diego, Calif., a corporation of California

Filed Mar. 17, 1969, Ser. No. 16,293  
Term of patent 14 years  
Int. Cl. D10-11

U.S. Cl. D52-6



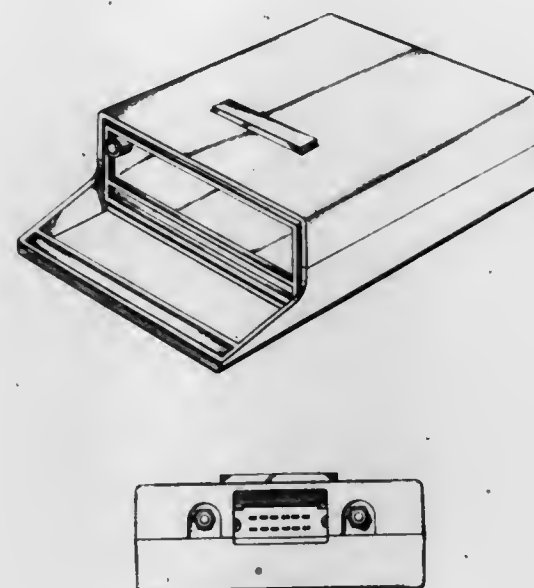
218,120

## ELECTRONIC THERMOMETER

Stephens N. Sato, San Diego, Calif., assignor to Ivac Corporation, San Diego, Calif., a corporation of California

Filed Sept. 24, 1969, Ser. No. 19,276  
Term of patent 14 years  
Int. Cl. D10-09, 11

U.S. Cl. D52-7



218,121

## SPOON OR SIMILAR ARTICLE OF FLATWARE

Siro R. Toffolon, Meriden, Conn., assignor to International Silver Company, Meriden, Conn., a corporation of Delaware

Filed Apr. 23, 1969, Ser. No. 16,867  
Term of patent 14 years  
Int. Cl. D7-03

U.S. Cl. D54-12



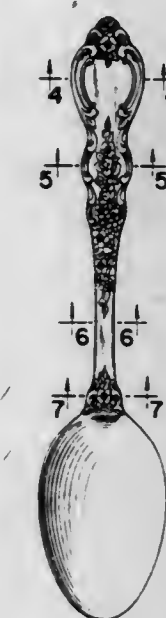
218,123

## SPOON OR SIMILAR ARTICLE OF FLATWARE

Frank K. Guodace, Meriden, Conn., assignor to International Silver Company, Meriden, Conn., a corporation of Delaware

Filed June 11, 1969, Ser. No. 17,635  
Term of patent 14 years  
Int. Cl. D7-03

U.S. Cl. D54-12



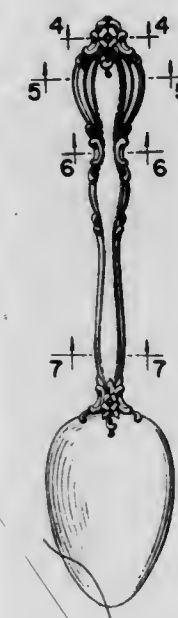
218,122

## SPOON OR SIMILAR ARTICLE OF FLATWARE

Frank K. Guodace, Meriden, Conn., assignor to International Silver Company, Meriden, Conn., a corporation of Delaware

Filed Apr. 23, 1969, Ser. No. 16,876  
Term of patent 14 years  
Int. Cl. D7-03

U.S. Cl. D54-12



218,124

## SPOON OR SIMILAR ARTICLE OF FLATWARE

Siro R. Toffolon, Meriden, Conn., assignor to International Silver Company, Meriden, Conn., a corporation of Delaware

Filed May 7, 1969, Ser. No. 17,052  
Term of patent 14 years  
Int. Cl. D7-03

U.S. Cl. D54-12



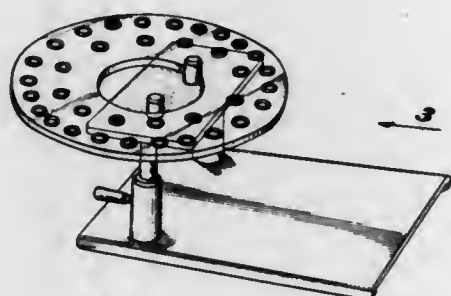


**218,125**  
**ROTARY MICROSCOPIC SPECIMEN SLIDE**  
**HOLDER**

Stephens N. Sato, San Diego, Calif., assignor to Ivac Corporation, San Diego, Calif., a corporation of California

Filed Mar. 17, 1969, Ser. No. 16,295  
Term of patent 14 years  
Int. Cl. D16—08

U.S. Cl. D57—1



**218,126**  
**PAIR OF SPECTACLES**

Jack Bloch, Leominster, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware

Filed Apr. 16, 1969, Ser. No. 16,778  
Term of patent 14 years  
Int. Cl. D16—08

U.S. Cl. D57—1



**218,127**  
**PAIR OF SPECTACLES**

Jack Bloch, Leominster, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware

Filed July 7, 1969, Ser. No. 18,103  
Term of patent 14 years  
Int. Cl. D16—08

U.S. Cl. D57—1

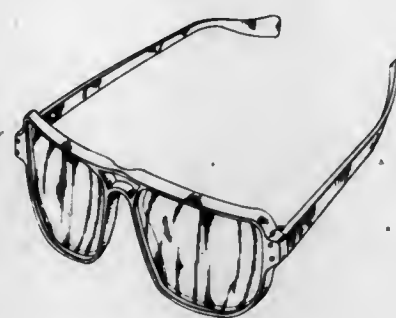


**218,128**  
**PAIR OF SPECTACLES**

Jack Bloch, Leominster, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware

Filed July 7, 1969, Ser. No. 18,104  
Term of patent 14 years  
Int. Cl. D16—08

U.S. Cl. D57—1

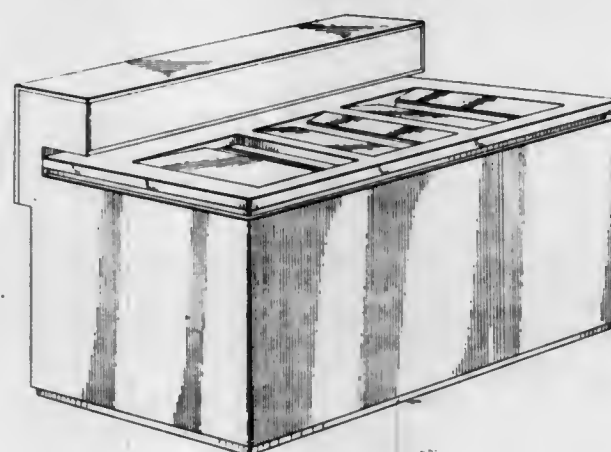


**218,129**  
**ULTRASONIC APPARATUS FOR DEVELOPING**  
**POLYMERIC PRINTING PLATES**

Wesley W. Miller, Wyncote, Pa., Hugh T. Greenlee, Gates Mills, Ohio, and Charles D. Hagerty, Philadelphia, and Gerold Litschi, Lansdale, Pa., assignors, by mesne assignments, to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Jan. 7, 1969, Ser. No. 15,245  
Term of patent 14 years  
Int. Cl. D16—06

U.S. Cl. D61—1



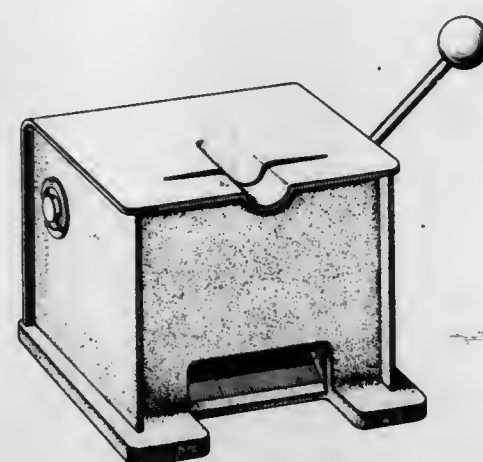
**218,130**  
**DIE CUTTER FOR DEVELOPED FILM OR**  
**SIMILAR ARTICLE**

Frederick W. Macone, Carlisle, Mass., assignor to Avant Incorporated, Lincoln, Mass., a corporation of Massachusetts

Continuation-in-part of design application Ser. No. 14,728, Dec. 2, 1968. This application June 13, 1969, Ser. No. 17,684

Term of patent 14 years  
Int. Cl. D16—07

U.S. Cl. D61—1



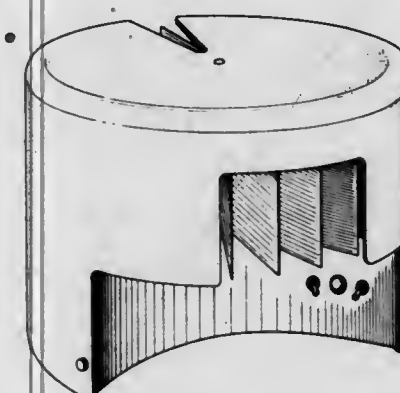
**218,131**  
**TIME CONTROLLED DEVELOPER FOR SELF-**  
**DEVELOPING FILM OR SIMILAR ARTICLE**

Frederick W. Macone, Carlisle, Mass., assignor to Avant Incorporated, Lincoln, Mass., a corporation of Massachusetts

Continuation-in-part of design application Ser. No. 14,752, Dec. 2, 1968. This application June 13, 1969, Ser. No. 17,765

Term of patent 14 years  
Int. Cl. D16—07

U.S. Cl. D61—1

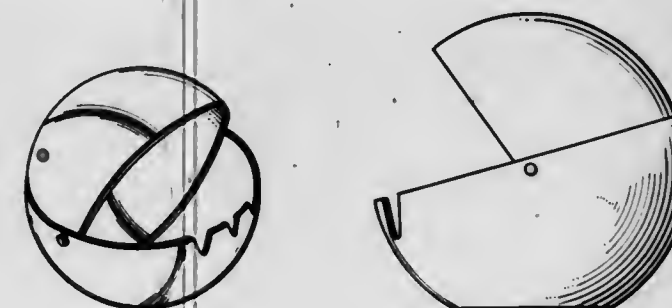


**218,132**  
**SPHERICAL ASHTRAY**

Walter I. Bieger, Minneapolis, Minn., assignor to Arthur Salm Inc., Chicago, Ill., a corporation of Illinois

Filed Dec. 23, 1968, Ser. No. 15,092  
Term of patent 14 years  
Int. Cl. D27—03

U.S. Cl. D85—2

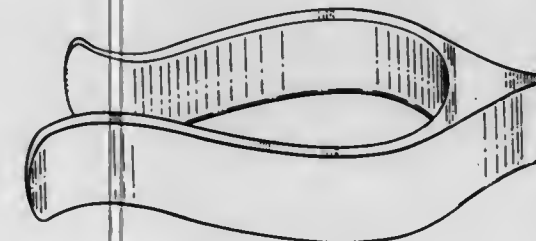


**218,133**  
**BRACELET FOR OPENING HAIRPINS**

Alexander Gonzales, Jr., 358 W. Lomita, Apt. 3, Glendale, Calif. 91204

Filed Apr. 7, 1969, Ser. No. 16,595  
Term of patent 14 years  
Int. Cl. D3—99

U.S. Cl. D86—10

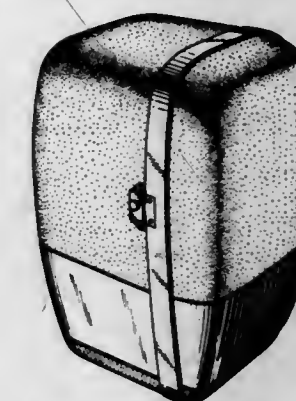


**218,134**  
**WIG CASE**

Morris Friedman, Fort Lee, N.J., assignor to Blockhead, Inc., New York, N.Y., a corporation of New York

Filed Oct. 22, 1969, Ser. No. 19,672  
Term of patent 14 years  
Int. Cl. D3—99

U.S. Cl. D87—1

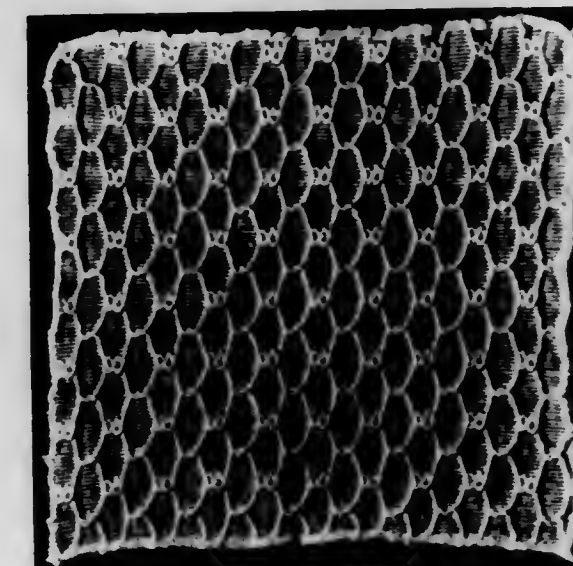


**218,135**  
**TEXTILE FABRIC**

Werner W. Rost, Walhalla, S.C., assignor to Cone Mills Corporation, Greensboro, N.C., a corporation of North Carolina

Filed Mar. 3, 1969, Ser. No. 15,994  
Term of patent 7 years  
Int. Cl. D5—02

U.S. Cl. D92—1



**218,136**  
**COMBINATION HOOP AND JUMP DEVICE**

Dwight C. Brown, 414 N. Granada St., Arlington, Va. 22203

Filed May 2, 1969, Ser. No. 16,992  
Term of patent 14 years  
Int. Cl. D21—03

U.S. Cl. D34—5





# LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF JULY, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Abramoff, Charles: See—  
Hecker, Arthur C., and Abramoff, Charles 3,520,952.
- Acme Electric Corporation: See—  
Emerson, Wayne C., 3,521,152.
- Adam, Karl, and Haarer, Erich, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of amines. 3,520,933, Cl. 260-585.
- Adams, George J., and Kjerulf, Hans F., to Stanray Corporation. Airplane loading ramp structure supplying utilities to the airplane. 3,521,316, Cl. 14-71.
- Addressograph-Multigraph Corporation: See—  
Granzow, Daniel B., Klessig, Karl K., and Pleitt, Richard J., 3,521,126.
- Schmidlin, Raymond J., and Miller, Donald J., 3,521,560.
- Sejeck, Arthur W., and Garman, James C., 3,521,559.
- Adrian, Joseph J. Strawberry harvester. 3,521,438, Cl. 56-330.
- Aeroflex Laboratories, Incorporated: See—  
Speller, Jack B., 3,521,071.
- Aerojet-General Corporation: See—  
Ditter, Jerome F., and Williams, Robert E., 3,520,938.
- Grakauskas, Vytautas, 3,520,916.
- Aerolex Products Limited: See—  
Dunster, James A., 3,521,333.
- Aeroprojects Incorporated: See—  
Pruder, Gary D., Maropis, Nicholas, and Jones, James Byron, 3,521,348.
- Af Ekenstam, Bo Thuresson, and Claeson, Carl Goran, to Aktiebolaget Bofors. Nicotinate esters of certain di- and tri-hydroxy alkanes. 3,520,896, Cl. 260-295.5
- A.F. fur Industrielle Elektronik Agie Losone B. Locarno: See—  
Ullmann, Werner, Ineichen, Rudolf, and Lutolf, Fritz, 3,521,021.
- Agfa-Gevaert Aktiengesellschaft: See—  
Kunze, Wilhelm, 3,521,539.
- Schmidt, Rolf, Schnoring, Hildegard, Von Rintelen, Harald, and Schranz, Karl-Wilhelm, 3,521,541.
- Ahmed, Samir A., Faith, Thomas J., Jr., and Hoffman, Graham W., to RCA Corporation. RF excitation pumping of gas lasers by means of a wave guide and coupling coils. 3,521,119, Cl. 315-39.
- Air Reduction Company, Incorporated: See—  
Hemstreet, Russell A., 3,521,457.
- Huibers, Derk Th. A., Hemstreet, Russell A., and Hover, Howard K., 3,521,458.
- Airpax Electronics, Incorporated: See—  
Shand, John Richard, 3,521,127.
- Akai Electric Company Limited: See—  
Iwai, Katsuyuki, Sato, Fujio, and Fukatsu, Motonori, 3,520,992.
- Akeley, Lloyd T., to Foxboro Company, The. Differential pressure flowmeter run. 3,521,487, Cl. 73-211.
- Aker, John L., to King Radio Corporation. Identity circuit for DME. 3,521,175, Cl. 328-138.
- Akers, Robert M. Bridge plate lifting device. 3,521,577, Cl. 105-458.
- Aktiebolaget Bofors: See—  
Af Ekenstam, Bo Thuresson, and Claeson, Carl Goran, 3,520,896.
- Alaimo, Benjamin, to Minnesota Mining and Manufacturing Company. Digital data transfer system. 3,521,260, Cl. 340-174.1
- Albert, Harry Elmer, to Pennwalt Corporation. Inhibiting popcorn polymer formation with hydroxy benzene tertiary amine oxide compound. 3,520,943, Cl. 260-666.5
- Alburn, Harvey E., Clark, Donald E., and Grant, Norman H., to American Home Products Corporation. Process for the preparation of 6-(alpha-amino- acylamino) penicillanic acids. 3,520,876, Cl. 260-239.1
- Alexander, Scott: See—  
German, John, and Alexander, Scott 3,521,590.
- Alexander, Scott E., to Alexbow Canada Ltd. Nautical ice-breaking structures. 3,521,591, Cl. 114-41.
- Alexander, Thomas K.: See—  
Litherland, Albert E., Alexander, Thomas K., and Jeffs, Alan T., 3,520,819.
- Alexbow Canada Ltd.: See—  
Alexander, Scott E., 3,521,591.
- Alexbowe Canada Ltd.: See—  
German, John, and Alexander, Scott, 3,521,590.
- Alfandari, Roger Salomon, and Pauchard, Robert, to Compagnie Francaise Thomson-Houston-Hotchkiss Brandt. Microwave circuits utilizing ferrite mode transformers. 3,521,196, Cl. 333-7.
- Alimanestianu, Mihai. Automatic switching system for propelled carriers. 3,521,567, Cl. 104-88.
- Allen, Terry T. Multipurpose handtool for fishermen. 3,521,396, Cl. 43-53.5
- Allied Chemical Corporation: See—  
Anello, Louis Gene, and Sweeney, Richard P., 3,520,863.
- Pierce, Arleen C., 3,520,903.
- Allied Control Company: See—  
Bancroft, James E., 3,521,265.
- Allinquant, Fernand Stanislas. Meat tenderising machine. 3,521,321, Cl. 17-25.
- Allseits, Frank, and Doblin, Jay, to Lorillard Corporation. Cigarette tip and method of making it. 3,520,963, Cl. 264-90.
- Alphin, Reevis Stancil, and Da Vanzo, John Paul, to Robins, A. H., Company, Incorporated. Anorexidogenic compositions comprising fenfluramine and scopolamine. 3,520,975, Cl. 424-265.
- Amano, Kitsutaro: See—  
Oshima, Shintaro, and Amano, Kitsutaro 3,521,252.
- Amelio, Armand F., to United Aircraft Corporation. Remotely controlled rotary input signal means for introducing trim control signal corrections to jet engine fuel controls. 3,521,448, Cl. 60-39.28
- American Aniline Products, Inc.: See—  
Zanella, Dominic A., 3,520,871.
- American Cyanamid Company: See—  
Clapp, James Wellington, Lies, Thomas Andrew, and Lamb, Glentworth, 3,520,897.
- Dombroski, Frank P., 3,520,870.
- Patterson, Ernest Leonard, and Wright, Donald Perry, Jr., 3,520,973.
- American Home Products Corporation: See—  
Alburn, Harvey E., Clark, Donald E., and Grant, Norman H., 3,520,876.
- Sallay, Stephen I., and Childress, Scott J., 3,520,892.
- American Hospital Supply Corporation: See—  
Slouka, Richard A., and Nielsen, Milton R., 3,521,307.
- American Machine & Foundry Company: See—  
Smith, Richard A., 3,520,969.
- American Smelting and Refining Company: See—  
Moss, Calvin K., 3,521,153.
- American Standard, Inc.: See—  
Langlois, Henry J., 3,521,451.
- AMP Incorporated: See—  
Spooren, Martinus Johannes Albertus, 3,521,224.
- Ampex Corporation: See—  
Jaacklin, Andre A., 3,521,246.
- Jones, James W., 3,521,084.
- Treves, David, 3,521,294.
- Anderson, Donald J., to Chevron Research Company. 3 and/or 5 Alkyl mono and bis-pyrrolidones wherein at least one alkyl group is of at least 10 carbon atoms. 3,520,902, Cl. 260-326.3
- Anderson, Dorrance L., Willis, Albert E., and Winkler, Carl E., to United States of America National Aeronautics and Space Administration. Static inverters which sum a plurality of waves. 3,521,143, Cl. 321-5.
- Anderson, James R.: See—  
Davis, Wayne E., and Anderson, James R., 3,521,130.
- Anderson, John M., to General Electric Company. High frequency electrodeless fluorescent lamp assembly. 3,521,120, Cl. 315-57.
- Andersson, Bert Olof Torsten, Kilander, Sven Gustav Ingemar, and Olsson, Per-Olof, to Telefonaktiebolaget LM Ericsson. Automatic interception and transfer of calls. 3,521,003, Cl. 179-18.
- Andrews, Daniel E., Jr., and Roshon, Arthur H., Jr. Mechanically scanned acoustic transducer. 3,521,226, Cl. 340-8.
- Andrews, Robert L., to Bunker-Ramo Corporation, The. Cable connector. 3,521,222, Cl. 339-143.
- Anello, Louis Gene, and Sweeney, Richard P., to Allied Chemical Corporation. Novel acrylic monomers, polymers and intermediates. 3,520,863, Cl. 260-89.5
- Angelle, Philippe, to Societe d'Etudes et Constructions Electroniques (SERCEL). Telemetric station. 3,521,283, Cl. 343-14.
- Angeloff, Wesley L., to United States of America, Navy. Piezoelectric transducer with electrically conductive mounting rods. 3,521,090, Cl. 310-9.4
- Anglin, Larn Carnell, Jr.: See—  
Bodnar, Stephen John, McHargue, Chuck Linwell, and Anglin, Larn Carnell, Jr., 3,520,858.
- Angquist, Torsten F., to Crescent Niagara Corporation. Spring opened pliers. 3,521,510, Cl. 81-417.
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- Weimer, Paul K., to RCA Corporation. Electrical circuit for processing periodic signal pulses. 3,521,244, Cl. 340-173.
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- Zemel, Sanford J., and Davis, Paul B., to General Electric Company. Flashtube getter electrode. 3,521,107, Cl. 313-178.
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3,521,166	3,521,018	3,521,510	3,521,399	3,521,194	3,521,416
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3,521,191	3,521,036	3,521,515	3,521,422	3,521,249	3,521,428
3,521,198	3,521,044	3,521,519	3,521,476	3,521,312	3,521,509
3,521,203	3,521,058	3,521,524	3,521,499	3,521,352	3,521,516
3,521,231	3,521,060	3,521,527	3,521,502	3,521,389	3,521,534
3,521,242	3,521,068	3,521,538	3,521,550	3,521,412	49 : 3,521,049
3,521,244	3,521,071	3,521,544	3,521,559	3,521,414	3,521,153
3,521,245	3,521,073	3,521,555	3,521,560	3,521,424	3,521,385
3,521,250	3,521,085	3,521,567	3,521,573	3,521,436	51 : 3,520,885
3,521,266	3,521,108	3,521,578	3,521,574	3,521,437	3,520,975
3,521,268	3,521,110	3,521,594	3,521,596	3,521,443	3,521,091
3,521,272	3,521,113	37 : 3,521,396	40 : 3,520,914	3,521,468	3,521,556
3,521,273	3,521,119	3,521,469	3,521,139	3,521,491	3,521,598
3,521,276	3,521,120	39 : 3,520,804	3,521,214	3,521,554	52 : 3,521,562
3,521,371	3,521,133	3,520,818	3,521,359	3,521,576	53 : 3,521,386
3,521,452	3,521,152	3,520,821	3,521,577	45 : 3,520,959	3,521,474
3,521,457	3,521,184	3,520,837	3,521,048	3,521,308	3,521,484
3,521,458	3,521,187	3,520,846	41 : 3,521,383	46 : 3,521,095	3,521,522
3,521,486	3,521,189	3,520,850	3,521,454	47 : 3,520,932	54 : 3,520,839
3,521,512	3,521,205	3,520,923	3,521,552	3,520,976	55 : 3,520,895
3,521,551	3,521,207	3,521,039	3,521,575	3,521,239	3,520,996
3,521,561	3,521,213	3,521,061	42 : 3,520,811	3,521,429	3,521,030
3,521,571	3,521,234	3,521,067	3,520,813	48 : 3,520,801	3,521,425
3,521,572	3,521,235	3,521,075	3,520,833	3,520,807	3,521,526
3,521,593	3,521,240	3,521,097	3,520,871	3,520,812	3,521,529
35 : 3,521,089	3,521,241				

## Design Patents -

6 : 218,086	6 : 218,117	9 : 218,124	25 : 218,127	34 : 218,087	39 : 218,109
218,093	218,118	12 : 218,098	218,128	42 : 218,100	218,099
218,101	218,120	17 : 218,096	218,130	218,134	218,104
218,102	218,125	18 : 218,092	218,131	36 : 218,085	218,129
218,105	218,133	218,094	26 : 218,116	218,114	48 : 218,095
218,106	9 : 218,090	23 : 218,088	27 : 218,103	218,115	218,113
218,107	218,121	218,089	218,119	37 : 218,091	51 : 218,136
218,108	218,122	25 : 218,110	218,132	39 : 218,097	55 : 218,135
218,111	218,123	218,126			





# U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

July 21, 1970

Volume 876

Number 3

## TRADEMARKS NOTICES

### Errata

In the OFFICIAL GAZETTE of April 21, 1970, at page TM 164, under Registration No. 889,662 "Serial No. 307,075" should be deleted and Serial No. 310,530 should be inserted.

In the OFFICIAL GAZETTE of May 19, 1970, at page TM 147, under Registration No. 891,218 "Serial No. 297,114" should be deleted and Serial No. 279,114 should be inserted.

In the OFFICIAL GAZETTE of June 2, 1970, at page TM 49, under Registration No. 892,131 "Serial No. 311,132" should be deleted and Serial No. 311,583 should be inserted.

### Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 600,018 (PLAYBOY), HMH Publishing Co., Inc., Monthly magazine; Reg. No. 769,702, same, Operation of establishments which feature food, drink and entertainment; Reg. No. 875,827, same, Theatre services, filed Mar. 18, 1970, D.C., M.D. Fla. (Jacksonville), Doc. 70-132-C-J, HMH Publishing Co. Inc. v. Harold D. Trubyfill, Betty D. Henn, Hazel H. Trubyfill and Playboy Theatres, Inc.

Reg. No. 706,041. (See Reg. No. 867,953.)

Reg. No. 769,702. (See Reg. No. 600,018.)

Reg. No. 807,000 (KENTUCKY PLANTATION), Kentucky Fried Chicken Corporation, Barbecue sauce; Reg. No. 813,559

(COL. SANDERS RECIPE KENTUCKY FRIED CHICKEN), same, Frozen and fresh prepared chicken and gravy, packaged and sold in retail trade, prepared potatoes, chicken parts (gizzards and livers), fish and shrimp, biscuits, baked beans, barbecue (chicken and pork), and salads; Reg. No. 815,167 (KENTUCKY FRIED CHICKEN), same, Restaurant services; Reg. No. 838,062 (COLONEL SANDERS' RECIPE KENTUCKY FRIED CHICKEN), same; Reg. No. 838,895 (KENTUCKY FRIED CHICKEN), same, Freshly prepared chicken and chicken with gravy, chicken parts (gizzards and livers), fish and shrimp, biscuits, potatoes, salads of a vegetable and poultry nature, baked beans, and Bar-B-Q (chicken and pork); Reg. No. 839,658 (KENTUCKY PLANTATION AND DESIGN), same, Table syrup; Reg. No. 880,621 (KENTUCKY ROAST BEEF), same, Restaurant services, filed Mar. 18, 1970, D.C., S.D.N.Y., Doc. 70-C-1086, Kentucky Fried Chicken Corp. v. Ernest Glover.

Reg. No. 813,559. (See Reg. No. 807,000.)

Reg. No. 815,167. (See Reg. No. 807,000.)

Reg. No. 838,062. (See Reg. No. 807,000.)

Reg. No. 838,895. (See Reg. No. 807,000.)

Reg. No. 839,658. (See Reg. No. 807,000.)

Reg. No. 856,558 (DAVIDA BOLD), Visual Graphics Corporation, Sheets of letters and other characters for use in photo-printing and photographic reproduction; Reg. No. 856,562 (STETTLER), same; Reg. No. 865,792 (TROOPER ROMAN), same; Reg. No. 866,402 (TROOPER ROMAN)

### CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]----- 24,830  
Date of oldest new application----- June 18, 1969  
Date of oldest amended application (filing date)----- October 20, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B-----	8-29-69	10-13-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200-----	10-1-69	10-20-66
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36, 44-----	9-4-69	2-17-67
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29, Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107-----	6-18-69	5-18-67
Renewals (All Classes)-----	4-6-70	-----
Sec. 12(c) Publications (All Classes)-----	4-10-70	-----

Applications filed during the month of May 1970—2,798

Registrations Issued ----- 416—No. 894,852 to No. 895,267  
Renewals Issued ----- 140

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.



ITALIC), same; Reg. No. 866,403 (TROOPER ROMAN LIGHT), same; Reg. No. 866,404 (TROOPER ROMAN LT. ITALIC), same; Reg. No. 856,569 (ANTIKVA MARGARET AND DESIGN), same; Reg. No. 861,983 (DEUTSCH BLACK), same; Reg. No. 856,561 (JAY GOTHIC), same; Reg. No. 856,566 (NEIL BOLD), same; Reg. No. 865,789 (PISTILLI ROMAN), same; Reg. No. 856,567 (VIVALDI), filed Nov. 17, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2379, *Visual Graphics Corp. v. Castcraft Printing Supply*. Consent decree, defendant permanently enjoined, Apr. 2, 1970.

Reg. No. 856,561. (See Reg. No. 856,558.)  
 Reg. No. 856,562. (See Reg. No. 856,558.)  
 Reg. No. 856,566. (See Reg. No. 856,558.)  
 Reg. No. 856,567. (See Reg. No. 856,558.)  
 Reg. No. 856,569. (See Reg. No. 856,558.)  
 Reg. No. 861,983. (See Reg. No. 856,558.)  
 Reg. No. 865,789. (See Reg. No. 856,558.)

Reg. No. 865,792. (See Reg. No. 856,558.)  
 Reg. No. 866,402. (See Reg. No. 856,558.)  
 Reg. No. 866,403. (See Reg. No. 856,558.)  
 Reg. No. 866,404. (See Reg. No. 856,558.)

Reg. No. 867,953 (ALLIGATOR DESIGN), The Alligator Company, Inc., All weather coats for men and women; Reg. No. 706,041 (ALLIGATOR), same, Raincoats, water repellent coats, topcoats, coats with zip-in warmers, and suburban coats for men, women, and children; inner linings for men's, women's and children's coats; sportswear for men—namely, jackets, golf, fishing, and sport shirts, parkas, water repellent pants, waterproof protectors for trousers, and hats, filed Apr. 3, 1970, D.C. Del. (Wilmington), Doc. 3876, *La Chemise Lacoste v. The Alligator Company, Inc.*

Reg. No. 875,827. (See Reg. No. 800,018.)  
 Reg. No. 880,621. (See Reg. No. 807,000.)

## MARKS PUBLISHED FOR OPPOSITION

### SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

(NOTE: For publication of marks presented in applications for registration in one class, see section 2.)

SN 273,404. Kyowa Hakko Kogyo Co., Ltd., Chiyoda-ku, Tokyo, Japan. Filed June 8, 1967.

### KYOWA

Priority claimed under Sec. 44(d) on Japanese application filed Jan. 27, 1967; Reg. No. 825,872, dated July 17, 1969. The translation of the Japanese word "Kyowa" is "harmony."

#### Class 6—Chemicals and Chemical Compositions

For Solvents, Plasticizers, Intermediates, and Soft Floation Agents; Amino Acids Used for Biological and Clinical Analyses; Organic Acids Used in the Preparation of Laboratory Culture Media (Int. Cl. 1).

#### Class 10—Fertilizers

For Ammonia, Urea and Ammonium sulphate (Int. Cl. 1).

#### Class 18—Medicines and Pharmaceutical Preparations

For Amino Acids, Organic Acids, Nucleic Acid Derivatives, Saccharides, Antibiotics, and Enzymes, All of the Foregoing for Medicinal and Pharmaceutical Uses (Int. Cl. 5).

SN 294,992. Avnet, Inc., Plainview, N.Y. Filed Apr. 5, 1968.

### SHAW

#### Class 100—Miscellaneous

For Consulting Research and Development Services in Connection With Precision Casting Methods Used in the Foundry Industry (Int. Cl. 42).

#### Class 107—Education and Entertainment

For Teaching Precision Casting Methods and Applications Thereof to Persons in the Foundry Industry (Int. Cl. 41).

First use in or about December 1955.

SN 300,218. Lobeco, Pittsburgh, Pa. Filed June 12, 1968.

### LOBECO

#### Class 2—Receptacles

For Salt and Pepper Shakers, Wooden Household Utility Boxes, Knife Holders and Spice Racks (Int. Cl. 21).  
 First use at least as early as December 1967.

#### Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Suit Bags and Dress Bags (Int. Cl. 18).  
 First use at least as early as March 1968.

#### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Magnetic Hooks, Egg Rollers, Key Holders, Combination Letter and Key Holders, Wire Racks, Sauce Pans, Cooking Pans, and Shelf Brackets (Int. Cls. 6 and 21).  
 First use at least as early as March 1968.

#### Class 21—Electrical Apparatus, Machines, and Supplies

For Lamps, Flashlight Batteries, Battery Chargers, Battery-Operated Burglar Alarms, and Electric Percolators (Int. Cls. 9 and 11).  
 First use at least as early as December 1966.

#### Class 22—Games, Toys, and Sporting Goods

For Animal Banks (Int. Cl. 28).  
 First use at least as early as March 1968.

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Food Grinders, Scissors, Pruning Shears, Can Openers; Hand Tools—Namely, Screwdrivers, Pliers, Wrenches, Drills, Screwdriver Drill Attachments, Drill Bits, Hole Saws, Hamburger Presses, Bottle Openers; and Manually Powered Carpet Sweepers (Int. Cls. 8 and 21).  
 First use at least as early as December 1967.

#### Class 24—Laundry Appliances and Machines

For Clothes Pins (Int. Cl. 20).  
 First use at least as early as March 1968.

#### Class 25—Locks and Safes

For Door Latches (Int. Cl. 6).  
 First use at least as early as March 1968.

#### Class 26—Measuring and Scientific Appliances

For Meat Thermometers and Hand Calculators (Int. Cl. 9).  
 First use at least as early as March 1968.

#### Class 29—Brooms, Brushes, and Dusters

For Brooms, Broom Heads, Broom Handles, Floor Scrub Brushes, Floor Brush Handles, and Artist Paint Brushes (Int. Cls. 16 and 21).  
 First use at least as early as January 1968.

#### Class 30—Crockery, Earthenware, and Porcelain

For Earthenware Cookie Jars (Int. Cl. 21).  
 First use at least as early as March 1968.

#### Class 31—Filters and Refrigerators

For Ice Cube Trays (Int. Cl. 11).  
 First use at least as early as March 1968.

#### Class 32—Furniture and Upholstery

For Folding Stools, Hat and Coat Racks, and Book Racks (Int. Cl. 20).  
 First use at least as early as March 1968.

#### Class 33—Glassware

For Glass Bottles, and Milk Glass Containers—Namely, Vases, Cannisters, Fruit Baskets, and Pitchers (Int. Cl. 21).  
 First use at least as early as March 1968.

#### Class 34—Heating, Lighting, and Ventilating Apparatus

For Air-Conditioning Covers, Soldering Irons, Grill Covers, and Kerosene Lanterns (Int. Cls. 9, 11, and 22).  
 First use at least as early as March 1968.



**Class 37—Paper and Stationery**

For Memo Holders and Marking Pens (Int. Cl. 16).  
First use at least as early as December 1967.

**Class 50—Merchandise Not Otherwise Classified**

For Clothes Hangers and Cork Boards (Int. Cls. 20 and 26).  
First use at least as early as March 1968.

SN 300,861. Pitney-Bowes, Inc., Stamford, Conn. Filed June 20, 1968.



Owner of Reg. Nos. 433,005 and 566,205.

**Class 6—Chemicals and Chemical Compositions**

For Toners and Intensifiers for Use in Electrostatic Copiers (Int. Cl. 1).  
First use at least as early as January 1967.

**Class 11—Inks and Inking Materials**

For Inks for Printing Machines (Int. Cl. 2).  
First use at least as early as 1947.

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Postage Metering Machines, Postage Canceling Machines, Tax Stamping Machines, Check Signing Machines, Parcel Registering Machines, Address Printing Machines and Plates Therefor, Inking Applicators, Carton Imprinting Machines, Sheet Folding Machines, Envelope Stuffing Machines, Article Stacking Machines, Letter Openers, Embossing Machines and Collators (Int. Cl. 7).  
First use May 20, 1947.

**Class 26—Measuring and Scientific Appliances**

For Counting Machines, Postal Weighing Scales, Electrostatic Copying Machines and Photocopy Papers for use Therewith and Fluidic Devices Employing Fluid Input and/or Output Signals for Effecting Control, Sensing Logic or Indicating Functions or any combination thereof, and Parts Therefor (Int. Cls. 9 and 16).  
First use at least as early as 1950.

**Class 32—Furniture and Upholstery**

For Counters, Tables, Racks and Bins for Use in Mail Handling and Sorting Machine Tables and Cabinets, and Printing Plate Storage Trays and Cabinets (Int. Cl. 20).  
First use at least as early as 1950.

SN 301,613. Domino's, Inc., Ypsilanti, Mich., by change of name from Domino's Pizza, Inc., Ypsilanti, Mich. Filed June 28, 1968.

**DOMINO'S**

**Class 100—Miscellaneous**

For Restaurant and Catering Services (Int. Cl. 42).  
First use Jan. 1, 1965.

**Class 101—Advertising and Business**

For Rendering Technical Assistance to Others in all Phases of Establishing and Operating Restaurant and Catering Services (Int. Cl. 35).  
First use Mar. 31, 1967.

SN 305,018. Amerace Esna Corporation, New York, N.Y., by change of name from Amerace Corporation, New York, N.Y. Filed Aug. 13, 1968.

**Patek**

Owner of Reg. Nos. 340,927, 341,225, and 549,515.

**Class 6—Chemicals and Chemical Compositions**

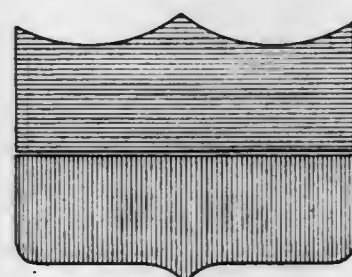
For Laundry Bleaches and Starches; Fabric Softeners; Alkaline Soap Builders for Soil Suspension; Laundry Sours; Phosphate Preparation to Prevent Iron Discoloration and to Remove Mineral Hardness From Water; Bluing; Sizing for Treating Textile Fabrics; Alkalis; Preparation for Making Fabric Water Repellent; Softener in Powdered Form for Providing Softness in Fabrics and Eliminating Static on the Flatwork Ironer (Int. Cls. 1 and 3).

**Class 52—Detergents and Soaps**

For Cleaning Agents, Detergents and Soaps for Laundry, Industrial and Institutional Uses—Namely, Spot, Stain and Unwanted Color Removers for Laundry and Dry Cleaning Uses; Degreasers and Stain Removing Preparations for Dry Cleaning Purposes; Wet Cleaning Aid of the Neutral Detergent Type for Laundering Purposes; and Quick Acting Liquid Preparation for Removal of Blood Stains From Fabrics (Int. Cl. 3).

First use June 20, 1968.

SN 310,088. Fuller Laboratories, Inc., Eden Prairie, Minn. Filed Oct. 21, 1968.



The drawing is lined for blue and red, but no claim is made as to color.

**Class 4—Abrasives and Polishing Materials**

For Gun Stock Wax (Int. Cl. 3).

**Class 6—Chemicals and Chemical Compositions**

For Leather Dressing and Rust Preventative for Guns (Int. Cls. 1 and 2).

**Class 16—Protective and Decorative Coatings**

For Gun Stock Filler, Gun Stock Stain, Gun Stock Finishing Oil, Gun Stock Finishing Kit (Including Wool Pad, Fine and Coarse Production Papers and a Finishing Oil), Gun Bluing Paste, Gun Bluing Liquid, Gun Stock Polyurethane Finish, Gun Bluing Touch-Up, Gun Bluing Kits (Including Gun Bluing, Remover Cloth, Steel Wool Pads, Bluing Applicators, Service Cloth and Silicone Cloth), Gun Stock Refinishing Kits (Including Gun Stock Finishing Oil, Gun Stock Sheen and Conditioner, Gun Stock Wax, Silicone Cloth, Fine and Coarse Gun Productions Papers, Steel Wool Pads, and Service and Polishing Cloths), Gun Bluing Immersions, Gun Brass Black Liquid, Gun Bronze Immersion Liquid, Gun Aluminum Black Immersion Liquid, Gun Steel Black Liquid, Gun Barrel Finish, Brass Black Touch-Up, Aluminum Black Touch-Up, Solder Black Touch-Up and Silver Solder Black Touch-Up (Int. Cl. 2).

**Class 52—Detergents and Soaps**

For Brass Cartridge Case Cleaners, Gun Bore Solvent, Gun Stock Finish Remover, Gun Cleaner and Greaser, Gun Bluing and Rust Remover (Int. Cl. 3).

First use 1961.

SN 319,410. Advanced Research Corporation, Washington, D.C. Filed Feb. 13, 1969.

**RAY-ALERT**

**Class 26—Measuring and Scientific Appliances**

For Radiation Monitors to Measure Ray Emission From TV Sets (Int. Cl. 9).

**Class 100—Miscellaneous**

For Radiation Exposure Rating and Reporting Services (Int. Cl. 42).

First use Jan. 24, 1969.

SN 322,217. Durakut International Corp., East Farmingdale, N.Y. Filed Mar. 20, 1969.

**DURAKUT**

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Cutting Tools for Use in Machine Tools—Namely, Drills, Reamers, Counterbores, End Mills, Milling Cutters, Carbide Cutting Tools, Cutting Tools for Producing Gear Tooth by Generating Method, Broaches, Live Centers, Taps and Dies, Files, and Ceramic Cutting Tools (Int. Cl. 7).

**Class 26—Measuring and Scientific Appliances**

For Measuring Instruments—Namely, Micrometers, Calipers, Fixed Gages, Screw Thread Gauges, Center Gauges, and Dial Indicators (Int. Cl. 9).

First use Mar. 5, 1969.

SN 322,513. Falconbridge Nickel Mines Limited, Toronto, Ontario, Canada. Filed Mar. 24, 1969.

**FALCONBRIDGE**

Owner of U.S. Reg. No. 834,977.

**Class 6—Chemicals and Chemical Compositions**

For Refined Nickel Sulphate (Int. Cl. 1).

**Class 14—Metals and Metal Castings and Forgings**

For Nickel-Containing Sponge Iron; Nickel Granules Containing Low Percentage of Oxygen; Nickel; Copper; Cobalt; Selenium; Platinum; Palladium; and Refinery Residue Concentrates Containing Precious Metals (Int. Cl. 6).

First use as early as 1930; in commerce December 1955.

SN 326,943. Estee Lauder Incorporated, New York, N.Y. Filed May 12, 1969.

**azurée**

Owner of Reg. Nos. 823,503, 823,504, and 823,505.

**Class 51—Cosmetics and Toilet Preparations**

For Friction Lotion, Cologne Spray Concentrate, Bath Oil, Bubble Bath, Bath Salts, Bath Powder, Dusting Powder, Astringent Lotion, Skin Lotion and Moisturizers (Int. Cl. 3).  
First use Feb. 3, 1969.

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).  
First use Apr. 21, 1969.

Owner of Reg. Nos. 812,359 and 825,465.

**Class 15—Oils and Greases**

For Motor Oil (Int. Cl. 4).  
First use September 1964.

**Class 16—Protective and Decorative Coatings**

For Paint (Int. Cl. 2).  
First use May 1961.

**Class 29—Brooms, Brushes, and Dusters**

For Paint Brushes (Int. Cl. 16).  
First use January 1968.

SN 340,865. International Milling Company Inc., Minneapolis, Minn. Filed Oct. 16, 1969.



Owner of Reg. No. 828,658.

**Class 6—Chemicals and Chemical Compositions**

For Insecticides, Deodorants, Disinfectants, Fungicides, and Rodenticides (Int. Cl. 5).  
First use November 1967.

**Class 18—Medicines and Pharmaceutical Preparations**

For Germicides and Medicated Health Preparations for Animals (Int. Cl. 5).  
First use November 1967.

**Class 46—Foods and Ingredients of Foods**

For Flour, Wheat Germ, Cake, Doughnut, Pancake, Cornmeal, Biscuit, and Corn Muffin Mixes, Prepared Turkey Products for Human Consumption, Poultry and Livestock Feeds, and Dog Foods (Int. Cl. 30).  
First use Dec. 11, 1965.

SN 343,621. Zayre Corp., Natick, Mass. Filed Nov. 17, 1969.

**ZAYRE CERTIFIED**

The word "Certified" is disclaimed apart from the mark as a whole.  
Owner of Reg. No. 675,020.

**Class 39—Clothing**

For Stretch Tights, Panties, Shirts, Infants' Clothes, Pajamas, and Brassieres (Int. Cl. 25).  
First use at least as early as September 1965.

**Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor**

For Pillow Cases, Blankets, Pillow Covers, and Mattress Covers (Int. Cl. 24).  
First use at least as early as November 1965.

SN 349,245. Avon Products, Inc., New York, N.Y. Filed Jan. 22, 1970.

**COOL LAGOON**



**Class 51—Cosmetics and Toilet Preparations**

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Dec. 30, 1969.

SN 349,246. Avon Products, Inc., New York, N.Y. Filed Jan. 22, 1970.

**ATOLL****Class 51—Cosmetics and Toilet Preparations**

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Dec. 30, 1969.

SN 349,249. Avon Products, Inc., New York, N.Y. Filed Jan. 22, 1970.

**CLASSIFIED****Class 51—Cosmetics and Toilet Preparations**

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Jan. 5, 1970.

SN 349,250. Avon Products, Inc., New York, N.Y. Filed Jan. 22, 1970.

**GOOSE BUMPS****Class 51—Cosmetics and Toilet Preparations**

For Bubble Bath (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).

First use Jan. 5, 1970.

SN 356,457. Belle Wood Corp., Deerfield, Ill. Filed Apr. 10, 1970.

**CARTABLE**

Owner of Reg. No. 874,268.

**Class 21—Electrical Apparatus, Machines, and Supplies**

For Radios (Int. Cl. 9).

First use Jan. 20, 1970.

**Class 36—Musical Instruments and Supplies**

For Tape Players (Int. Cl. 9).

First use Feb. 28, 1969; Aug. 1, 1967, in a different form for tape players.

**SECTION 2**

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.  
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

**Class 1—Raw or Partly Prepared Materials**

SN 321,573. National Beryllia Corp., Haskell, N.J. Filed Apr. 8, 1969.

**CERMETROL**

For Ceramic Rods, Tubes, Wafers, Cylinders, Studs and Plates Which Have Predetermined Portion of Their Surfaces Metallized (Int. Cl. 9).

First use Mar. 3, 1969.

SN 328,324. Montello, Inc., Sand Springs, Okla. Filed May 26, 1969.

**HOLEMAKER**

For Rotary Drilling Mud Additives, Including Non-Ionic Flocculants and Additive Mixtures Capable of Producing Low Solids, Bentonite Free, Non-Dispersed, Shear Thinning Polymer-Type Drilling Fluids (Int. Cl. 1).

First use Aug. 5, 1968.

SN 328,466. Union Carbide Corporation, New York, N.Y. Filed May 27, 1969.

**PYROFOAM**Owner of Reg. No. 753,897.  
For Carbon and Graphite Foam Sold in Sheet, Bar and Billet Form for General Use in the Industrial Arts (Int. Cl. 1).

First use on or about June 12, 1962.

SN 330,316. W. Atlee Burpee Co., Doylestown, Pa. Filed June 17, 1969.

**INSTANT GARDENS**

No claim is made to the word "Gardens" apart from the mark as a whole.

For Flower Plants (Int. Cl. 31).

First use May 26, 1969.

SN 330,931. Insta-Foam Products, Inc., Addison, Ill. Filed June 25, 1969.

**INSTA-FOAM**

For Aerosol Dispenser Containers Containing Materials for Producing Urethane Foam (Int. Cl. 1).

First use June 26, 1968.

SN 335,156. Cabot Corporation, Boston, Mass. Filed Aug. 13, 1969.

**CAB-O-GRIP**

For Fumed Aluminum Oxide To Be Used in the Manufacture of Paper or Other Products for the Purpose of Providing Antislip Qualities in the Product (Int. Cl. 1).

First use Aug. 8, 1969.

SN 338,825. Western Kraft Corporation, Portland, Oreg. Filed Sept. 24, 1969.



The drawing is lined for the colors green and brown. The words "Bleached Kraft Pulp" are disclaimed apart from the mark as shown.

For Bleached Kraft Pulp (Int. Cl. 1).

First use Aug. 29, 1969.

SN 341,968. Wellman, Inc., Boston, Mass. Filed Oct. 28, 1969.

**FASPIN**

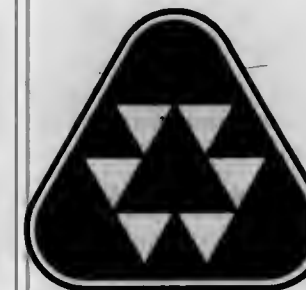
For Wool Top (Int. Cl. 22).

First use July 23, 1969.

SN 342,520. A. Schulman Inc., Akron, Ohio. Filed Nov. 8, 1969.

For Dry Plastic and Rubber Materials in Bulk Form, for the Plastics and Rubber Manufacturing Industry (Int. Cl. 1).  
First use in 1955.

SN 342,684. Wellman, Inc., Boston, Mass. Filed Nov. 4, 1969.



For Natural Fibers, Synthetic Fiber, Monofilaments and Staples, Synthetic Resin Molding Powders and Pellets (Int. Cls. 1 and 22).

First use Aug. 1, 1969.

SN 345,866. Fred Rueping Leather Company, Fond du Lac, Wis. Filed Dec. 10, 1969.

**WAHOO**

For Leathers (Int. Cl. 18).

First use June 28, 1968.

SN 354,771. International Minerals &amp; Chemical Corporation, Skokie, Ill. Filed Mar. 28, 1970.

**CUSTOMIX**

Owner of Reg. No. 800,530.

For Foundry Sand Additives (Int. Cl. 1).

First use July 7, 1964.

**Class 2—Receptacles**

SN 303,765. The Budd Company, Philadelphia, Pa. Filed July 29, 1968.

**SPACE SAVER**For Containers Made of Vulcanized Fiber for Receiving Textile Rovings and Sliver (Int. Cl. 20).  
First use in or about February 1966.  
Subj. to Intf. with SN 300,114.

SN 309,289. Philadelphia Folding Box Company, Philadelphia, Pa. Filed Oct. 9, 1968.

The words "Philadelphia" and "Box" are disclaimed.  
For Paper Boxes (Int. Cl. 16).  
First use Sept. 1, 1959.

SN 313,222. Henry Sheehan, Inc., New York, N.Y. Filed Nov. 29, 1968.

For Gift Wrapped Boxes Supplied to Users in Empty Condition (Int. Cl. 16).  
First use June 1966.

SN 331,464. Whittaker Corporation, Los Angeles, Calif. Filed June 30, 1969.

Applicant disclaims the words "Container Company" apart from the mark as shown.  
For Cargo Containers (Int. Cl. 20).  
First use February 1964.



SN 885,555. Diemolding Corporation, Canastota, N.Y. Filed Aug. 18, 1969.

**DHD**

For Spools, Bobbins, and Parts Thereof, for Carrying Cord, Thread, Rope or Wire (Int. Cl. 20).  
First use Dec. 19, 1967.

SN 340,080. Menasha Corporation, Neenah, Wis. Filed Oct. 7, 1969.



The lining shown in the drawing is not intended to indicate color.  
For Corrugated Paper Shipping Containers Treated With Wax or Wax-Resin Compositions (Int. Cl. 16).  
First use Aug. 6, 1969.

SN 341,644. Floralife, Inc., Chicago, Ill. Filed Oct. 24, 1969.

**BRIDY**

For Bouquet Holder and Carrier (Int. Cl. 21).  
First use Aug. 13, 1969.

**Class 4—Abrasives and Polishing Materials**

SN 244,503. The Kiwi Polish Company Proprietary Limited, Burnley St. Richmond, near Melbourne, Victoria, Australia. Filed Apr. 28, 1966.



Applicant disclaims any exclusive rights in the words "Boot Polish Kit." The black rectangle surrounding the wording, shown on the drawing is merely background and not part of the mark. Owner of Reg. Nos. 563,209, 693,337, and others.

For Boot Polish Kit, Consisting of Polish, Dauber, and Polishing Cloth (Int. Cl. 3).  
First use July 24, 1964; in commerce July 24, 1964.

SN 308,067. Frederick B. Anthon, d.b.a. Frederick B. Anthon Enterprises, Beverly Hills, Calif. Filed Sept. 20, 1968.



For Polishing Material—Namely, Cushioned Abrasive Cloth, Having a Non-Woven Fabric Backing (Int. Cl. 3).  
First use Feb. 5, 1968.

**Class 5—Adhesives**

SN 326,915. SCM Corporation, Cleveland, Ohio. Filed May 9, 1969.

**LIQUID NAILS**

For Construction Adhesives (Int. Cl. 1).  
First use March 1968.

SN 327,094. Symplastics, Inc., Glendale, Calif. Filed S.R. May 12, 1969; Am. P.R. Apr. 6, 1970.

**SYMPOXY**

For Two-Component Epoxy Adhesive for General Bonding (Int. Cl. 1).  
First use Nov. 5, 1966.

**Class 6—Chemicals and Chemical Compositions**

SN 297,482. Chemplex Company, Rolling Meadows, Ill. Filed Apr. 15, 1968.

**CHEMPLEX**

The drawing is lined for the colors red and blue. Owner of Reg. No. 846,524.  
For Low and High Density Polyethylenes, for Further Manufacturing Use (Int. Cl. 1).  
First use Nov. 18, 1967.

SN 297,485. Chemplex Company, Rolling Meadows, Ill. Filed Apr. 15, 1968.

**CHEMPLEX**

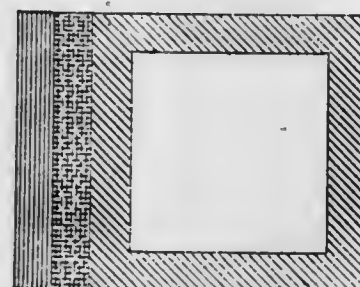
The drawing is not lined for a particular color. Owner of Reg. No. 846,524.  
For Low and High Density Polyethylenes, for Further Manufacturing Use (Int. Cl. 1).  
First use Oct. 1, 1967.

SN 304,664. Ciba Limited, Basel, Switzerland. Filed Aug. 8, 1968.

**PHOBOTONE**

Owner of Swiss Reg. No. 220,200, dated Sept. 26, 1966; and U.S. Reg. Nos. 402,781 and 828,982.  
For Chemical Compositions, Preparations or Compounds for Use as Auxiliary Agents in the Textile, Leather and Paper Industries (Int. Cl. 1).

SN 305,610. International Minerals & Chemical Corporation, Skokie, Ill. Filed Aug. 21, 1968.



The drawing is lined for the colors red, yellow, and green.  
For Agricultural Insecticides (Int. Cl. 5).  
First use Apr. 26, 1968.

SN 314,929. Societe Pour la Protection de l'Elevage Societe Anonyme, Paris, France. Filed Dec. 20, 1968.

**TIGAL**

Priority claimed under Sec. 44(d) on French Reg. No. 756,215, dated June 20, 1968.  
For Agricultural and Domestic Insecticides and Fungicides (Int. Cl. 5).

SN 317,649. Universal Oil Products Company, d.b.a. UOP Fragrances, Des Plaines, Ill. Filed Jan. 27, 1969.

**CHIRIS**

For Essential Oils, Esters, Aldehydes, Ketones, and Synthetic Musk for Use in the Manufacture of Perfumes (Int. Cls. 1 and 3).  
First use at least as early as Mar. 28, 1958.

SN 322,070. International Rubber Industries, Inc., Louisville, Ky. Filed Mar. 18, 1969.

**CURE-ALL**

For Composition for Curing Rubber (Int. Cl. 1).  
First use September 1968.

SN 324,605. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Apr. 15, 1969.

**SUPERJET**

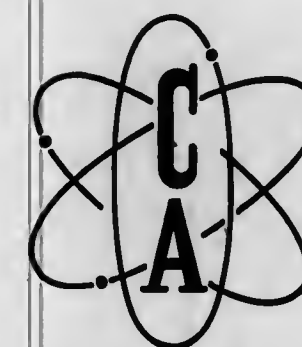
Owner of Reg. No. 512,018.  
For Colorant for Use in Tinting Coatings, Concrete Masonry Products, Floor Coverings, Plastics, and Inks (Int. Cl. 2).  
First use on or about Apr. 16, 1946.

SN 328,621. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 29, 1969.

**RALLY**

For Windshield Washer Anti-Freeze and De-Icer, Cooling System Sealer, Hydraulic Brake Fluid, and Rust Inhibitors (Int. Cls. 1 and 17).  
First use Feb. 6, 1969.

SN 331,334. Chemical Additives Company, Houston, Tex. Filed June 30, 1969.



For Wellbore Fluid Additives (Int. Cl. 1).  
First use Jan. 1, 1963.

SN 331,636. Monsanto Company, St. Louis, Mo. Filed July 2, 1969.

**LARIAT**

For Herbicide (Int. Cl. 5).  
First use June 5, 1969.

SN 337,294. Givaudan Corporation, Clifton, N.J. Filed Sept. 8, 1969.

**ISORALDEINE**

For Methyl Ionone (Int. Cl. 1).  
First use June 30, 1969.

SN 341,824. The Lubrizol Corporation, Cleveland, Ohio. Filed Oct. 27, 1969.

**DAA**

For Chemical Compound, Specifically Monomeric Chemical Intermediate (Int. Cl. 1).  
First use Oct. 20, 1969.

SN 342,186. Technic, Inc., Cranston, R.I. Filed Oct. 30, 1969.

**SPX**

For Gold Plating Solution (Int. Cl. 1).  
First use prior to December 1944.

SN 342,794. Pettibone Laboratories, Inc., New York, N.Y. Filed Nov. 6, 1969.

**POTAB**

For Chlorine Dioxide for Use as a Deodorant in Water Purification (Int. Cl. 5).  
First use Oct. 25, 1969.

**Class 8—Smokers' Articles, Not Including Tobacco Products**

SN 347,563. Universal Cigar Corporation, New York, N.Y. Filed Jan. 2, 1970.

**STRATO FLAME**

The term "Flame" is disclaimed apart from the mark as shown.  
For Lighters for Cigars and Cigarettes (Int. Cl. 34).  
First use Oct. 30, 1969.

SN 355,358. Dante, Inc., New York, N.Y. Filed Mar. 30, 1970.

**DANTE**

For Cigarette and Cigar Lighters (Int. Cl. 34).  
First use Feb. 16, 1968.



### Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 325,023. The Ensign-Bickford Company, Simsbury, Conn. Filed Apr. 21, 1969.

#### PD CORD

Without waiver of common-law or other rights, applicant claims no registration rights for the word "Cord" apart from the mark shown. Owner of Reg. No. 832,361, and others. For Detonating Cord (Int. Cl. 18). First use Oct. 28, 1968.

SN 338,690. Philco-Ford Corporation, Philadelphia, Pa. Filed Sept. 23, 1969.

#### LOCAT

Target missiles and rocket-propelled projectiles (Int. Cl. 13). First use during March 1968.

### Class 10 — Fertilizers

SN 315,320. Kalo Inoculant Company, Quincy, Ill. Filed Dec. 27, 1968.

#### INOCTOL

For Inoculant for Agricultural Seeds (Int. Cl. 1). First use Dec. 4, 1968.

### Class 12 — Construction Materials

SN 307,970. Cardinal Insulated Glass Co., Minneapolis, Minn. Filed Sept. 23, 1968.



For Insulated Glass Units for Use as Windows, Doors, and the Like (Int. Cl. 19). First use Feb. 9, 1962.

SN 308,264. American Precast Corp., Framingham, Mass. Filed Sept. 26, 1968.

#### AMERATION

For Leaching Field Chambers Consisting of Unitary Modules Having Interlocking Roof Portions Supported by Pedestals for Placement on the Sub-Surface Bed of a Leaching Field to Form a Closed Roof Over Said Field and Thereby Promote Lateral and Longitudinal Fluid Flow Over the Surface of the Field (Int. Cl. 19). First use in or about July 1967.

SN 308,648. Intong Aktiebolag, Hallabrottet, Sweden, by change of name from Ytong International AB., Hallabrottet, Sweden. Filed Oct. 1, 1968.

## YTONG

For Bricks, Blocks, Slabs and Reinforced Concrete Building Elements, all Made of Cementitious Lightweight Concrete, and Shale-Lime Cement for Building Purposes (Int. Cl. 19). First use Apr. 1, 1953; in commerce Apr. 1, 1953.

SN 311,148. R. B. Harwood Products, Inc., Chicago, Ill. Filed Nov. 1, 1968.

#### PLASTOVIN SEAMLESS

Applicant disclaims the term "Seamless" apart from the mark as shown.

For Protective and Decorative Coating Materials Comprising a Sealer, Base, and Glaze; and Vinyl Chips or Flakes Used Therewith on Floors, Walls, Furniture, and the Like, (Int. Cl. 19). First use Mar. 5, 1967.

SN 315,154. Fansteel Inc., North Chicago, Ill. Filed Dec. 24, 1968.

#### FLITE-CORE

For Liquid Laminated Plastic Sandwich Paneling (Int. Cl. 19). First use Oct. 26, 1968.

SN 316,248. The Susquehanna Corporation, Alexandria, Va. Filed Jan. 9, 1969.

#### PREMIUM

For Mineral Wool Insulation (Int. Cl. 17). First use on or about June 1, 1952.

SN 318,536. Fence City, Inc., East Amherst, N.Y. Filed Feb. 6, 1969.

#### MASTER KENNELS

No claim is made to the word "Kennels" apart from the mark as shown.

For Prefabricated Dog Kennels (Int. Cl. 6). First use on or about Oct. 13, 1968.

SN 319,948. Potlatch Forests, Inc., San Francisco, Calif. Filed Feb. 24, 1969.



For Hardwood Flooring (Int. Cl. 19). First use 1919.

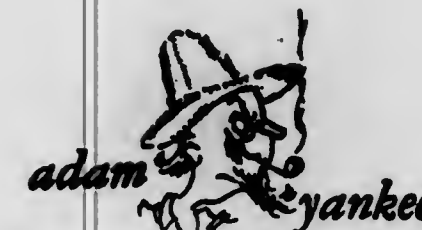
SN 323,528. Ash Grove Cement Company, Kansas City, Mo. Filed Apr. 3, 1969.

SN 328,753. United States Ceramic Tile Company, Canton, Ohio. Filed May 29, 1969.



Owner of Reg. Nos. 78,926, 275,137, and others. For Hydrated Lime and Quick Lime for Use in Building Construction; and Cement (Int. Cl. 19). First use in or about July 1963; in or about 1881 as to "Ash Grove."

SN 325,107. H. Wayne Tichenor, d.b.a. Adam Yankee, East Brewster, Mass. Filed Apr. 15, 1969.



For Glass Window Panes (Int. Cl. 19). First use Nov. 13, 1967.

SN 326,442. Sears, Roebuck and Company, Chicago, Ill. Filed May 5, 1969.

## CRACK-STOP

For Latex Sealing Liquid for Sealing Cracks in Masonry Walls (Int. Cl. 17). First use Mar. 24, 1969.

SN 328,372. Uni-Wall Interlock, Inc., Denver, Colo. Filed May 26, 1969.



For Lightweight Cellular Concrete Building Construction Components—Namely, Columnar Panels for Walls, Roofs or Floors of Buildings (Int. Cl. 19). First use Apr. 15, 1969.

## MARCO-CRETE

Owner of Reg. Nos. 231,433, 781,933, and others. For Ceramic Tile—Namely, Floor Tile (Int. Cl. 19). First use in or about April 1966.

SN 331,069. Reynolds Metals Company, Richmond, Va. Filed June 26, 1969.

## SPARTINA

Applicant claims the exclusive right to use the word "Rib" as a part of its mark, but not otherwise. For Metal Sheet Roofing and Siding (Int. Cl. 6). First use at least as early as Jan. 10, 1969.

SN 332,327. Devcon Corporation, Danvers, Mass. Filed July 11, 1969.

## RHINO RIB

For Silicone Rubber Paste for Sealing, Caulking and Bonding (Int. Cl. 17). First use June 19, 1969.

SN 334,249. Panel-Loc System, Inc., Dover, N.J. Filed Aug. 1, 1969.

## SILITE

The representation of the goods is disclaimed apart from the mark as shown. For Interlocking Construction Members, Made of Various Extruded Materials, for Use in Fabricating Wall Panels, Floors, Roofs, Leaders, Gutters, Shutters, Doors, Windows, Hatch Covers, Stairwells, and the Like (Int. Cl. 19). First use Jan. 20, 1969.

SN 335,641. Albee Homes, Inc., Niles, Ohio. Filed Aug. 19, 1969.



The phrase "Tomorrow's Technology in Quality Housing" and the word "Homes" are disclaimed apart from the mark. For Modular Homes and Prefabricated Buildings (Int. Cl. 19). First use May 15, 1969.

SN 337,590. Sunco Manufacturing Company, Inc., Muskogee, Okla. Filed Sept. 10, 1969.

## SCULPTUR WALL

Applicant without relinquishing any of its common law rights, disclaims the word "Wall" apart from the mark as shown.

For Exterior Wall Paneling (Int. Cl. 19). First use February 1969.



SN 341,762. U.S. Plywood-Champion Papers Inc., New York, N.Y. Filed Oct. 27, 1969.

**BOURBON HICKORY**

Applicant disclaims any exclusive rights to the word "Hickory," except when used in connection with the mark shown.

For Plywood, Lumber, Wood and Wood Fiber Products in the Construction, Building, Industrial, and Furniture Fields, i.e., Panels for Walls, Doors, Partitions, and Furniture (Int. Cl. 19).

First use in or about July 1969.

SN 351,102. Basic Incorporated, Cleveland, Ohio. Filed Feb. 11, 1970.

**BRI**

Owner of Reg. No. 810,999.

For Refractory Materials Suitable for Construction and Repair of Furnace Linings and the Like (Int. Cl. 19).

First use on or about Nov. 26, 1969.

SN 356,172. John A. Wilnau, Eugene, Oreg. Filed Apr. 6, 1970.

**Walfloro**

For Precast Concrete Building Walls, Being of a Combination of Concrete and a Facing of Concrete Blocks (Int. Cl. 19).

First use Jan. 26, 1970.

**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

SN 273,186. Ekco Products, Inc., Wheeling, Ill. Filed June 6, 1967.

**TUFLUOR**

For Polytetrafluoroethylene Release Coating, Sold as a component in Cookware and Bakeware (Int. Cl. 21).

First use on or about Feb. 10, 1967.

SN 312,593. Jonathan Manufacturing Company, Fullerton, Calif. Filed Nov. 19, 1968.

**TRU-GLIDE**

For Drawer Slides (Int. Cl. 6).  
First use Nov. 4, 1968.

SN 324,049. Rex Chainbelt, Inc., Santa Ana, Calif. Filed Apr. 9, 1969.

**DELRON**

Owner of Reg. No. 713,021.

For Nuts, Lock Nuts, Sandwich Panel Fasteners, Bolts, Screws, and the Like (Int. Cl. 6).

First use February 1969.

SN 333,076. Anchor Post Products, Inc., Baltimore, Md. Filed July 22, 1969.



The mark is characterized by the intersection of two flange-like members mounted on a common base plate to simulate an acorn-like form. Owner of Reg. No. 695,449.

For Metallic Fencing (Int. Cl. 6).

First use at least as early as May 1899.

SN 334,198. Avica Equipment Limited, Hemel Hempstead, England. Filed Aug. 1, 1969.

**AVJOINT**

Priority claimed under Sec 44(d) on British application No 941,800, filed Apr. 28, 1969.

For Pipe Joints and Pipe Couplings, Including Flexible Pipe Joints and Pipe Couplings and Expansion Joints. (Int. Cl. 6).

SN 337,465. Rose Manufacturing Company, Kansas City, Mo., by change of name and assignment from Rose Manufacturing Company, Denver, Colo. Filed Sept. 9, 1969.

**SAFIRE**

For Fire Fighter Safety, Access and Escape Equipment—Namely, Pomper Belts and Hooks, Pomper Belt Accessories, Tailboard Belts, Ladder Safety Shoes, Ladder Lashes, Ladder Pull Grippers, Ladder Wall Grippers, Strap and Rope Ladders and Ladder Standoff Brackets (Int. Cl. 9).

First use on or about Aug. 15, 1962.

SN 339,674. Golf Course Specialties, Inc., Bay Shore, N.Y. Filed Oct. 3, 1969.

**RAIN CHECK**

For Sprinkler System Control (Int. Cl. 6).  
First use Sept. 8, 1969.

SN 341,217. Superior Strut & Hanger Company, Oakland, Calif. Filed Oct. 20, 1969.

**SUPER STRUT**

For Hardware—Namely, Framing Channels, Joiners, End Caps, Closure Strips, Fittings, Brackets, Concrete Inserts, Nuts and Bolts, Beam Clamps, Pipe Clamps Hangers, Isolators and Electrical Fittings (Int. Cl. 6).

First use February 1958.

SN 341,445. Dover Corporation, New York, N.Y. Filed Oct. 20, 1969.

**KAMVALOK**

Owner of Reg. No. 739,625.

For Valve Couplers for Fluid Dispensing Equipment (Int. Cl. 6).

First use July 14, 1969.

SN 341,548. Ric-Wil, Incorporated, Brecksville, Ohio. Filed Oct. 23, 1969.

**CHIL-GARD**

For Prefabricated Conduit (Int. Cl. 6).

First use July 1, 1969.

SN 343,170. Sentry Hardware Corporation, Cleveland, Ohio. Filed Nov. 10, 1969.

**SENTRY**

Owner of Reg. Nos. 764,970, 865,167, and others.

For Hinges, Barrel Bolts, Cabinet Catches, Chain Door Guards, Turn Buttons, Screen Door Pulls, Screen Door Spring Hinges, Sash Hook Lifts, Mending Plates, Corner Braces, Flat Corner Irons, Magnetic Catches, Gate Latches, Spring and Chain Door Stops, Screen Door Catches, Safety Hasps, T-Hinges, Strap Hinges, Screen/Storm Sash Hangers, Utility Hinges, Roller Catches, Sash Locks, Hydraulic Door Closers, Pneumatic Door Closers, Storm Door Latches, and Door Protector Chains (Int. Cl. 6).

First use July 29, 1969.

SN 343,267. Fire Protection Company, Chicago, Ill. Filed Nov. 12, 1969.

**FPC**

For Sprinkler Heads (Int. Cl. 6).

First use July 22, 1953.

SN 343,418. Phillips Petroleum Company, Bartlesville, Okla. Filed Nov. 13, 1969.

**7000**

For Pipe, Conduit and Couplings Therefor (Int. Cl. 6).

First use as early as Mar. 25, 1964.

SN 343,640. A-Jon Inc., Norwalk, Conn. Filed Nov. 17, 1969.

**A-JON**

For Portable Toilets (Int. Cl. 11).

First use Oct. 1, 1969.

SN 345,307. The Durlon Company, Inc., Dayton, Ohio. Filed Dec. 10, 1969.

**DURCOMET 100**

Owner of Reg. Nos. 418,706, 743,252, and others.

For Valves and Parts Thereof (Int. Cl. 6).

First use Sept. 12, 1969.

SN 349,360. Kirsch Company, Sturgis, Mich. Filed Jan. 22, 1970.

**CHATEAU**

For Drapery Hardware—Namely, Drapery Rods and Accessories and Parts Therefor (Int. Cl. 20).

First use November 1968.

**ATAVIO**

For Drapery Hardware—Namely, Drapery Rods and Accessories and Parts Therefor (Int. Cl. 20).

First use August 1967.

SN 351,821. National Manufacturing Co., Sterling, Ill. Filed Feb. 19, 1970.

**SHELFERS**

For Shelf Standards and Brackets (Int. Cl. 6).

First use Jan. 26, 1970.

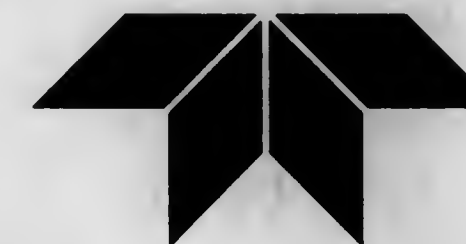
SN 352,097. Crucible Inc., Pittsburgh, Pa. Filed Feb. 24, 1970.

**CWA**

For Metal Tubing and the Like (Int. Cl. 6).

First use Feb. 4, 1970.

SN 352,260. Teledyne, Inc., Los Angeles, Calif. Filed Feb. 24, 1970.



Owner of Reg. Nos. 819,762 and 884,151.  
Metal Tire Studs (Int. Cl. 12).  
First use June 1968.

SN 352,613. Campbell Chain Company, York, Pa. Filed Feb. 27, 1970.

**CAM-ALLOY**

For Chain (Int. Cl. 6).  
First use on or about Oct. 14, 1952.

**Class 14—Metals and Metal Castings and Forgings**

SN 342,525. Societe Industrielle Girosteel, Le Bourget, Seine-Saint-Denis, France. Filed Nov. 3, 1969.



Owner of French Reg. No. 465,125, dated May 24, 1957 (Seine); Natl. Inst. No. 90,644.

For Plain or Covered Steel in the Form of Wires, Bars, Tubes, Strips or Coils (Int. Cl. 6).

First use at least 1958.



SN 351,936. Handy & Harman, New York, N.Y. Filed Feb. 20, 1970.

**PREMABRAZE**

For Alloys of Precious Metal Used for Brazing Purposes (Int. Cl. 14).  
First use at least 1958.

SN 351,937. Handy & Harman, New York, N.Y. Filed Feb. 20, 1970.

**PREMALOY**

For Alloys of Precious Metal Used for Contact and Control Rods (Int. Cl. 14).  
First use at least 1960.

SN 354,370. United States Steel Corporation, Pittsburgh, Pa. Filed Mar. 18, 1970.

**WE'RE INVOLVED**

For Steel Sheets (Int. Cl. 6).  
First use Jan. 26, 1970.

**Class 15—Oils and Greases**

SN 307,887. Valvring Oil Corporation, Los Angeles, Calif. Filed Sept. 20, 1968.

**VALVRING**

For Motor Fuel Additives and Motor Oil Additives; Lubricating Oils for Machines and Machine Tools (Int. Cls. 1 and 4).  
First use prior to Nov. 24, 1944.

SN 336,629. Muench-Kreuzer Candle Co. Inc., Syracuse, N.Y. Filed Aug. 28, 1969.

**LUMEN CHRISTI**

The term "Lumen" is disclaimed apart from the mark as a whole. The translation of "Lumen Christi" is "Light of Christ."

For Candles Used for Religious Purposes (Int. Cl. 4).  
First use at least as early as Jan. 1, 1926.

SN 337,705. Sun Oil Company, Philadelphia, Pa. Filed Sept. 11, 1969.

**POWER MIX**

For Motor Oils (Int. Cl. 4).  
First use May 5, 1969.

SN 344,125. Mobil Oil Corporation, New York, N.Y. Filed Nov. 20, 1969.

**MOBILFLUID**

Owner of Reg. Nos. 129,237, 266,707, 566,703, and others.  
For Hydraulic, Hydrostatic Transmission Fluid (Int. Cl. 1).  
First use Nov. 15, 1942.

SN 348,061. Sun Oil Company, Philadelphia, Pa. Filed Jan. 8, 1970.

**SUNTRAN**

Owner of Reg. Nos. 442,869, 830,918, and others.  
For Hydraulic Transmission Fluid (Int. Cl. 1).  
First use Oct. 8, 1968.

**Class 16—Protective and Decorative Coatings**

SN 308,584. Hoboken Paints, Inc., Lodi, N.J. Filed Oct. 3, 1968.

**magic-tex**

For Vinyl Acrylic Paint With Incidental Repairing Properties (Int. Cl. 2).  
First use Feb. 15, 1966.

SN 315,769. The Andrew Jeri Company, Inc., Fairfield, N.J. Filed Jan. 3, 1969.

**MASKOID**

For Liquid Composition To Be Used for Removable Protective Layer in Art, Architectural, Decorative, Photographic, and Similar Work (Int. Cl. 16).  
First use on or about Aug. 15, 1939.

SN 321,259. Nawn Enterprises, Inc., Holden, Mass. Filed Mar. 10, 1969.

**NAWNKOTE**

For Liquid Waterproofing Polyester Resin Coating Material in the Nature of a Paint for Fiberglass for Swimming Pools, Roofs, Tanks, Floors, and any Exterior Structures Subject to Water Leakage (Int. Cl. 2).  
First use May 1967.

SN 332,495. Kristal Kraft, Inc., Palmetto, Fla. Filed July 14, 1969.

**MIRA-SPRAY**

Owner of Reg. No. 795,062.  
For High Gloss, Clear Protective Coating Which Produces a Durable Finish for Wood Golf Club Heads (Int. Cl. 2).  
First use June 10, 1969.

SN 336,318. Colonial Refining and Chemical Company, Cleveland, Ohio. Filed Aug. 26, 1969.

**CORO-KOTE**

Owner of Reg. No. 510,082.  
For Corrosion-Inhibiting Coating Compositions, Primarily to Protect Structural Metal Work (Int. Cl. 2).  
First use May 12, 1966.

SN 342,250. Evr-Gard Coatings Corporation, Los Angeles, Calif. Filed Oct. 31, 1969.

**RUST-B-GONE**

For Rust Inhibitive Primer (Int. Cl. 2).  
First use Oct. 6, 1969.

SN 342,558. C. R. Wallauer & Company Inc., White Plains, N.Y. Filed Nov. 8, 1969.

**WALDUN**

For Latex and Solvent-Thinned Paints, Primers and Enamels for Interior and Exterior Use (Int. Cl. 2).  
First use on or about Sept. 5, 1969.

SN 345,751. The Dampney Company, Boston, Mass. Filed Dec. 10, 1969.



For Dry, Paste and Ready Mixed Paints, Ready Mixed Stains, and Paint Enamels (Int. Cl. 2).  
First use Jan. 1, 1941.

**Class 17—Tobacco Products**

SN 272,211. Rembrandt Tobacco Corporation (Overseas) Limited, Zurich, Switzerland. Filed May 23, 1967.



For Cigarettes (Int. Cl. 34).  
First use Dec. 29, 1966; in commerce Dec. 29, 1966.

SN 318,983. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed Feb. 12, 1969.



Applicant makes no exclusive claim to the words "Virginia Gold." Owner of Swiss Reg. No. 219,870, dated Nov. 12, 1965; and U.S. Reg. Nos. 578,697, 867,400, and others.  
For Cigarettes (Int. Cl. 34).

SN 319,951. Plantation Tobacco Company, Incorporated, New York, N.Y. Filed Feb. 24, 1969.

**SWANEE**

For Cigars, Cigarettes, and Smoking Tobacco (Int. Cl. 34).  
First use Aug. 5, 1968.

SN 321,409. Taylor Brothers, Inc., Winston-Salem, N.C. Filed Mar. 11, 1969.

**FAVORITE**

For Chewing Tobacco (Int. Cl. 34).  
First use 1900.

SN 329,249. La Floridana Cigar Factory, Inc., Tampa, Fla. Filed June 5, 1969.

**Thunderbird**

Owner of Reg. No. 684,330.  
For Cigars (Int. Cl. 34).  
First use on or about Oct. 15, 1958.

SN 330,005. Pedro Fuentes, S.A., Las Palmas de Gran Canaria, Canary Islands, Spain. Filed June 13, 1969.

**CONDAL**

The word "Condal" is defined as "pertinent to the dignity of an earl or count." Owner of Spanish Reg. No. 295,754, dated Nov. 13, 1959.  
For Smoking Tobaccos (Int. Cl. 34).

SN 335,322. Corral, Wodiska y Ca., Tampa, Fla. Filed Aug. 14, 1969.

**BERING 9/09**

Owner of Reg. Nos. 185,311, 865,213, and others.  
For Cigars (Int. Cl. 34).  
First use July 8, 1969.

SN 355,351. Consolidated Cigar Corporation, New York, N.Y. Filed Mar. 30, 1970.

**GREMLIN**

For Cigars (Int. Cl. 34).  
First use Mar. 13, 1970.

SN 355,365. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebrandierijen-Theehandel N.V., Slachtedijk, Joure, Netherlands. Filed Mar. 30, 1970.

**DISCOVERY**

For Smoking and Chewing Tobacco, Cigars, and Cigarettes (Int. Cl. 34).  
First use May 13, 1969; in commerce May 13, 1969.

**Class 18—Medicines and Pharmaceutical Preparations**

SN 271,569. Walgreen Co., Chicago, Ill. Filed May 16, 1967.

**OCTINE**

For Eye Drops and Eye Wash (Int. Cl. 5).  
First use July 5, 1929.



SN 284,116. STADA e G.m.b.H., Dortelwell/Wetterau, Germany. Filed Nov. 3, 1967.

**bi  
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rin**

Owner of German Reg. No. 102,885, dated June 26, 1907.  
For Liver Extract With Lecithin and Sorbitol (Int. Cl. 5).  
First use June 26, 1907; in commerce Sept. 14, 1967.

SN 316,555. Rita D. Schechter, Bronx, N.Y. Filed Jan. 15, 1969.

**Seapower**

For Food Supplement Containing Minerals (Int. Cl. 5).  
First use Sept. 2, 1968.

SN 331,059. Misemer Pharmaceuticals, Incorporated, Springfield, Mo. Filed June 26, 1969.

**PAVASULE**

For Pharmaceutical Preparation Consisting of Papaverine Hydrochloride Capsules Containing Pellets Made With a Special Sustained Release Base Providing Prolonged Therapeutic Effect of the Contents and for Use in the Relief of Cerebral and Peripheral Ischemia (Int. Cl. 5).  
First use Jan. 30, 1968.

SN 337,039. Boehringer Ingelheim G.m.b.H., Ingelheim (Rhine), Germany, assignee of Gelgy Chemical Corporation, Ardsley, N.Y. Filed Sept. 4, 1969.

**COMBIPRES**

For Diuretic and Antihypertensive Preparation (Int. Cl. 5).  
First use Aug. 26, 1969; in commerce Aug. 26, 1969.

SN 337,482. Colgate-Palmolive Company, New York, N.Y. Filed Sept. 10, 1969.

**THE MOUTHWASH FOR  
LOVERS!**

Applicant disclaims the word "Mouthwash" apart from the mark as shown.  
For Oral Antiseptic (Int. Cl. 5).  
First use September 1968.  
Subj. to Intf. with SN 320,840.

SN 340,762. Bristol-Myers Company, New York, N.Y. Filed Oct. 15, 1969.

**AMPIHET**

For Antibiotic Preparation (Int. Cl. 5).  
First use July 15, 1969.

SN 340,764. Bristol-Myers Company, New York, N.Y. Filed Oct. 15, 1969.

**AZOTET**

For Antibiotic Preparation (Int. Cl. 5).  
First use July 15, 1969.

SN 340,766. Bristol-Myers Company, New York, N.Y. Filed Oct. 15, 1969.

**CHLORBENZOLE**

For Analgesic Preparation (Int. Cl. 5).  
First use Sept. 5, 1969.

SN 340,902. Ciba Limited, Basel, Switzerland. Filed Oct. 16, 1969.

**LOSALEN**

Owner of Swiss Reg. No. 230,352, dated Feb. 16, 1968.  
For Pharmaceutical Preparation Containing Cortical Steroid (Int. Cl. 5).

SN 341,035. Tadashi Kawaguchi, Sedagaya-ku, Tokyo, Japan. Filed Oct. 17, 1969.

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Owner of Japanese Reg. No. 769,238, dated Jan. 30, 1968.  
For Medical Preparations—Namely, Tonics (Int. Cl. 5).

SN 341,660. Holland-Rantos Company, Inc., Piscataway, N.J. Filed Oct. 24, 1969.

**LubriFoam**

For Foam Lubricant for Gynecological and Proctological Examinations (Int. Cl. 5).  
First use Oct. 29, 1968.

SN 341,898. Abbott Laboratories, North Chicago, Ill. Filed Oct. 28, 1969.

**SIL-ESTRUS**

For Hormone Preparation for Use in Animals (Int. Cl. 5).  
First use Nov. 27, 1968.

SN 342,225. Bristol-Myers Company, New York, N.Y. Filed Oct. 31, 1969.

**SECOND WIND**

For Keep Alert Wafers (Int. Cl. 5).  
First use Sept. 23, 1969.

SN 342,495. E. Merck Aktiengesellschaft, Darmstadt, Germany. Filed Nov. 3, 1969.

**TOXOGONIN**

Owner of German Reg. No. 404,798, dated Feb. 22, 1929.  
For Cholinesterase Reactivator (Int. Cl. 5).

SN 347,692. Ralston Purina Company, St. Louis, Mo. Filed Jan. 5, 1970.

**SOW-PLUS OVALS**

Applicant disclaims the word "Ovals" apart from the mark as shown, but waives none of its common law rights thereto.  
Owner of Reg. No. 663,669.  
For Medicated Feed Supplement for Sows and Glits (Int. Cl. 5).  
First use Apr. 19, 1968.

SN 355,562. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 1, 1970.

**EVEN KEEL**

For Non-Narcotic Tranquillizer (Int. Cl. 5).  
First use Nov. 7, 1969.

SN 356,547. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 13, 1970.

**PENICLE**

Owner of Reg. No. 507,688.  
For Cough Formula (Int. Cl. 5).  
First use Feb. 20, 1970.

SN 357,161. American Home Products Corporation, New York, N.Y. Filed Apr. 17, 1970.

**KITACYN**

Owner of Reg. No. 793,245.  
For Veterinary Antibiotic Preparation (Int. Cl. 5).  
First use Mar. 26, 1970.

SN 357,286. Parke, Davis & Company, Detroit, Mich. Filed Apr. 20, 1970.

**PETIPAC**

Owner of Reg. No. 888,567.  
For Dispensing Packages Containing Medicinal Tablets (Int. Cl. 5).  
First use on or before June 27, 1969.

SN 358,154. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 28, 1970.

**CLOCKWORK**

For Laxative (Int. Cl. 5).  
First use Mar. 31, 1970.

SN 358,397. The Upjohn Company, Kalamazoo, Mich. Filed Apr. 30, 1970.

**DIAGNEST**

For Progestogen for Veterinary Use (Int. Cl. 5).  
First use Dec. 22, 1969.

**Class 19—Vehides**

SN 273,108. Railko Limited, Loudwater, High Wycombe, England. Filed June 5, 1967.

**RAILKO**

Owner of British Reg. Nos. 875,617, 875,619, and 875,620, dated Feb. 15, 1965; and U.S. Reg. No. 650,923.  
For Thermal and Sound Insulation Parts, Shaped Particularly To Fit Vehicles (Int. Cl. 17).

SN 280,419. Hyland Manufacturing, Inc., Carlisle, Iowa, assignee of Robert L. Hyland, d.b.a. Hyland Manufacturing, Carlisle, Iowa. Filed Sept. 15, 1967.

**HY-LANDER**

For Pickup Coaches (Int. Cl. 12).  
First use Nov. 18, 1965.

SN 315,036. Bonair Boats, Inc., Mission, Kans. Filed Dec. 23, 1968.

**'cudahide**

For Boat Hulls (Int. Cl. 12).  
First use Dec. 5, 1968.

SN 325,709. Bonanza Industries, San Jose, Calif. Filed Apr. 28, 1969.

**BONANZA**

Owner of Reg. No. 771,790.  
For Two Wheel Motor Driven Cycles—Namely, Mini-Bike, Motor Scooter, and Motorcycle; Three Wheel Motor Driven Carts—Namely, Industrial Carts, Golf Carts, and Leisure Carts; Four Wheel Motorized Cart—Namely, Racing Carts, Golf Carts, Dune Buggy, Sand Buggy, and Snow Mobile (Int. Cl. 12).  
First use Mar. 3, 1960.



SN 329,334. The Budd Company, Philadelphia, Pa. Filed June 6, 1969. SN 341,016. Cline Industries, Inc., Rush Springs, Okla. Filed Oct. 17, 1969.

LEDGE  
BUDD  
WELD

For Automobiles, Motor Trucks and Truck Trailers; and Parts for Brakes and Wheels—Namely, Brake Drums, Brake Disks, and Wheels (Int. Cl. 12).  
First use May 29, 1969.

SN 331,149. Brentwood, Inc., Elkhart, Ind. Filed June 27, 1969.



For Travel Trailers (Int. Cl. 12).  
First use Feb. 3, 1969.

SN 332,349. Heath Company, Benton Harbor, Mich. Filed July 11, 1969.

## BOONIE-BIKE

For Transportation Vehicles—Namely, Trail Bikes and Structural Parts Thereof (Int. Cl. 12).  
First use at least as early as Dec. 12, 1968.

SN 332,378. Virgil L. Streeter, d.b.a. Streeter Mfg. Co., Carlisle, Iowa. Filed July 11, 1969.

## PROTECTO-BOAT

For Portable Boat Mooring Device Comprised of a Hollow Elongated Flexible Tube Through Which a Braided Rope Is Extended (Int. Cl. 12).  
First use June 12, 1969.

SN 333,933. S. S. Kresge Company, Detroit, Mich. Filed July 30, 1969.



For Vehicle Floor Mats (Int. Cl. 27).  
First use on or before Mar. 10, 1969.

SN 338,758. Commodore Aviation, Inc., Arlington, Va. Filed Sept. 24, 1969.

Commodore Jet

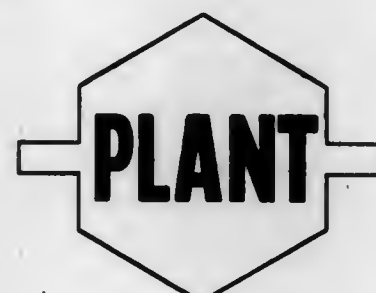
Applicant disclaims the word "Jet" apart from the mark as shown.

For Jet Aircraft (Int. Cl. 12).  
First use Feb. 14, 1969.

## TWILIGHT BUNGALOW

For Travel Trailers (Int. Cl. 12).  
First use Sept. 28, 1969.

SN 341,077. Plant Bros. Corp., San Francisco, Calif. Filed Oct. 16, 1969.



For Boats, Specifically Sail and Row Boats (Int. Cl. 12).  
First use March 1964.

SN 346,211. Bertram Yacht Corporation, Miami, Fla. Filed Dec. 15, 1969.

## MOPPIE

For Boats (Int. Cl. 12).  
First use at least as early as Nov. 3, 1969.

SN 357,961. Conchemco, Incorporated, Kansas City, Mo. Filed Apr. 27, 1970.

## GOVERNOR

For Mobile Homes (Int. Cl. 12).  
First use Feb. 2, 1970.

## Class 20—Linoleum and Oiled Cloth

SN 333,393. Flex-O-Glass, Inc., d.b.a. Warp Brothers, Chicago, Ill. Filed July 24, 1969.

## VINYL-MAT

For Plastic Floor Runners (Int. Cl. 27).  
First use July 1, 1957.

SN 342,130. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed Oct. 30, 1969.

## KISMET

Vinyl Asbestos Flooring (Int. Cl. 27).  
First use Oct. 24, 1969.

SN 342,131. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed Oct. 30, 1969.

## SEXTETTE

For Vinyl Flooring (Int. Cl. 27).  
First use Aug. 14, 1969.

## Class 21—Electrical Apparatus, Machines, and Supplies

SN 237,247. Norddeutsche Mende Rundfunk K.G., Bremen-Hemelingen, Germany. Filed Jan. 25, 1966.

## NORDMENDE GLOBETRAVELER

Owner of U.S. Reg. Nos. 747,164 and 876,400.  
For Car Radios, Boat Radios, and Portable Radios (Int. Cl. 9).  
First use Apr. 1, 1965; in commerce Apr. 1, 1965.

SN 312,077. United Aircraft Corporation, East Hartford, Conn. Filed Nov. 18, 1968.

## CORMOD

For Aircraft and Shipboard Display Systems—Namely, Vertical Display Generator Systems Including a System Generator, an Optical Projection System and an Image Readout Unit; and Parts for Each of These Goods (Int. Cl. 9).  
First use June 28, 1968.

SN 313,254. Applied Materials Technology, Inc., Santa Clara, Calif. Filed Nov. 29, 1968.



applied materials

For Chemical Vapor Deposition Reactors and Components Thereof (Int. Cl. 9).  
First use Apr. 23, 1968.

SN 314,350. Joslyn Mfg. and Supply Co., Chicago, Ill. Filed Dec. 12, 1968.

## TRIGARD

For Protective Devices—Namely, a Spark Gap Device for Electrical Circuitry To Protect the Circuitry From High Voltage Surges (Int. Cl. 9).  
First use Oct. 30, 1968.

SN 319,562. Anderson Power Products Inc., Boston, Mass. Filed Feb. 19, 1969.

## SB

For Industrial, High Amperage Electrical Connectors and Electrical Insulators (Int. Cls. 9 and 17).  
First use January 1954.

SN 319,570. Biozonics Corp., Natick, Mass. Filed Feb. 19, 1969.

## BIOZONICS

For Ozone Generating Devices for Air and Water Purification (Int. Cl. 9).  
First use Jan. 2, 1969.

SN 320,797. Com-U-Trol Corp., Chicago, Ill. Filed Mar. 5, 1969.

## CONFRA-CALL

For Telephone Transfer and Conference Call Equipment Consisting Principally of a Switch Box, a Solid State Component and Transformer and Relay Housing (Int. Cl. 9).  
First use on or about Nov. 14, 1968.

SN 321,078. Preh, Elektrofeinmechanische Werke, Jakob Preh Nachfolger, Bad Neustadt/Saale, Germany. Filed Mar. 7, 1969.

## PREOMAT

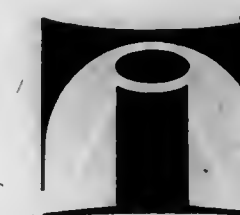
Owner of German Reg. No. 819,596, dated Mar. 18, 1965.  
For Accessories for Electrical and Electronic Equipment—Namely, Rotatable and Slidable Resistances and Potentiometers, in Single or Multiple Types With Attached Rotary Switches or Push Buttons, for Frequency Tuning With Capacitance, for Adjustment of Signal Strength and Tone in Radios and Tape Recorders, for Control of Illumination and Contrast in Television Apparatus (Int. Cl. 9).

SN 322,988. Jackson Controls Company, Inc. Chicago, Ill. Filed Mar. 27, 1969.

Jackson

For Electric Fence Controllers and Battery Chargers (Int. Cl. 9).  
First use May 22, 1961.

SN 323,740. Teller Industries, Inc., Newbury Park, Calif. Filed Apr. 4, 1969.



The mark consists of the letters "T" and "I."  
For Electrical and Electronic Components and Other Related Apparatus—Namely, Printed Circuit Boards, Terminal Boards, Electrical Connectors, Electronic Hardware, Test Leads, and Microcircuit Mounting Cards (Int. Cl. 9).  
First use May 13, 1968.

SN 327,963. Sieverts Kabelverk AB, Sundbyberg, Sweden. Filed May 21, 1969.

## SIKRONIL

For Insulatory Material in the Nature of a Paste Containing Calcium Carbide and Coal as Active Ingredients (Int. Cl. 17).  
First use May 1960; in commerce May 1968.

SN 328,624. Inver Fili Isolati Speciali Soc. per Az., Alessandria, Italy. Filed May 29, 1969.

## ALMEX

Owner of Italian Reg. No. 228,595, dated May 4, 1968.  
For Drawn Aluminum Electrical Conductor Coated With Synthetic Paint (Int. Cl. 9).



SN 329,364. Karkar Electronics, Inc., San Francisco, Calif. Filed June 6, 1969.



For Electric Wave Filters (Int. Cl. 9).  
First use on or about Jan. 1, 1965.

SN 330,651. Winegard Company, Burlington, Iowa. Filed June 20, 1969.

## COLOR BEAM

For Television Antennas (Int. Cl. 9).  
First use Dec. 10, 1955.

SN 332,395. Zenith Radio Corporation, Chicago, Ill. Filed July 11, 1969.

## TITAN

Owner of Reg. No. 765,392.  
For Television Chassis (Int. Cl. 9).  
First use at least as early as Dec. 30, 1968.

SN 332,755. Trylon Incorporated, Elverson, Pa. Filed July 16, 1969.



For Associated Antenna Equipment—Namely, Switch Controls, Matching Transformers, Baluns, Dummy Loads, Dissipation Resistors, and Complete Antenna Systems (Int. Cl. 9).

First use June 3, 1969, on baluns.

SN 333,201. Superior Continental Corporation, Hickory, N.C. Filed July 22, 1969.

## CARRIER CONCENTRATOR

Applicant disclaims the word "Carrier" apart from the mark as a whole.

For Telecommunications Carrier Apparatus—Namely, Repeaters, Amplifiers, Central Office and Subscriber Units (Int. Cl. 9).

First use July 3, 1969.

SN 336,365. All-Steel Equipment Inc., Aurora, Ill. Filed Aug. 27, 1969.

## X-CUBE

For Electrical Switch Box and Outlet Box Adapters (Int. Cl. 9).  
First use July 3, 1969.

SN 335,781. Stanley E. Sorenson, d.b.a. Sorencor Products, Edmonds, Wash. Filed Aug. 20, 1969.

## PANELUME

For Electrical Lighting Fixtures (Int. Cl. 11).  
First use November 1961.

SN 335,819. Electronic Image Systems Corporation, Cambridge, Mass. Filed Aug. 21, 1969.

## TELIKON

For Electronic Facsimile Equipment for Converting Graphical Data to Electrical Signals and for Reconstructing a Facsimile of Graphical Data From Electrical Signals, Comprising Transmitters, Receivers, Transceivers, and Components Therefor (Int. Cl. 9).  
First use at least as early as June 10, 1968.

SN 336,895. International Telephone and Telegraph Corporation, New York, N.Y. Filed Sept. 3, 1969.

## ISOMETRIC

For Fluorescent Lighting Fixtures (Int. Cl. 11).  
First use Apr. 11, 1969.

SN 338,326. Rockland Laboratories, Inc., Blauvelt, N.Y. Filed Sept. 19, 1969.

## ROCKLAND

For Electronic Filters, Including High Pass, Low Pass, and Band Pass Filters (Int. Cl. 9).  
First use Sept. 8, 1967.

SN 345,987. Societe d'Outillage et de Mecanique du Faucigny, Thyez, France. Filed Dec. 11, 1969.

## SOMFY

Owner of French Reg. No. 760,777, dated Mar. 31, 1969.  
For Electric Motors, Switches, Signal Lights, and Photo-Electric Devices, All for Automatic or Sliding Doors, Windows, Window-Blinds, and Shutters (Int. Cls. 7 and 9).

SN 346,447. Avantek, Inc., Santa Clara, Calif. Filed Dec. 17, 1969.

## STALON

For Microwave Signal Sources With Stabilizing Cavities (Int. Cl. 9).  
First use Oct. 3, 1969.

SN 349,238. Zodiac International Corporation AB, Stockholm, Sweden. Filed Jan. 21, 1970.

## ZODIAC

Owner of Swedish Reg. No. 122,641, dated Feb. 16, 1968.  
For Transceivers (Int. Cl. 9).

SN 349,868. Houdaille Industries, Inc., Buffalo, N.Y. Filed Jan. 28, 1970.

## WMC

For Lubrication Cycle Electrical Control Panel and Parts Thereof (Int. Cl. 9).  
First use Nov. 25, 1963.

SN 349,881. Midwest Audio Corporation, Chicago, Ill. Filed Jan. 28, 1970.

## MOBILFLASH

For Intermittent Circuit Breakers and Circuits and Components (Int. Cl. 9).  
First use October 1968.

SN 350,394. Maas Incorporated, Holland, Mich. Filed Feb. 3, 1970.

## HANDY GATER

For Gate Handle for an Electric Fence (Int. Cl. 9).  
First use June 17, 1969.

SN 351,019. DZ-Electronic Designs, Inc., Elmhurst, N.Y. Filed Feb. 10, 1970.

## DUOSTATIC

For Battery Chargers (Int. Cl. 9).  
First use Jan. 15, 1969.

SN 352,031. Lakeside Industries, Inc., d.b.a. Lakeside Plastics, Chicago, Ill. Filed Feb. 24, 1970.

## COLOR IN MOTION

Owner of Reg. No. 760,558.  
For Electric Signs (Int. Cl. 9).  
First use July 16, 1960.

SN 352,234. Schwarzkopf Development Corporation, New York, N.Y. Filed Feb. 24, 1970.



For Anodes for X-Ray Tubes (Int. Cl. 9).  
First use Sept. 1, 1963.

SN 352,317. Ayrodev Processes Limited, Poplar, London, England. Filed Feb. 25, 1970.

## SALVAMEG

Owner of British Reg. No. 924,799, dated May 7, 1968.  
For Insulating Varnish (Int. Cl. 17).

SN 352,318. Ayrodev Processes Limited, Poplar, London, England. Filed Feb. 25, 1970.

## ULTIMEG

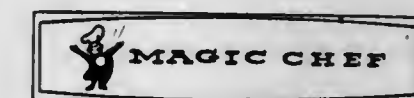
Owner of British Reg. No. 924,801, dated May 7, 1968.  
For Insulating Varnish (Int. Cl. 17).

SN 354,967. Magic Chef, Inc., Cleveland, Tenn. Filed Mar. 24, 1970.



For Electric Garbage Grinders (Int. Cl. 7).  
First use January 1963.

SN 354,968. Magic Chef, Inc., Cleveland, Tenn. Filed Mar. 24, 1970.



For Electric Dish Washers (Int. Cl. 7).  
First use August 1963.

SN 357,563. Mercury Electronics Corporation, Mineola, N.Y. Filed Apr. 22, 1970.

## WESTBURY

For Combination AM and FM-Stereo Radios and Tape Players (Int. Cl. 9).  
First use Mar. 6, 1970.

## Class 22—Games, Toys, and Sporting Goods

SN 306,169. Pittman Products, Inc., d.b.a. Sportsways, Huntington Park, Calif. Filed Aug. 28, 1968.

## THE ALL AMERICAN DIVING LINE

Applicant makes no claim to the words "Diving Line," apart from the mark.

For Underwater Diving Equipment—Namely, Diving Regulators, Tanks, Boots and Back Packs, Snorkels, Masks, Fins, Sea Spears and Spear Heads (Int. Cls. 9 and 28).

First use Jan. 10, 1968.



SN 312,990. Lou J. Eppinger Mfg. Co., Dearborn, Mich. Filed Nov. 25, 1968.

**Seadevle**

Owner of Reg. No. 805,921.  
For Artificial Fish Lures (Int. Cl. 28).  
First use Sept. 1, 1957.

SN 315,930. Lakeside Industries, Inc., Minneapolis, Minn. Filed Jan. 6, 1969.



For Toy Vehicle (Int. Cl. 28).  
First use Oct. 8, 1968.

SN 316,126. John Phillips & Associates, Phoenix, Ariz. Filed Jan. 8, 1969.



Applicant disclaims any right to the words "Clubhouse Golf Blind Boge," apart from the mark as shown.  
For Golf Game Play Board (Int. Cl. 28).  
First use Dec. 2, 1968.

SN 316,585. Arrow International, Ltd., d.b.a. Complex, Fukiai-ku, Kobe, Japan. Filed Jan. 15, 1969.

**Stream King**

For Fishing Vests, Fishing Reels, Fishing Flies, Streamers and Lures, and General Fishing Tackle (Int. Cl. 28).  
First use Feb. 1, 1967; in commerce Feb. 1, 1967.

SN 316,993. City Bank & Trust Company, Samuel Fireman, Simon C. Fireman, and Henry M. Finn, trustees of Kroydon Revocable Income Trust, Boston, Mass. Filed Jan. 21, 1969.

**ASTROFLIGHT**

For Golf Balls and Clubs (Int. Cl. 28).  
First use Aug. 29, 1961.

SN 316,994. City Bank & Trust Company, Samuel Fireman, Simon C. Fireman, and Henry M. Finn, trustees of Kroydon Revocable Income Trust, Boston, Mass. Filed Jan. 21, 1969.

**ASTRONAUT**

For Golf Balls (Int. Cl. 28).  
First use Aug. 29, 1961.

SN 319,319. Kohner Bros., Inc., East Paterson, N.J. Filed Feb. 17, 1968.

**SPINIKIN**

For Rotating Pedestal Toys (Int. Cl. 28).  
First use Jan. 6, 1969.

SN 320,578. Frederick-Willys, Inc., Farmington, Minn. Filed Mar. 8, 1969.

**thingamaJOG**

For Nonmotorized Treadmill-Type Devices for Jogging in Place for Exercising Purposes (Int. Cl. 28).  
First use Sept. 17, 1968.

SN 320,953. Hector Hoyco, North Bergen, N.J. Filed Mar. 6, 1969.

**TUG OF WAR**

For Equipment (or Apparatus) Sold as a Unit for Playing a Table Top Board Game (Int. Cl. 28).  
First use on or about Aug. 23, 1968.

SN 322,064. Henry Gordy, Inc., Yonkers, N.Y. Filed Mar. 18, 1969.

**Potty Patty**

For Toy Manicure Set, Toy Vanity Set, Toy Nurses Kit, Doll Clothes Kit, and Toy Watches (Int. Cl. 28).  
First use Mar. 1, 1969.

SN 322,098. Sifo Company, Minneapolis, Minn. Filed Mar. 18, 1969.

**SNAP-N-PLAY**

For Toy Blocks With Snaps Affixed (Int. Cl. 28).  
First use in or about March 1965.

SN 323,033. Toy Manufacturers of America, Inc., New York, N.Y. Filed Mar. 27, 1969. COLLECTIVE MARK.



For Activity Toys, Infants' Toys, Musical Toys, Educational Toys, Scientific Toys, Board Games, Puzzles, Dolls, Doll Accessories, Wheel Toys, and Stuffed Toys (Int. Cl. 28).  
First use Dec. 11, 1966.

SN 323,311. Kenner Products Company, Cincinnati, Ohio. Filed Apr. 1, 1969.

**FOUNTAIN BRUSHES**

Applicant disclaims the term "Brushes" separate and apart from the mark.  
For Toy Paint Kits (Int. Cl. 28).  
First use on or about July 16, 1953.

SN 323,502. Wilson Sporting Goods Co., River Grove, Ill. Filed Apr. 2, 1969.

**SUPER POWER**

Owner of Reg. No. 752,881.  
For Golf Clubs (Int. Cl. 28).  
First use February 1959.

SN 325,020. Eagle Rubber Co., Inc., Ashland, Ohio. Filed Apr. 21, 1969.

**FLEXITE**

For Athletic Balls, and Particularly Basketballs (Int. Cl. 28).  
First use July 5, 1956.

SN 325,021. Eagle Rubber Co., Inc., Ashland, Ohio. Filed Apr. 21, 1969.



For Footballs, Basketballs, and Soccer Balls (Int. Cl. 28).  
First use January 1966.

SN 326,043. Mattel, Inc., Hawthorne, Calif. Filed May 1, 1969.

**ICKY-YUK**

For Liquid Plastic Compound for Use in a Toy Molding Set (Int. Cl. 28).  
First use Jan. 31, 1969.

SN 326,136. Sensitivity Games, Inc., Boston, Mass. Filed May 1, 1969.

**SENSITIVITY**

For Equipment (or Apparatus) for Playing an Adult Game of Group Dynamics (Int. Cl. 28).  
First use Apr. 23, 1969.

SN 327,297. Ridge Runner Lures, Inc., Shreveport, La. Filed May 14, 1969.

Ol' Ben's  
**PEPPY SHAD**

Applicant disclaims "Shad" apart from the mark as shown.  
For Artificial Fishing Lures (Int. Cl. 28).  
First use Apr. 1, 1968.

SN 327,370. Eagle Rubber Co., Inc., Ashland, Ohio. Filed May 15, 1969.



For Athletic Balls—Namely, Volley Balls, Soccer Balls, Tether Balls, Footballs, Basketballs, Soft Balls and Baseballs; Basketball Sets—Namely, a Basketball Goal and Net; and Football Sets—Namely a Football, Kicking Tee, Pump, and Inflation Needle (Int. Cl. 28).  
First use January 1963.

SN 327,505. The Mettoy Company Limited, Northampton, England. Filed May 16, 1969.

**SKeeLeRS**

For Toys, Sporting Articles, Roller Skates and Like Articles (Int. Cl. 28).  
First use October 1968; in commerce Mar. 8, 1969.

SN 328,310. Koho-Tuote Oy, Ltd., Forssa, Finland. Filed May 26, 1969.

**KOHO**

Owner of Finnish Reg. No. 45,510, dated Nov. 5, 1965.  
For Ice Hockey Sticks, Goalie Sticks, Bandy Sticks, Baseball Sticks, Water Skis, Spring Boards, and Parallel Bars (Int. Cl. 28).  
First use June 26, 1968; in commerce June 26, 1968.

SN 334,438. Mattel, Inc., Hawthorne, Calif. Filed Aug. 5, 1969.

**PURPLE PRICKLE**

Owner of Reg. No. 869,350.  
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use June 17, 1969.

SN 336,522. Mattel, Inc., Hawthorne, Calif. Filed Aug. 28, 1969.

**NAPPYTIME BABY**

No exclusive right to the term "Baby" is claimed apart from the mark.  
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use June 23, 1969.

SN 336,523. Mattel, Inc., Hawthorne, Calif. Filed Aug. 28, 1969.

**GRETA**

Owner of Reg. No. 818,218.  
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use July 8, 1969.

SN 336,989. Mattel, Inc., Hawthorne, Calif. Filed Sept. 4, 1969.

**FUNNY FEEDER**

No claim of exclusive right is made to the term "Feeder" for the goods recited apart from the mark.  
For Toy Hamburger Stands (Int. Cl. 28).  
First use Aug. 8, 1969.



SN 339,099. Mattel, Inc., Hawthorne, Calif. Filed Sept. 29, 1969.

**HEAVY**

For Toy Trucks (Int. Cl. 28).  
First use Aug. 5, 1969.

SN 339,208. The May Department Stores Company, St. Louis, Mo. Filed Sept. 29, 1969.

**GREYHOUND**

Owner of Reg. No. 382,515.  
For Golf Balls (Int. Cl. 28).  
First use June 15, 1961.

SN 339,751. Strauss Skates Inc., St. Paul, Minn. Filed Oct. 3, 1969.

**UNIVERSE**

For Ice Skates (Int. Cl. 28).  
First use Apr. 15, 1969.

SN 341,667. Jilmar Company, Inc., Brooklyn, N.Y. Filed Oct. 24, 1969.

**CURL 'N' TWIRL**

For Dolls and Doll Coiffeurs (Int. Cl. 28).  
First use Aug. 1, 1969.

SN 342,509. Pritchard-Blumenhein Industries, Inc., Boulder, Colo. Filed Nov. 3, 1969.

**ZOOPER**

For Boomerangs (Int. Cl. 28).  
First use Nov. 14, 1967.

SN 342,530. Sternco Industries, Inc., Harrison, N.J. Filed Nov. 3, 1969.



For Toys (Int. Cl. 28).  
First use July 23, 1969.

SN 346,566. Mattel, Inc., Hawthorne, Calif. Filed Dec. 18, 1969.

**SEASIDER**

For Toy Miniature Automobile (Int. Cl. 28).  
First use Oct. 24, 1969.

SN 346,695. Mattel, Inc., Hawthorne, Calif. Filed Dec. 19, 1969.

**ANGELENO M70**

For Toy Miniature Automobile (Int. Cl. 28).  
First use Nov. 18, 1969.

SN 347,167. Mattel, Inc., Hawthorne, Calif. Filed Dec. 29, 1969.

**SILLY-SPINNERS**

For Toy Tops (Int. Cl. 28).  
First use Oct. 9, 1969.

SN 353,958. Parker Brothers, Inc., Salem, Mass. Filed Mar. 13, 1970.

**HOLEY COW**

For Equipment for Three Dimensional Building Game (Int. Cl. 28).  
First use Mar. 5, 1970.

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

SN 275,916. James R. Burton, d.b.a. Durable Arts, San Rafael, Calif. Filed July 13, 1967.

**PRESSBLOCK**

For Relief and Intaglio Printing Plates for the Reproduction of Impressed Designs (Int. Cl. 7).  
First use on or about May 1, 1967.

SN 284,670. K-Line Corporation, Geneva, Ill. Filed Nov. 18, 1967.

**K-LINE**

For Machine Tools—Namely, Industrial Power Saws (Int. Cl. 7).  
First use Oct. 30, 1967.

SN 304,010. C. B. Mullins, Inc., Dallas, Tex., assignee of R. O. Mullins Co., Dallas, Tex. Filed July 31, 1968.



For High Pressure Fluid Cleaning Device Which Cleans by Projecting a Spray Under Pressure Against a Surface (Int. Cl. 7).  
First use May 22, 1968.

SN 305,429. FMC Corporation, San Jose, Calif. Filed Aug. 19, 1968.

**PIKMASTER**

For Automatic and Computerized Material Handling Units and Parts Thereof for Picking, Conveying, Scanning, Sorting, Palletizing, Packaging, Labeling and Truck Loading of Merchandise Cases in Warehouses (Int. Cl. 7).  
First use Nov. 28, 1966.

SN 308,901. Kabushiki Kaisha Komatsu Seisakusho, d.b.a. Komatsu Mfg. Co. Ltd. Minato-ku, Tokyo-to, Japan. Filed Oct. 4, 1968.



"Komatsu" means "little pine tree" in Japanese.  
For Construction Machinery—Namely, Bulldozers of the Tire and Crawler Types, Scrapers, Rotters, Rippers, Rake-Dozers, Shovel-Loaders, Tractor-Loaders, Loader Buckets, Back-Hoes, Power-Shovels, Dozer-Shovels, Bucket-Excavators, Trenchers, Road-Rollers, Mobile Demolition Cranes of the Crawler Type, Asphalt-Finishers of the Scraper and Roller Type, Sheep-Foot and Tire Rollers, Vibration Rollers, Graders, Tractors, Fork Lift Trucks, Crawler-Type Tractors Designed for Use on Snow, Farm Hand and Powered Tractors, Engines for Construction Machinery, and Parts for All of the Foregoing (Int. Cl. 7).  
First use October 1953; in commerce July 1960.

SN 315,244. Marvel Industries, Inc., Sturgis, Mich. Filed Dec. 26, 1968.



Owner of Reg. Nos. 519,907 and 545,708.  
For Telescoping Jacks and/or Hoists of General Applicability (Int. Cl. 8).  
First use on or about Feb. 18, 1968.

SN 315,529. Autotank Company, Kansas City, Mo. Filed Jan. 2, 1969.

**AUTOTANK**

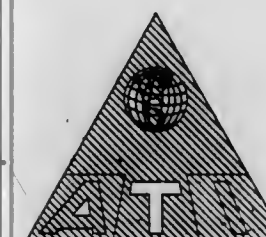
For Power-Operated Turbo-Jet Aircraft Fueling and De-fueling Apparatus for Airports (Int. Cl. 7).  
First use on or about Aug. 25, 1965.

SN 316,217. Little Terry Industrial Equipment Sales, Inc., Rush Springs, Okla. Filed Jan. 9, 1969.

**BIG OX**

For On Farm Implements for Attachment to Farm Tractors—Namely, Plows, Scraper Blades and Pulverizing Tools Which Are Moved by the Tractor to Which They Are Attached (Int. Cl. 7).  
First use Apr. 29, 1964.

SN 316,577. Aerospace Techniques, Inc., d.b.a. ATI Industries, Escondido, Calif. Filed Jan. 15, 1969.



The drawing is lined for the color green, but color is not claimed as a part of the mark.  
For Aircraft Sheet Metal Fabricator Machines and Tools (Int. Cl. 7).  
First use Oct. 31, 1961.

SN 317,504. Mobile Drilling Company, Inc., Indianapolis, Ind. Filed Jan. 27, 1969.

**MOBILE DRILL**

The word "Drill" is disclaimed apart from the mark as shown. Owner of Reg. No. 681,777.  
For Earth and Rock Boring Equipment and Drilling Units (Int. Cl. 7).  
First use July 5, 1951.

SN 317,673. Petrus Johannes Aloysius de Kinkelder, Zevenaar, Netherlands. Filed Nov. 18, 1968.

**KINKELDER**

For Manual, Power-Operated, Portable, and Vehicle Mounted Garden and Agricultural Sprayers and Parts Thereof (Int. Cls. 7 and 8).  
First use during 1945; in commerce in or about 1960.

SN 318,521. Bolton-Emerson, Inc., Lawrence, Mass. Filed Feb. 6, 1969.

**HI-NI**

For Paper and Pulp Machinery—Namely, Refiner Blades and Knives (Int. Cl. 7).  
First use July 12, 1968.

SN 318,540. Gildemeister & Comp. Akt.-Ges., Bielefeld, Germany. Filed Feb. 6, 1969.

**GILDEMEISTER**

For Metal Working Turret Lathes, and Single and Multiple Spindle Automatic Metal Working Machine Tools (Int. Cl. 7).  
First use in or about February 1952; in commerce in or about February 1952.

SN 324,252. Dr. Henry H. Turner, d.b.a. Inertia Nutcracker Company, Columbus, Ga. Filed Apr. 10, 1969.

**TEXAS NATIVE**

For Apparatus for Cracking Nuts (Int. Cl. 7).  
First use Oct. 14, 1967.

SN 324,686. Clampco, Inc., Gilroy, Calif. Filed Apr. 16, 1969.

**SELECT-A-DIAL**

For Fertilizer Distributors for Precision Application of Herbicides, Fertilizers and Systemics (Int. Cl. 7).  
First use Nov. 1, 1968.

SN 324,755. Rosenthal Manufacturing Company, Inc., Chicago, Ill. Filed Apr. 16, 1969.

**CUT O MATIC**

For Machines for Unrolling and Cutting Web-Like Material Such as Polyethylene Film (Int. Cl. 7).  
First use Feb. 28, 1969.



SN 326,207. Crane Engineering Co., Inc., Hallandale, Fla. Filed May 2, 1969.

**CRANE  
Cams**

No claim is made to the word "Cams" apart from the mark as shown.

For Cams for Producing Mechanical Motion (Int. Cl. 7).  
First use at least as early as February 1965.

SN 330,230. David C. Wikel, d.b.a. Wikel Manufacturing Co., Sandusky, Ohio. Filed June 16, 1969.

**SEAL-MASTER**

For Machine for Applying a Coating to Asphalt Pavement (Int. Cl. 7).  
First use no later than Apr. 11, 1969.

SN 331,488. Atlas Supply Company, Springfield, N.J. Filed July 1, 1969.

**ATLAS**

Owner of Reg. Nos. 572,627, 868,656, and others.  
For Automobile Wiper Arm Puller Tool and Brake Service Equipment—Namely, Brake Drum Lathe, Floating Drum Attachment Set, Car Cone Set, Brake Bleeder, and Parts and Tools Thereof (Int. Cl. 7).  
First use Dec. 16, 1968.

SN 336,475. The Sheffield Twist Drill & Steel Company Limited, Sheffield, England. Filed Aug. 27, 1969.

**DORMER**

Owner of British Reg. No. 737,511, dated Sept. 11, 1952.  
For Machine Tools—Namely, Twist Drill Point Grinding Machines, Twist Drill Point Thinning Machines, Twist Drill Flute Grinding Machines, Twist Drill Flute Milling Machines, Twist Drill Relief Grinding Machines, Profile Tool and Cutter Grinding Machines, Carbide Tools Grinding Machines, Carbide Tip Grinding Machines; Engineers' Tools, Namely, Twist Drills, Masonry Drills, End Mills, Counterbores, Milling Cutters, Lathe Centers, Screw Extractors, Center Drills, Reamers, Slot Drills, Countersinks, Trepanning Cutters, Taps, Dies, Drill Sleeves, and Tool Holders for Milling Machines (Int. Cl. 7).  
First use 1918; in commerce 1950.

SN 337,281. Divcon, Inc., Houston, Tex. Filed Sept. 8, 1969.  
Owner of Reg. No. 861,492.

**DIVCOR**

For Portable Drilling Assembly for Use Under Water Including Core Sampling, Installing Anchor Piles, Making Soil Analysis, Anchoring Floating and Subsea Equipment, and Mineral Prospecting (Int. Cl. 7).  
First use 1968.

SN 344,441. Sierra Industrial Products, Inc., El Monte, Calif. Filed Nov. 24, 1969.

**"SMOOTHIE"**

For Air and Hydraulic Hoists (Int. Cl. 7).  
First use Oct. 17, 1968.

SN 346,135. Vaughan & Bushnell Manufacturing Company, Hebron, Ill. Filed Dec. 12, 1969.

**"TOUGH-FIBRE"**

For Hickory Replacement Handles for Impact Tools Such as Hammers (Int. Cl. 20).  
First use Nov. 21, 1969.

SN 347,197. Atlas Tool & Manufacturing Co., St. Louis, Mo. Filed Dec. 29, 1969.

**ATLAS**

Owner of Reg. Nos. 755,889 and 851,392.  
For Powered Lawn Mowers, Powered Rotary Tillers, Blade for Rotary Lawn Mowers and Snow Throwers (Int. Cl. 7).  
First use Sept. 1, 1968.

SN 348,565. Myers-Sherman Company, Streator, Ill. Filed Jan. 14, 1970.

**JET RODDER**

For High Pressure Water Sewer Cleaning Equipment and Parts Thereof (Int. Cl. 7).  
First use Sept. 30, 1968.

SN 350,240. Dynamic Tools Ltd., Vancouver, British Columbia, Canada. Filed Feb. 2, 1970.

**CABLEMASTER**

Owner of Canadian Reg. No. 157,210, dated June 7, 1968.  
For Hydraulic Hand Tools for Cutting Wire Cable and Metal Bolts (Int. Cl. 8).

SN 350,300. Reiff & Nestor Company, Lykens, Pa. Filed Feb. 2, 1970.

**ASTRO**

For Cutting Taps (Int. Cl. 8).  
First use Apr. 30, 1965.

SN 350,301. Reiff & Nestor Company, Lykens, Pa. Filed Feb. 2, 1970.

**BLUE DIAMOND**

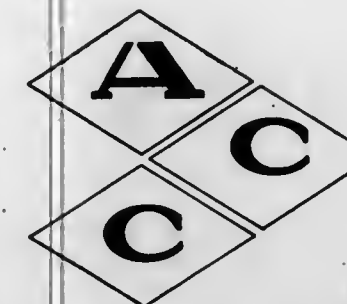
For Cutting Taps (Int. Cl. 8).  
First use May 3, 1969.

SN 350,302. Reiff & Nestor Company, Lykens, Pa. Filed Feb. 2, 1970.

**CONTRU**

For Cutting Taps (Int. Cl. 8).  
First use July 1, 1965.

SN 351,009. American Coldset Corporation, Dallas, Tex. Filed Feb. 10, 1970.



For Drill Bits, Core Bits, Core Crushers and Core Barrels for Oil Well Drilling and Bits for Mineral, Masonry and Concrete Drilling; Rotary Cutters, Scribing Tools, and Repair and Replacement Parts Therefor (Int. Cl. 7).  
First use in 1962.

SN 351,130. Mack Manufacturing Co., Inc., Bladensburg, Md. Filed Feb. 11, 1970.

**PAC-KING**

For Stationary Trash Packer (Int. Cl. 7).  
First use Oct. 21, 1968.

SN 351,345. Frank Williams Moore, d.b.a. Wilmor Precision Company, Park Ridge, N.J. Filed Feb. 13, 1970.

**"ZERO-IN"**

For Adjustable Diamond Dressing Tool for Grinding Wheels (Int. Cl. 7).  
First use Dec. 30, 1969.

SN 351,416. Atwater Strong Co., Inc., Atwater, Ohio. Filed Feb. 16, 1970.

**AT-R-BLO**  
YARD HAND

Owner of Reg. No. 673,165.  
For Portable Power-Driven Blowers for Cleaning Walks, Pavements, Lawns, etc. (Int. Cl. 7).  
First use Jan. 23, 1970.

SN 351,478. Kahr Bearing Corporation, Burbank, Calif. Filed Feb. 16, 1970.

**KAHR-KAPTOR**

For Self-Aligning, Spherical Rod End and Cylindrical Aircraft High Load Bearings (Int. Cl. 12).  
First use Jan. 21, 1970.

SN 352,915. Raygo, Inc., Minneapolis, Minn. Filed Mar. 3, 1970.



For Soil Compacting Machines (Int. Cl. 7).  
First use Sept. 9, 1969.

## Class 25—Locks and Safes

SN 329,216. Automatic Close & Lock Corp., East Orange, N.J. Filed June 5, 1969.



The drawing is lined for the color blue.  
For Safety Drawers (Int. Cl. 6).  
First use Nov. 14, 1968.

SN 337,268. Colt's, Inc., Hartford, Conn. Filed Sept. 8, 1969.

**RIGICUFF**

For Lock Devices—Namely, Handcuffs (Int. Cl. 6).  
First use Aug. 18, 1969.

## Class 26—Measuring and Scientific Appliances

SN 274,380. Ferrania S.p.A., Milan, Italy. Filed June 21, 1967.



Priority claimed under Sec. 44(d) on Italian application filed Dec. 30, 1966; Reg. No. 204,488, dated Apr. 11, 1967.  
Owner of U.S. Reg. No. 848,053.

For Optical, Photographic and Cinematographic Machines and Apparatus for Making (Exposing and Processing) Photographic Papers, Films and Photography Paper; and Light Sensitive Photographic Paper and Films (Int. Cls. 1 and 9).

SN 310,772. General Electric Company, Phoenix, Ariz. Filed Oct. 29, 1968.

**TRADAR**

For Computerized Merchandising Information Processing Systems, Comprising a Central Processing Unit; a Communications Controller; and a Plurality of Communications Multiplexing Devices Connected Thereto and to a Number of Points-of-Sales Terminals, for Electronically Coordinating and Utilizing Such Information for Sales, Stock and Credit Card Recording, and Parts and Components Therefor; and Optical Scanners (Int. Cl. 9).  
First use Oct. 22, 1967.

SN 315,493. LKB-Produkter Aktiebolag, Stockholm-Bromma, Sweden. Filed Dec. 31, 1968.

**ULTROLAB**

Owner of Swedish Reg. No. 124,995.  
For Equipment for Laboratory Use—Namely, Reaction Rate Analysis Apparatus to Determine Changes in Absorbance; Absorptiometers; Clinical Photometers; Centrifuges; Diluters; Dispensers; Samplers; and Transporting Devices To Feed Samples To Be Examined (Int. Cl. 9).



SN 317,676. Owens-Illinois, Inc., Toledo, Ohio. Filed Jan. 28, 1969. SN 347,503. Galtech, Inc., Fort Myers, Fla. Filed Dec. 31, 1969.

**ED-2**

For Glass Laser Rods (Int. Cl. 9).  
First use Jan. 10, 1968.

SN 325,041. Inventory Management Systems Limited, Toronto, Ontario, Canada. Filed Apr. 21, 1969.

**AUTOCOUNT**

Owner of Canadian Reg. No. 158,703, dated Oct. 11, 1968.  
For Data Processing Equipment, Systems and Components—Namely, Clerks' Sales Registers, Manager Monitor Registers, and Computers for Merchandise Sales and Inventory Control (Int. Cl. 9).

SN 325,773. Nova-Tech, Inc., Los Angeles, Calif. Filed Apr. 28, 1969.

**nova**

Owner of Reg. Nos. 785,972 and 827,149.  
For Combined Radio Receiver and Direction Finders (Int. Cl. 9).  
First use Feb. 12, 1960.

SN 334,850. Lambda Electronics Corporation, Huntington, N.Y. Filed Aug. 8, 1969.

**LAMBDA**

Owner of Reg. Nos. 600,289 and 785,920.  
For Electrical Measuring and Power Instruments, Components and Systems—Namely, Electrical Self-Powered Measuring Units for Measuring Electrical Parameters; a Combination Voltmeter—Power Supply Unit and Components Thereof; Power Supplies With Plug-In Metering Components; and Differential Voltmeters (Int. Cl. 9).  
First use at least as early as June 1968.

SN 341,038. Kingmann-White, Inc., Placentia, Calif. Filed Oct. 17, 1969.

**FIBERITE**

For Capillary Action Inking Pen To Be Used in Recording Apparatus (Int. Cl. 9).  
First use Sept. 30, 1969.

SN 347,403. Galtech, Inc., Fort Myers, Fla. Filed Dec. 30, 1969.

**GALTECH SYSTEM**

The word "System" is disclaimed apart from the mark as shown without prejudice to applicant's common law rights.  
For Viewer for Nautical Charts Reproduced on Photo-Transparencies (Int. Cl. 9).  
First use Aug. 4, 1969.

The lining on the drawing is for purposes of shading only.  
For Viewer for Nautical Charts Reproduced on Photo-Transparencies (Int. Cl. 9).  
First use Apr. 13, 1969.

SN 347,732. Energy Control Corporation, Bellevue, Wash. Filed Jan. 5, 1970.

**ENCRON**

For Automatic Pilot Systems for Ships, and Components for Such Systems—Namely, Binnacle Assembly, Pilot House Control, and Remote Handswitches (Int. Cl. 9).  
First use Oct. 16, 1969.

SN 348,111. The Bunker-Ramo Corporation, Oak Brook, Ill. Filed Jan. 9, 1970.

**PHOTOSYN**

For Optical Encoder (Int. Cl. 9).  
First use on or prior to June 1, 1967.

SN 349,643. Isco Optische Werke GmbH, Gottingen, Germany. Filed Jan. 26, 1970.

**VARIOMORPHOTIC**

Owner of German Reg. No. 678,704, dated Nov. 11, 1954.  
For Optical and Photographic Apparatus and Devices, and Parts Thereof—Namely, Photographic and Cinematographic Objectives, Projector and Enlarger Objectives, With the Exception of Photographic Shutters (Int. Cl. 9).

SN 349,646. Isco Optische Werke GmbH, Gottingen, Germany. Filed Jan. 26, 1970.

**KIPTAGON**

Owner of German Reg. No. 969,561, dated Feb. 21, 1956.  
For Optical and Photographic Apparatus and Devices, and Parts Thereof—Namely, Photographic and Cinematographic Objectives, Projector and Enlarger Objectives (Int. Cl. 9).

SN 349,647. Isco Optische Werke GmbH, Gottingen, Germany. Filed Jan. 26, 1970.

**ISCOMORPHOT**

Owner of German Reg. No. 703,097, dated Sept. 25, 1966.  
For Optical and Photographic Apparatus and Devices, and Parts Thereof—Namely, Photographic and Cinematographic Objectives, Projector and Enlarger Objectives (Int. Cl. 9).

SN 351,667. American Allsafe Company, Inc., Buffalo, N.Y. Filed Feb. 18, 1970.

**FOGGARD**

For Lenses for Goggles (Int. Cl. 9).  
First use Feb. 2, 1970.



SN 351,668. American Hospital Supply Corporation, Evanston, Ill. Filed Feb. 18, 1970.

**TekPro**

For Handles for Holding Wire Loops and Needles for Laboratory Use (Int. Cl. 9).  
First use in or before November 1968.

SN 352,037. Harvey M. Rosenwasser, O.D., Philadelphia, Pa. Filed Feb. 24, 1970.

**AQUA-CUSHIONED**

For Contact Lenses (Int. Cl. 9).  
First use at least as early as Oct. 22, 1959.

SN 354,701. Allied Technology Inc., Cincinnati, Ohio. Filed Mar. 20, 1970.

**LIQUOR-MISER**

For Weight Measuring Scales (Int. Cl. 9).  
First use at least as early as October 1969.

SN 357,559. Deering Milliken, Inc., New York, N.Y. Filed Apr. 22, 1970.

**MATCH/MAKER**

Owner of Reg. No. 857,891.  
For Digital Process Computers (Int. Cl. 9).  
First use Jan. 19, 1968.

**Class 27—Horological Instruments**

SN 312,019. Bulova Watch Company, Inc., Flushing, N.Y. Filed Nov. 13, 1968.

**DEEP SEA**

For General Purpose Watches and Parts Thereof (Int. Cl. 14).  
First use Oct. 21, 1968.

SN 325,398. Rubina Watch Assembling Co., Ltd., Singapore. Filed Apr. 23, 1969.



For Watches and Parts Thereof (Int. Cl. 14).  
First use in 1955; in commerce Oct. 25, 1967.

SN 340,577. Morning Watch S.A., Frick, Switzerland. Filed Oct. 13, 1969.

**SWISS MORNING**

Applicant disclaims the word "Swiss" apart from the mark as shown. Owner of Swiss Reg. No. 238,967, dated Jan. 22, 1969.  
For Watches, Clocks, and Parts Thereof (Int. Cl. 14).

SN 343,778. Waltham Watch Company, Chicago, Ill. Filed Nov. 17, 1969.

**ALCAZAR**

The term "Alcazar" is a Spanish word which means "fortress" or "castle."  
For Clocks (Int. Cl. 14).  
First use Aug. 27, 1969.

**Class 28—Jewelry and Precious-Metal Ware**

SN 326,117. Parser Minerals Corporation, Danbury, Conn. Filed May 1, 1969.



The lining in the drawing is part of applicant's design and is not for purposes of indicating color.  
For Semi-Precious Stones (Int. Cl. 14).  
First use Dec. 1, 1968.

SN 333,625. Zolotas, Paris, France. Filed July 25, 1969.

**ZOLOTAS**

For Jewelry, Precious Stones, Rings, Pins, Necklaces, Cufflinks, Watch Chains, and Watch Bands (Int. Cl. 14).  
First use Mar. 1, 1967; in commerce December 1967.  
Subj. to Intf. with SN 318,647.

SN 340,589. Onelda Ltd., Onelda, N.Y. Filed Oct. 13, 1969.

**MICHELANGELO**

Michelangelo is not the name of a particular living individual. Owner of Reg. No. 884,999.  
For Flatware Made of Precious Metal (Int. Cl. 8).  
First use Oct. 3, 1969.

SN 342,271. Jacoby-Bender, Inc., Woodside, N.Y. Filed Oct. 31, 1969.

**CHAMPION**

Owner of Reg. Nos. 443,849 and 774,116.  
For Expansion and Non-Expansion Bracelets, Chain Bracelets, Identification Bracelets, Links for Said Bracelets, and Keyholders Made in Whole or in Part of Precious Metal (Int. Cl. 14).  
First use Dec. 1, 1941.

SN 343,926. Anson Incorporated, Providence, R.I. Filed Nov. 19, 1969.

**FINGER-FLICK**

For Men's Jewelry—Namely, Key Holders Made in Whole or in Part of Precious Metal (Int. Cl. 14).  
First use Dec. 31, 1968.



SN 344,482. West Maui Enterprises, Inc., Paia, Maui, Hawaii. Filed Nov. 24, 1969.



The mark consists of a design together with a fanciful representation of the letters "hr."  
For Custom Jewelry, of Precious, Non-Precious, or Combinations of Precious or Non-Precious Metal (Int. Cl. 14).  
First use Sept. 19, 1969.

SN 344,483. West Maui Enterprises, Inc., Paia, Maui, Hawaii. Filed Nov. 24, 1969.

## HAWAIIAN REALITIES

Reserving, and without prejudice to, all of the common law rights in the trademark as shown on the drawing and on the specimens, and without prejudice to the rights in the relationship of the different parts of the mark therein shown, but to effect registration of the trademark in the United States Patent Office, the word "Hawaiian," apart from the trademark as shown, is disclaimed.

For Custom Jewelry, of Precious, Non-Precious, or Combinations of Precious or Non-Precious Metal (Int. Cl. 14).  
First use Sept. 19, 1969.

SN 350,095. Kaspar & Esh Incorporated, New York, N.Y. Filed Jan. 30, 1970.



Applicant disclaims the representations of diamonds apart from the mark as shown.  
For Diamonds and Diamond Finger Rings (Int. Cl. 14).  
First use Jan. 12, 1970.

## Class 29 - Brooms, Brushes, and Dusters

SN 348,375. The Wooster Brush Company, Wooster, Ohio. Filed Jan. 12, 1970.

## POLY-S

For Paint Brushes (Int. Cl. 16).  
First use Nov. 20, 1969.

SN 349,322. Bouras Mop Manufacturing Company, St. Louis, Mo. Filed Jan. 22, 1970.

## SAFE GUARD

For Mops (Int. Cl. 21).  
First use Apr. 14, 1969.

## Class 30 - Crockery, Earthenware, and Porcelain

SN 337,094. Porzellanfabrik Waldsassen Bareuther & Co. AG, Waldsassen, Germany. Filed Sept. 4, 1969.



For Chinaware and Porcelain—Namely, Dinner Sets, Coffee Sets, Tea Sets, After Dinner Sets, Vases, Plates Footed and Without Feet, Collector Plates, Including Christmas Plates, Mother's Day and Father's Day Plates (Int. Cl. 21).  
First use Dec. 31, 1966; in commerce Dec. 31, 1966.

SN 337,967. Porzellanfabrik Waldsassen Bareuther & Co. AG., Waldsassen, Germany. Filed Sept. 15, 1969.



For Chinaware and Porcelain—Namely, Dinner Sets, Coffee Sets, Tea Sets, After Dinner Sets, Vases, Plates Footed and Without Feet, Collector Plates, Including Christmas Plates, Mother's Day and Father's Day Plates (Int. Cl. 21).  
First use Dec. 31, 1886; in commerce Dec. 31, 1960.

SN 347,712. Burden China Company, Inc., San Gabriel, Calif. Filed Jan. 5, 1970.



For China Dishware (Int. Cl. 21).  
First use Dec. 8, 1969.

## Class 31 - Filters and Refrigerators

SN 317,257. Patt Engineering & Manufacturing Co., Gardena, Calif. Filed Jan. 22, 1969.

## WONDER WOOL

For Filtering Medium Made of Synthetic Material for Aquarium Use (Int. Cl. 1).  
First use in or about July 1958.

SN 317,285. Torite Enterprises, Inc., d.b.a. Torite Filter Company, City of Industry, Calif. Filed Jan. 23, 1969.

SN 329,453. Faces West, Incorporated, Santa Monica, Calif. Filed June 9, 1969.



For Fluid Filters (Int. Cl. 11).  
First use on or about Oct. 21, 1968.

SN 333,701. FMC Corporation, San Jose, Calif. Filed July 28, 1969.

## SONIC STRAINER

Applicant claims the exclusive right to the word "Strainer" as a part of its mark, but not otherwise.  
For Filtering Apparatus for Sewage Treatment Equipment (Int. Cl. 11).  
First use in or about May 1969.

SN 344,309. American Machine & Foundry Company, New York, N.Y. Filed Nov. 24, 1969.

## AMF

Owner of Reg. Nos. 714,104, 811,921, and others.  
For Fluid Treating Equipment and Filtering Apparatus, Components Thereof and Parts Thereof, and Including Cartridges, Liquid Filtering and Purifying Assemblies, Liquid Processing Systems; Having Condensing, Distilling and Evaporating Equipment, Appliances for Removing Dissolved Minerals and Suspended Matter From Fluid, and Mechanical Straining and Filtering Assemblies (Int. Cl. 11).  
First use Apr. 11, 1963.

SN 354,969. Magic Chef, Inc., Cleveland, Tenn. Filed Mar. 24, 1970.



## MAGIC CHEF

For Refrigerators (Int. Cl. 11).  
First use September 1967.

## Class 32 - Furniture and Upholstery

SN 309,478. Restonic Corporation, Chicago, Ill. Filed Oct. 11, 1968.

## GIRDER GUARD

For Mattress and Boxsprings (Int. Cl. 20).  
First use May 30, 1968.

## GLAMOUR-LITE

For Portable Lighted Make-Up Mirror (Int. Cl. 20).  
First use Nov. 13, 1967.  
Subj. to Intf. with SN 320,592.

SN 336,321. Drexel Enterprises, Inc., Drexel, N.C. Filed Aug. 26, 1969.

## ESTORADA BY DREXEL

Owner of Reg. No. 529,719 and others.  
For Bedroom, Dining Room and Living Room Furniture (Int. Cl. 20).  
First use June 27, 1969.

SN 336,322. Drexel Enterprises, Inc., Drexel, N.C. Filed Aug. 26, 1969.

## WHIMSY BY DREXEL

Owner of Reg. Nos. 510,054, 529,719, and 748,464.  
For Bedroom Furniture (Int. Cl. 20).  
First use Aug. 6, 1969.

SN 351,813. Lewittes Furniture Enterprises, Inc., New York, N.Y. Filed Feb. 19, 1970.

## SITTING PRETTY

For Chairs, Rockers, Sofas, and Loveseats (Int. Cl. 20).  
First use Oct. 1, 1969.

SN 352,626. Everton Mattress Factory, Inc., Twin Falls, Idaho. Filed Feb. 27, 1970.



For Mattresses and Box Springs (Int. Cl. 20).  
First use Nov. 1, 1965.

SN 352,935. Brand Furniture Mfg. Co., Inc., Los Angeles, Calif. Filed Mar. 3, 1970.

## INSTA-BED

For Furniture—Namely, Convertible Sofas (Int. Cl. 20).  
First use Jan. 18, 1970.

SN 354,530. The Subsidiary Co., New York, N.Y. Filed Mar. 18, 1970.



For Picture Frames (Int. Cl. 20).  
First use Sept. 9, 1969.



**Class 34 — Heating, Lighting, and Ventilating Apparatus**

SN 286,980. Alpha Metals, Inc., Jersey City, N.J. Filed Dec. 15, 1967.

**SOLDER BLANKET**

Applicant disclaims the term "Solder" apart from the mark as shown.  
For Oxidation Shield for Protecting the Surface to Which It Is Applied for Use in Connection With Solder (Int. Cl. 1).  
First use July 28, 1964.

SN 296,758. Standard Oil Company, Flemington, N.J. Filed Apr. 29, 1968.

**EXXON**

For Oil Burners (Int. Cl. 11).  
First use Oct. 23, 1967.

SN 299,741. Allweld Equipment Corporation, Huntington Park, Calif. Filed June 5, 1968.



For Welding Equipment, Materials and Supplies—Namely, Welding Wires, Welding Rods, Welding Electrodes, Welding Solders, Brazing Alloys (Bare and Coated), Welding Alloys (Bare and Flux Coated), Fluxes, Welding Machines, and Cutting Machines (Int. Cls. 1, 6, 7, 9, and 11).  
First use in or about January 1965.

SN 316,813. Ozark-Mahoning Company, Tulsa, Okla. Filed Jan. 16, 1969.

**THERMO-CYCLE**

For Submerged Combustion Evaporation Systems Comprising Evaporating Vessels and Vapor Stacks, Submerged Burner Assemblies, Combustion Air and/or Gas Compression Equipment and Control Equipment for Same (Int. Cl. 11).  
First use on or about Dec. 5, 1968.

SN 324,172. Cape Fear Feed Products, Inc., d.b.a. CAFCO, Fayetteville, N.C. Filed Apr. 10, 1969.

**EVANIZER**

Owner of Reg. No. 854,770.  
For Steam Heated Units for Removal of Salmonella From Meat, Bone, Fish, and Feather Meals Which Are Used as an Additive in Poultry Feed and in Dog and Cat Food (Int. Cl. 11).  
First use Jan. 20, 1969.

SN 335,126. Dunham-Bush, Inc., Harrisonburg, Va. Filed Aug. 12, 1969.

**SPACE PAK**

Applicant disclaims the term "Space" separate and apart from the mark as shown. Owner of Reg. No. 862,389.  
For Heating Units for Domestic Use (Int. Cl. 11).  
First use Feb. 26, 1968.

SN 343,427. Bernard B. Rappaport, Chicago, Ill. Filed Nov. 13, 1969.



For Heat Disseminating Multiple Spit Assemblies and Stands (Int. Cl. 11).  
First use on or about Jan. 15, 1964.

SN 346,640. National Steel Construction Co., Newark, Calif. Filed Dec. 18, 1969.

**TRAVEL MITE**

For Gas Fired Water Heaters for Use in Travel Trailers, Campers, Boats and Other Travel Vehicles (Int. Cl. 11).  
First use August 1968.

SN 347,183. All Channel Products Corporation, Woodside, N.Y. Filed Dec. 29, 1969.

**REMBRANDT**

For Microwave Electronic Ovens (Int. Cl. 11).  
First use Dec. 18, 1969.

SN 347,189. Anderson-Snow Corporation, Schiller Park, Ill. Filed Dec. 29, 1969.



For Heat Transfer Coils for Heating and Cooling Air (Int. Cl. 11).  
First use on or about Jan. 26, 1960.

SN 354,970. Magic Chef, Inc., Cleveland, Tenn. Filed Mar. 24, 1970.



For Ventilating Hoods for Ranges (Int. Cl. 11).  
First use March 1966.

SN 355,702. American Electrical Heater Company, Detroit, Mich. Filed Apr. 2, 1970.

**DRI-WICK**

For Capillary Wire for Removing Solder From Joints (Int. Cl. 6).  
First use June 20, 1969.

**Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires**

SN 328,923. Warenzeichenverband der Reifenwerke der Deutschen Demokratischen Republik E.V., Fuerstenwalde (Spree), Germany. Filed June 2, 1969. COLLECTIVE MARK.



Applicant disclaims any right to exclusive use of the representation of a tire apart from the mark as shown.

For Tires and Inner Tubes for Motor-Powered and Non-Motor Powered Vehicles—Namely, Airplanes, Automobiles, Deep Loaders, Agricultural Machines, Tractors, and Carriages Used in Agriculture, Ground-Levelling Machines, Wheelbarrows and Handbarrows (Int. Cl. 12).  
First use May 1961; in commerce Mar. 26, 1969.

SN 335,288. Amerace Esna Corporation, New York, N.Y. Filed Aug. 14, 1969.



For Garden Hose (Int. Cl. 17).  
First use at least as early as June 1969.

SN 339,169. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Sept. 29, 1969.

**TRANSPORT 500 WIDE OVAL**

Applicant disclaims any rights in the words "Wide Oval" apart from the mark as shown. Owner of Reg. Nos. 159,855, 793,650, and others.

For Resilient Vehicle Tires (Int. Cl. 12).  
First use Aug. 28, 1969.

SN 341,743. F. D. Farnam Co., Lyons, Ill. Filed Oct. 27, 1969.

**FARPAK**

For Gaskets (Int. Cl. 17).  
First use Aug. 7, 1969.

SN 347,714. J. N. Ceazan Company, Los Angeles, Calif. Filed Jan. 5, 1970.

**STRIPPER**

For Tires (Int. Cl. 12).  
First use Dec. 16, 1969.

TM 876 O.G.—7

SN 348,959. Lee Tire & Rubber Company, Conshohocken, Pa. Filed Jan. 19, 1970.

**ROAD HUGGER**

For Tires (Int. Cl. 12).  
First use Mar. 22, 1968.

SN 348,960. Lee Tire & Rubber Company, Conshohocken, Pa. Filed Jan. 19, 1970.



OF CONSHOHOCKEN

Owner of Reg. Nos. 502,111 and 504,375.  
For Tires and Tread Rubber (Int. Cl. 12).  
First use Aug. 14, 1968.

SN 350,469. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Feb. 4, 1970.

**MULTI-BELT**

Owner of Reg. No. 755,096.  
For Resilient Vehicle Tires (Int. Cl. 12).  
First use Jan. 9, 1970.

SN 350,471. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Feb. 4, 1970.

**ZERAY**

For Cord Body of Vehicle Tires (Int. Cl. 12).  
First use Jan. 9, 1970.

SN 351,091. Angus Incorporated, Baltimore, Md. Filed Feb. 11, 1970.



For Industrial Rubber Hose (Int. Cl. 17).  
First use Aug. 5, 1968.

SN 351,092. Angus Incorporated, Baltimore, Md. Filed Feb. 11, 1970.



For Industrial Rubber Hose (Int. Cl. 17).  
First use Mar. 6, 1968.

SN 351,196. Ford Motor Company, Dearborn, Mich. Filed Feb. 12, 1970.

**FLEX-FIT**

For Machinery Drive Belts (Int. Cl. 7).  
First use on or about Jan. 7, 1970.



SN 351,355. Conti Rubber Products, Inc., Carteret, N.J. SN 357,550. Alliance Tire & Rubber Company Ltd., Hadera, Israel. Filed Apr. 22, 1970.

**CRP-CONSHOT**

For Sandblast Hose (Int. Cl. 17).  
First use Jan. 1, 1963.

SN 351,707. Jetzon Tire & Rubber Co., Inc., Montgomeryville, Pa. Filed Feb. 18, 1970.

**JETZON SWINGER**

Owner of Reg. No. 784,839.  
For Tires (Int. Cl. 12).  
First use Oct. 22, 1969.

SN 352,358. Marsh's Racing Tires, Inc., Siloam Springs, Ark. Filed Feb. 25, 1970.



For Tires (Int. Cl. 12).  
First use on or about Jan. 2, 1970.

SN 352,951. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed Mar. 3, 1970.

**ESTAGLAS**

For Tires (Int. Cl. 12).  
First use Jan. 29, 1970.

SN 352,961. Jetzon Tire & Rubber Company, Inc., Bridgeport, Conn. Filed Mar. 3, 1970.

**BIG WHEEL**

For Pneumatic Tires (Int. Cl. 12).  
First use Jan. 28, 1970.

SN 352,962. Jetzon Tire & Rubber Company, Inc., Bridgeport, Conn. Filed Mar. 3, 1970.

**TOP DOG**

For Tires for Automotive Vehicles (Int. Cl. 12).  
First use Jan. 28, 1970.

SN 353,145. C. F. Adams, Inc., Fort Worth, Tex. Filed Mar. 5, 1970.

**BLACK JACK**

For Cup Leathers, Valve Leathers, Crimps, U Packings and Leather Washers for Pumps, and the Like (Int. Cl. 17).  
First use June 1, 1927.

SN 357,550. Alliance Tire & Rubber Company Ltd., Hadera, Israel. Filed Apr. 22, 1970.

**ALLIANCE**

For Tires (Int. Cl. 12).  
First use in 1960; in commerce in 1960.

SN 357,551. Alliance Tire & Rubber Company Ltd., Hadera, Israel. Filed Apr. 22, 1970.

**EVEREST**

For Tires (Int. Cl. 12).  
First use in 1960; in commerce in 1960.

**Class 36 — Musical Instruments and Supplies**

SN 307,301. Barnaby Productions, Inc., Los Angeles, Calif. Filed Sept. 13, 1968.

**BARNABY**

For Phonograph Records (Int. Cl. 9).  
First use July 3, 1968.

SN 314,096. MCA Inc., Universal City, Calif. Filed Dec. 10, 1968.



The term "Records" is disclaimed apart from the mark as shown. Owner of Reg. No. 839,588.  
For Pre-recorded Magnetic Tapes (Int. Cl. 9).  
First use May 22, 1968.

SN 326,204. C. G. Conn, Ltd. (Delaware corporation), by merger and assignment from C. G. Conn Ltd. (Indiana corporation), Elkhart, Ind. Filed May 2, 1969.

**PRELUDE**

For Organs (Int. Cl. 15).  
First use Apr. 7, 1969.

**Class 37 — Paper and Stationery**

SN 331,927. Moore Business Forms, Inc., Niagara Falls, N.Y. Filed July 7, 1969.

**MOOREFLEX**

For Cover Components of Post Binders (Int. Cl. 16).  
First use Apr. 15, 1969.

SN 338,270. Scott-Rice Company, Tulsa, Okla. Filed Sept. 8, 1969.

**Scot-Jag**

For Weatherproof Labels for Attachment Using Wire or String (Int. Cl. 16).  
First use June 1964.

**Class 38 — Prints and Publications**

SN 309,278. Mechanics Research, Inc., El Segundo, Calif. Filed Oct. 9, 1968.

**STARDYNE**

For Computer Programs on Punched Cards and Manuals for Use of Computer Programs (Int. Cl. 16).  
First use at least as early as July 1967.

SN 318,394. British Scientific Instrument Research Association, South Hill, Chislehurst, England. Filed Feb. 5, 1969. Owner of British Reg. No. 933,994, dated Nov. 18, 1968.

**METRON**

For Magazines and Journals (Int. Cl. 16).

SN 327,576. Allegheny Ludlum Steel Corporation, Pittsburgh, Pa. Filed May 19, 1969.



The words "Service Center" are disclaimed apart from the mark as a whole.  
For House Organ Published From Time to Time (Int. Cl. 16).  
First use Mar. 31, 1969.

SN 331,340. Comput-A-Pic, Hamden, Conn. Filed June 30, 1969.

**COMPUT-A-PIC**

For Booklet Which Presents an Outline of Factors for Making Selections in Sporting Events, Such as Horse and Harness Racing (Int. Cl. 16).  
First use Feb. 10, 1969.

SN 331,572. Field Enterprises, Inc., Chicago, Ill. Filed July 2, 1969.

**TELL IT LIKE IT IS  
BY DUNAGIN**

"Dunagin" is the surname of Ralph Dunagin, author of the cartoons, whose consent is of record. Applicant makes no claim of exclusive right to use of the words "By Dunagin" separate and apart from the mark shown.  
For Cartoon Panel Published in a Newspaper (Int. Cl. 16).  
First use June 16, 1969.

SN 333,645. Taylor Publishing Company, Dallas, Tex. Filed July 28, 1969.

**YOUR WORLD**

For Printed Educational Books and Printed Study Prints (Int. Cl. 16).  
First use at least as early as July 1966.  
Subj. to Intf. with SN 342,341.

SN 336,006. Optical Coating Laboratory, Inc., Santa Rosa, Calif. Filed Aug. 22, 1969.

**OCLI SPECTRUM**

For Employee's Newsletter (Int. Cl. 16).  
First use Feb. 3, 1969.

SN 337,957. Par Publishing Company, Cleveland, Ohio. Filed Sept. 15, 1969.

**ComCorp**

For Newspapers Used in the Communications Media (Int. Cl. 16).  
First use on or about Aug. 1, 1969.

SN 339,033. National Biscuit Company, New York, N.Y. Filed Sept. 26, 1969.



Owner of Reg. No. 392,944.  
For Publications—Namely, Company Reports and House Publications, Educational Books and Pamphlets, Recipe and Cook Booklets, and Calendars (Int. Cl. 16).  
First use Mar. 6, 1953.

SN 339,910. The Meyercord Co., Carol Stream (Wheaton), Ill. Filed Oct. 6, 1969.

**MOON DAISY**

For Decorative Decalcomania Transfers (Int. Cl. 16).  
First use Sept. 18, 1969.

SN 339,911. The Meyercord Co., Carol Stream (Wheaton), Ill. Filed Oct. 6, 1969.

**SPACE DAISY**

Decorative Decalcomania Transfers (Int. Cl. 16).  
First use Sept. 18, 1969.

SN 341,110. The Hearst Corporation, New York, N.Y. Filed Oct. 20, 1969.

**THE LOCKHORNS**

For Syndicated Newspaper Cartoon Feature (Int. Cl. 16).  
First use Sept. 9, 1968.

SN 341,458. Marilyn Hart Galanoy, Evanston, Ill. Filed Oct. 20, 1969.

**MARILYN HART'S  
BUY-LINE**

For Newspaper Column Presenting Data Relating to Cost, Quality, and Other Items of Consumer Interest Relating to Articles for Sale in the Open Market (Int. Cl. 16).  
First use Aug. 24, 1968.



SN 342,104. Dexter Press, Inc., West Nyack, N.Y. Filed Oct. 29, 1969.

**DEXTERMATIC**

For Photographic Prints (Int. Cl. 16).  
First use May 22, 1969.

SN 342,341. Xerox Corporation, Rochester, N.Y. Filed Oct. 31, 1969.

**YOU AND YOUR WORLD**

Owner of Reg. Nos. 851,484 and 874,295.  
For Printed Newspaper Type Periodical for Children of School Age Published During Regular School Year (Int. Cl. 16).  
First use June 10, 1968.  
Subj. to Intf. with SN 333,645.

SN 342,607. The American Society of Medical Technologists, Houston, Tex. Filed Nov. 4, 1969.

**CADENCE**

For Bi-Monthly Magazine (Int. Cl. 16).  
First use on or about Sept. 1, 1969.

SN 343,394. The Dow Chemical Company, Midland, Mich. Filed Nov. 13, 1969.

**DERAKANE NEWSLETTER**

The term "Newsletter" is disclaimed apart from the mark as shown. Owner of Reg. No. 797,933.  
For Trade Bulletin (Int. Cl. 16).  
First use at least as early as May 1968.

SN 343,873. The Trustees of the University of Pennsylvania, Philadelphia, Pa. Filed Nov. 18, 1969.

**34TH STREET**

For Newspaper (Int. Cl. 16).  
First use on or about Oct. 11, 1968.

SN 345,642. Kalamazoo Label Company, Kalamazoo, Mich. Filed Dec. 8, 1969.



The words "Quality Labels Since 1906" are disclaimed apart from the mark as shown.  
For Printed Labels (Int. Cl. 16).  
First use Jan. 31, 1969.

SN 347,294. M & S Press, Inc., Weston, Mass. Filed Dec. 29, 1969.



For Books (Int. Cl. 16).  
First use Oct. 22, 1969.

SN 347,543. Standard Oil Company of California, San Francisco, Calif. Filed Jan. 19, 1970.



The drawing is lined for the colors red and blue and claim is made to color. Owner of Reg. Nos. 575,408, 656,477, and others.  
For Magazines in the Nature of House Organs, Distributed From Time to Time (Int. Cl. 16).  
First use Dec. 11, 1969.

SN 350,193. Whitney Communications Corporation, New York, N.Y. Filed Feb. 2, 1970.

**INTERIOR DESIGN**

For Magazine (Int. Cl. 16).  
First use January 1951; January 1937 to December 1950 as to "Interior Design and Decoration."

SN 356,562. Earth Times Incorporated, San Francisco, Calif. Filed Apr. 13, 1970.



For Newspapers Issued From Time to Time (Int. Cl. 16).  
First use Mar. 17, 1970.

**Class 39 - Clothing**

SN 306,328. The Ball Company, Inc. (New York), New York, N.Y. Filed Aug. 30, 1968.

**SNO-FLAKE**

For Brassieres (Int. Cl. 25).  
First use July 1957.

SN 311,721. The 4 Banger, Newton, Iowa. Filed Nov. 6, 1968.



The geographical location "Newton, Iowa," is disclaimed apart from the mark.

For Young Men's Suits, Sweaters, Broadcloth Sport Shirts, Knit Sport Shirts, Dress Shirts, Sport Coats, Ties, Outer Coats and Jackets, Pajamas, Socks, Gloves, Sweatshirts, Sweat Pants, Shoes, Boots, Belts, Dress Slacks, Casual Slacks, Hats, Caps, Jeans, Underwear; and Young Women's Slacks, Blouses, Sweaters, Shirts, Vests, Outer Coats, Capes, Scarfs, Hose, Shoes, and Boots (Int. Cl. 25).  
First use Aug. 10, 1968.

SN 331,255. Louis Walter & Company, Inc., Kansas City, Mo. Filed June 27, 1969.



For Misses', Juniors', Teens' and Children's Clothing and Accessories—Namely, Blouses, Pants, Skirts, Vests, Shirts, Jackets, Dresses, Coats, Suits, Pajamas, Hats, Belts, and Shoes (Int. Cl. 25).  
First use June 13, 1969.  
Subj. to Intf. with SN 334,725.

SN 333,416. Little Falls Footwear, Inc., St. Johnsville, N.Y. Filed July 24, 1969.

**SAN DERELLA**

For Footwear—Namely, Men's Women's and Children's Sandals, Shoes, and Slippers (Int. Cl. 25).  
First use 1963.

SN 336,018. Royearl, Inc., Lenoir, N.C. Filed Aug. 22, 1969.

**BEAUTY STRAND**

For Panty-Hose, Panties, Hosiery, and Slipper Socks (Int. Cl. 25).  
First use June 20, 1969.

SN 336,407. Beconta Inc., New York, N.Y. Filed Aug. 27, 1969.

**FUSALP**

For Ski Jackets and Ski Pants (Int. Cl. 25).  
First use 1967.

SN 336,899. Nardis of Dallas, Inc., Dallas, Tex. Filed Sept. 3, 1969.



Applicant disclaims the phrase "Of Dallas" apart from the mark as shown.  
For Ladies' Ready-To-Wear Dresses, Suits, Capes, Coats, and Slacks (Int. Cl. 25).  
First use April 1939.

SN 337,582. Research Associates Inc., Linden, N.J. Filed Sept. 10, 1969.

**R A POLY APRONS**

No claim is made to the words "Poly Aprons" apart from the mark as an entirety. Owner of Reg. No. 717,913.  
For Polyethylene Aprons (Int. Cl. 25).  
First use Dec. 11, 1968.

SN 337,902. Desco Shoe Corporation, New York, N.Y. Filed Sept. 15, 1969.



For Men's, Women's Girls' and Boys' Shoes and Slippers (Int. Cl. 25).  
First use Apr. 25, 1960.

**TUMMY STOCKING**

Applicant disclaims the word "Stocking" apart from the mark as shown.  
For Hosiery (Int. Cl. 25).  
First use Aug. 27, 1969.

SN 339,237. Smiths Clothiers of California, Oakland, Calif. Filed Sept. 29, 1969.

**SMITHS PANT HOUSE**

The words "Pant House" are disclaimed apart from the mark as shown.  
For Slacks, Trousers and Pants (Int. Cl. 25).  
First use Aug. 21, 1969.

SN 343,259. Day's Tailor-D Clothing, Inc., Tacoma, Wash. Filed Nov. 12, 1969.

**DAYKNITS**

Owner of Reg. Nos. 541,773, 802,298, and others.  
For Knitted Men's Pants (Int. Cl. 25).  
First use Oct. 31, 1968.

SN 343,382. Joseph Bancroft & Sons Company, New York, N.Y. Filed Nov. 13, 1969.



Applicant disclaims exclusive use of the word "Boutique" when used apart from the mark as shown. Owner of Reg. No. 210,064.  
For Children's and Misses' Hosiery, Stockings, Half-Hose, Textured and Printed Hosiery, Leotards and Tights, Body Stockings, Both Full-Fashioned and Seamless (Int. Cl. 25).  
First use September 1968.

SN 343,835. Freeland Shirt Co., Inc., Freeland, Pa. Filed Nov. 18, 1969.

**SPORT DOWN**

For Ski Jackets, Hunting Coats, Hunting Vests and Snowmobile Suits (Int. Cl. 25).  
First use Aug. 15, 1969.

SN 343,844. Kabushiki Kaisha Gentle Shokai, Taito-ku, Tokyo, Japan. Filed Nov. 18, 1969.



Owner of Japanese Reg. No. 788,110, dated July 30, 1968.  
For Clothing—Namely, Neckchiefs, Scarfs, Mufflers and Neckware Made of Textile Fabrics, Mainly of Silk Fabrics (Int. Cl. 25).



SN 343,877. Wembley Industries, Inc., New Orleans, La. Filed Nov. 18, 1969.

**POISE COLLECTION**

For Men's Neckwear (Int. Cl. 25).  
First use Aug. 25, 1969.

SN 344,214. Sidney Daniel Blue, New York, N.Y. Filed Nov. 21, 1969.



Owner of Reg. Nos. 781,804 and 807,833.  
For Shirts for Men, Women and Children (Int. Cl. 25).  
First use Oct. 29, 1969.

SN 345,540. AFM, Inc., Berkeley, Ill. Filed Dec. 8, 1969.

**MADELINE**

For Hosiery and Panty Hose (Int. Cl. 25).  
First use on or about Oct. 3, 1969.

SN 347,669. Wellco Enterprises, Inc., Waynesville, N.C. Filed Jan. 2, 1970.

**GLO WELL**

For Footwear—Namely, Shoes, Boots, Slippers, and Sandals (Int. Cl. 25).  
First use Dec. 1, 1969.

SN 347,673. Wellco Enterprises, Inc., Waynesville, N.C. Filed Jan. 2, 1970.

**WELL GLO**

For Footwear—Namely, Shoes, Boots, Slippers, and Sandals (Int. Cl. 25).  
First use Dec. 1, 1969.

SN 347,731. Empire Manufacturers Limited, Kowloon, Hong Kong. Filed Jan. 5, 1970.

**GINO PAPARINI**

"Gino Paparini" is fanciful, and does not refer to any known living individual.  
For Shoes and Sandals for Men and Women (Int. Cl. 25).  
First use June 5, 1969; in commerce June 5, 1969.

SN 352,411. Camp and McInnes, Inc., Reading, Pa. Filed Feb. 26, 1970.

**THE EVERYTHING SOCK**

The term "Sock" is disclaimed apart from the mark as shown.  
For Men's Hosiery (Int. Cl. 25).  
First use Feb. 11, 1970.

SN 353,565. Russ Togs, Inc., New York, N.Y. Filed Mar. 9, 1970.

**SOFT 'N NATURAL**

For Brassieres and Ladies' Under Pants (Int. Cl. 25).  
First use Jan. 30, 1970.

SN 354,073. Digits Sportswear, Inc., New York, N.Y. Filed Mar. 16, 1970.

**DIGITS**

For Ladies' Sportswear—Namely, Blouses, Pants, Skirts, Dresses, Shifts and Jackets (Int. Cl. 25).  
First use Nov. 7, 1969.

SN 356,346. Walton Manufacturing Company, Loganville, Ga. Filed Apr. 9, 1970.

**MADISON LANE**

For Men's and Boys' Suits, Sport Coats, and Pants (Int. Cl. 25).  
First use 1950.

SN 356,347. Walton Manufacturing Company, Loganville, Ga. Filed Apr. 9, 1970.

**ROYAL ART**

For Men's and Boys' Suits, Sport Coats, and Pants (Int. Cl. 25).  
First use July 1957.

SN 356,588. Schwartz & Benjamin, Inc., New York, N.Y. Filed Apr. 13, 1970.

**RINALDI**

Owner of Reg. No. 532,598.  
For Women's Shoes Made of Leather (Int. Cl. 25).  
First use Jan. 5, 1949.

**Class 40—Fancy Goods, Furnishings, and Notions**

SN 301,629. James B. Martin, Jr., Fort Lauderdale, Fla. Filed June 28, 1968.

**LASH-ON**

For Tool for the Placement of False Eyelashes on the Human Eyelid (Int. Cl. 8).  
First use June 10, 1968.

SN 329,582. Mini Gift, Inc., Hialeah, Fla. Filed June 10, 1969.



For Packages of Small Gift Items—Namely, Hair Pins, Combs, Clips and Buttons (Int. Cls. 21 and 26).  
First use September 1968.

SN 340,040. Paragon Hair Goods, Ltd., New York, N.Y. Filed Oct. 7, 1969.

**DELILAH**

For Wigs (Int. Cl. 26).  
First use Oct. 15, 1968.

SN 340,953. Sun Chemical Corporation, New York, N.Y. Filed Oct. 16, 1969.

**SUNBOW**

Owner of Reg. No. 550,560.  
For Decorative Bows (Int. Cl. 26).  
First use May 1962.

**Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor**

SN 309,202. Colt's Inc., Hartford, Conn. Filed Oct. 9, 1968.  
Owner of Reg. No. 875,194.



For Piece Goods Made of Cotton and/or Synthetic Fibers and Blends Thereof for Use in Making Wearing Apparel (Int. Cl. 24).  
First use Sept. 24, 1968.

SN 319,861. Frotterweberel Vossen G.m.b.H., Guetersloh, Westphalia, Germany. Filed Feb. 24, 1969.

**VOSSEN**

For Woven and Knitted Fabrics of Cotton, Synthetic Fibers, and Mixtures of Cotton and Fibers (Int. Cl. 24).  
First use Dec. 31, 1950; in commerce Dec. 31, 1960.

SN 327,205. GAF Corporation, New York, N.Y. Filed May 14, 1969.



Owner of Reg. Nos. 509,124, 837,005, and others.  
For Felt Wall Coverings and Felt in the Piece for Various Uses (Int. Cls. 24 and 27).  
First use August 1968.

SN 328,826. Harold A. Conn and Helen V. Conn (joint owners), d.b.a. The Wigwam, Morgan Hill, Calif. Filed June 2, 1969.



For Fitted Covers for Folding Tables (Int. Cl. 24).  
First use on or about Dec. 14, 1967.

SN 332,128. C. M. Offray & Son, Inc., New York, N.Y. Filed July 9, 1969.

**FULL VU**

For Ribbons—Namely, Narrow Cloth Strips for Decorative Purposes (Int. Cl. 26).  
First use on or about Dec. 31, 1950.

SN 333,827. Hayden Textiles, Inc., New York, N.Y. Filed July 29, 1969.

**Prima Hair Canvas<sup>®</sup> 11**

Applicant disclaims the phrase "Hair Canvas" apart from the mark as shown and without waiving any common law rights.

For Woven or Non-Woven Textile Fabrics in the Piece for Use as Interlinings in Garments and in General for Use in Clothing or Textile Products (Int. Cl. 24).  
First use on or about Jan. 1, 1968.

SN 334,317. Furtex, Inc., La Follette, Tenn. Filed Aug. 4, 1969.

**FURTEX**

For Pile Fabrics Made of Natural and/or Synthetic Fibers (Int. Cl. 24).  
First use Feb. 11, 1969.

SN 336,481. Tile Company of America, Inc., Dalton, Ga. Filed Aug. 27, 1969.

**VERSATILES**

For Carpet Fabric in the Form of Self-Stick Carpet Squares (Int. Cl. 27).  
First use Apr. 10, 1969.

SN 349,130. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Jan. 21, 1970.

**VELTRON**

For Carpets (Int. Cl. 27).  
First use Dec. 1, 1969.

SN 353,618. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Mar. 10, 1970.

**NYLTWIST**

For Carpets (Int. Cl. 27).  
First use Dec. 1, 1969.

SN 356,832. Kimberly-Clark Corporation, Neenah, Wis. Filed Apr. 14, 1970.

**KCD**

Owner of Reg. No. 871,367.  
For Disposable Emergency Blankets (Int. Cl. 24).  
First use Aug. 31, 1968.

SN 357,929. Stacy Fabrics Corp., New York, N.Y. Filed Apr. 27, 1970.

**BRAVO-DEEN**

Owner of Reg. Nos. 804,785 and 804,786.  
For Woven and Knitted Fabrics (Int. Cl. 24).  
First use Apr. 9, 1970.

SN 357,930. Stacy Fabrics Corp., New York, N.Y. Filed Apr. 27, 1970.

**BRAVO-CREPE**

Owner of Reg. Nos. 804,785 and 804,786.  
For Woven and Knitted Fabrics (Int. Cl. 24).  
First use Mar. 20, 1970.



SN 357,931. Stacy Fabrics Corp., New York, N.Y. Filed Apr. 27, 1970. SN 328,906. Sybron Corporation, Rochester, N.Y. Filed June 2, 1969.

**BRAVO-SPORT**

Owner of Reg. Nos. 804,785 and 804,786.  
For Woven and Knitted Fabrics (Int. Cl. 24).  
First use Mar. 20, 1970.

**Class 43—Thread and Yarn**

SN 331,519. Madison Throwing Company, Inc., Madison, N.C. Filed July 10, 1969.

**MADISON**

For Textile Yarns, Including Synthetic Textile Yarns and/or Blends Thereof, Processed and Sold for Use in the Manufacture of Textile Fabrics (Int. Cl. 23).  
First use May 14, 1969.

SN 332,244. Madison Throwing Company, Inc., Madison, N.C. Filed July 10, 1969.

**MADISON**

For Textile Yarns, Including Synthetic Textile Yarns and/or Blends Thereof, Processed and Sold for Use in the Manufacture of Textile Fabrics (Int. Cl. 23).  
First use May 14, 1969.

SN 332,245. Madison Throwing Company, Inc., Madison, N.C. Filed July 10, 1969.

**MADISON**

For Textile Yarns, Including Synthetic Textile Yarns and/or Blends Thereof, Processed and Sold for Use in the Manufacture of Textile Fabrics (Int. Cl. 23).  
First use May 14, 1969.

**Class 44—Dental, Medical, and Surgical Appliances**

SN 324,236. Duane A. Schmidt, Fort Dodge, Iowa. Filed Apr. 10, 1969.

**SCENT-O-METER**

For Device for Scenting the Air of the Mouth of a Dental Patient (Int. Cl. 10).  
First use Feb. 18, 1969.

**MICRALUM**

For Stationary Medical X-Ray Grids (Int. Cl. 10).  
First use on or before Mar. 21, 1968.

SN 328,911. Sybron Corporation, Rochester, N.Y. Filed June 2, 1969.

**FINELINE**

For Stationary Medical X-Ray Grids (Int. Cl. 10).  
First use on or before Jan. 1, 1968.

SN 334,719. Johnson & Johnson, d.b.a. Personal Products Company, New Brunswick, N.J. Filed Aug. 7, 1969.

**STAY FREE**

For Sanitary Napkins and Feminine Hygiene Pads (Int. Cl. 5).  
First use June 2, 1969.

SN 339,312. H & A Enterprises, Inc., Whitestone, N.Y. Filed Sept. 30, 1969.

**Début**

For Ear Piercing Kit (Int. Cl. 10).  
First use Aug. 27, 1969.

SN 339,393. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 1, 1969.

**NEW FREEDOM**

Owner of Reg. No. 877,479.  
For Sanitary Tampons, Sanitary Belts and Holders for Sanitary Napkins (Int. Cl. 5).  
First use June 18, 1969.

SN 339,462. Stainless Specialties, Inc., Newport Beach, Calif. Filed Oct. 1, 1969.

**NEWPORTER**

For Wheelchairs (Int. Cl. 12).  
First use Sept. 27, 1968.

SN 345,709. Beltone Electronics Corporation, Chicago, Ill. Filed Dec. 9, 1969.

**OVERTURE**

For Electronic Hearing Aids (Int. Cl. 10).  
First use Nov. 12, 1969.

SN 345,710. Beltone Electronics Corporation, Chicago, Ill. Filed Dec. 9, 1969.

**MAESTRO**

For Electronic Hearing Aids (Int. Cl. 10).  
First use Nov. 12, 1969.

SN 345,791. Beltone Electronics Corporation, Chicago, Ill. Filed Dec. 10, 1969. SN 342,928. A.E.I. Corporation, Bethlehem, Pa. Filed Nov. 7, 1969.

**VIVO**

For Electronic Hearing Aids (Int. Cl. 10).  
First use Nov. 12, 1969.

SN 346,812. Johnson & Johnson, d.b.a. Personal Products Company, New Brunswick, N.J. Filed Dec. 22, 1969.

**EXTRA HOURS**

For Sanitary Napkins and Tampons (Int. Cl. 5).  
First use Nov. 13, 1969.

SN 357,454. Westinghouse Electric Corporation, Mansfield, Ohio. Filed Apr. 20, 1970.

**DEBONAIRE**

For Electric Hair Dryers (Int. Cl. 11).  
First use on or about Sept. 18, 1969.

**Class 45—Soft Drinks and Carbonated Waters**

SN 307,793. S.A.G.A. Societa Acque Gasate ed Affini S.p.A., d.b.a. S.A.G.A. S.p.A., Milan, Italy. Filed Aug. 19, 1968.



The word "Lemonsoda" is disclaimed apart from the mark as shown. The drawing is lined for the color yellow.  
For Lemon-Flavored Carbonated Soft Drinks (Int. Cl. 32).  
First use June 28, 1934; in commerce Mar. 16, 1968.

SN 333,921. General Foods Corporation, White Plains, N.Y. Filed July 30, 1969.



Applicant disclaims the representations of slices of fruit apart from the mark as shown and for no other purpose.  
For Flavored Bases for Making Slush-Type Soft Drinks (Int. Cl. 32).  
First use June 3, 1969.

SN 338,065. Wm. B. Reilly & Company, Inc., New Orleans, La. Filed Sept. 16, 1969.

**MONSTER MIX**

The word "Mix" is disclaimed apart from the exercise of applicant's common law rights.  
For Packaged Powder for Addition to Water To Form Non-Alcoholic, Non-Carbonated Soft Drink (Int. Cl. 32).  
First use Apr. 25, 1969.

**IMPULSE**

For Powders for Making a Fruit-Flavored Soft Drink (Int. Cl. 32).  
First use June 18, 1969.

SN 353,210. Naarden-Flavorex, Inc., Baltimore, Md. Filed Mar. 5, 1970.

**STEP 'N HIGH**

For Beverage Base for Making Soft Drinks (Int. Cl. 32).  
First use Sept. 14, 1962.

**Class 46—Foods and Ingredients of Foods**

SN 278,283. Chicco-San, Inc., Chicco, Calif. Filed Aug. 15, 1967.



For Grains and Meals—Namely, Rice, Sesame Seeds, Barley, Buckwheat, Corn Meal, Oats, Wheat, Millet and Rye; Flour, Namely, Rice, Barley, Buckwheat, Corn, Millet, Rye, Whole Wheat and Wheat; Products Formed From Such Grains, Meals and Flour, Namely, Bread, Noodles, Cakes, Crackers and Cereals; Dried Vegetables; Dried Fish; Soybean Puree Made From Soybeans, Barley, Salt and Water; Plums Preserved in Salt; Condiments, Namely, Sesame, Pumpkin Seeds, Salt, Arrow Root, and a Condiment Formed From Lotus Root, Burdock Root, Ginger Root, Sesame Oil, Carrot and Soybean Puree; Candy; and Tea and Beverages Made From Grains (Int. Cls. 29, 30, and 31).  
First use Apr. 9, 1965.

SN 283,052. Omaha Steaks International, Inc., Omaha, Nebr. Filed Aug. 12, 1968.

**Omaha Steaks International**

For the purposes of this registration only, and without waiver of rights under common law, applicant disclaims the terms "Omaha," "Steaks," apart from the mark as shown.

For Fresh and Frozen Various Beef Steak Cuts, Various Lamb Cuts, Various Veal Cuts, Ground Beef and Ground Beef Patties, Sausages, Corned Beef; and Various Cheeses, Margarine, Meat Origin Shortening, Lard, Egg Rolls (Uncooked and Frozen), Herring (Pickled), Poultry Cuts (Uncooked and Frozen), Stuffed Poultry (Uncooked and Frozen), Breaded Cooked Chicken Breasts (Frozen), Shrimp (Uncooked and Frozen), Lobster (Uncooked and Frozen), Fish Steaks and Filets (Frozen), Canapes (Frozen) (a Ready-To-Serve Tray of Caviar, Herring, Smoked Salmon, Shrimp, Lobster, Cream Cheese, Gherkins, Olives, Anchovies, Eggs, Pimentos, and Bread), Hot Tamales (Pre-Cooked and Frozen) (Int. Cls. 29 and 30).  
First use at least as early as May '31, 1965.



SN 292,743. John Chirops Food Specialties, Inc., Glenview, Ill. Filed Mar. 8, 1968.

## MR. CHIPS

The name "Mr. Chips" does not represent any particular living individual. Owner of Reg. No. 573,199.

For Food Products Packaged for Distribution and Sale to Restaurants and Institutions—Namely, Soup Base; Soup Mix; Jellyed Beef Consomme; Gingerbread Mix; Cream Sauce Base; Canned Spaghetti With Tomato Sauce and Meat Balls; Canned Beef Stew; Corn Muffin Mix; Creme Dessert (a pudding to which the Customer Adds Water); a Complete Gelatine Dessert to which the Customer Adds Water; Ground Meat Mix which is a Blended Mixture of Spices and Bread Crumbs for Making Meat Loaves, Breading and Stuffing; Vegetable Gelatine Salad Mix; and Hot Roll Mix (Int. Cls. 29 and 30).

First use at least as early as 1956.  
Subj. to Intf. with SN 281,035.

SN 299,440. Deep Deep Ocean Products, Inc., Boston, Mass. Filed May 31, 1968.



For Seafood—Namely, Fresh Lobsters, Shrimp, Crabs, Clams, Oysters, and Frozen Packaged Meat of Lobsters and Crabs (Int. Cl. 29).

First use Apr. 9, 1968.

SN 305,848. Neumann-Buslee & Wolfe, Inc., Des Plaines, Ill. Filed Aug. 23, 1968.

## TRUTASTE

For Food Flavor Concentrate (Int. Cl. 30).  
First use Jan. 2, 1933.

SN 311,676. Federal Yeast Corporation, Baltimore, Md. Filed Nov. 8, 1968.



The words "Yeast," "Balanced Fermentation," "Strength," "Purity," "Tolerance," "Dependability," and "Uniformity" are disclaimed apart from the mark as shown and without relinquishment of any common law rights in the same.

For Yeast for Food Purposes (Int. Cl. 30).  
First use at least as early as 1945.

SN 314,663. Lotte Co., Ltd., Shinjuku-ku, Tokyo, Japan. Filed Dec. 5, 1968.



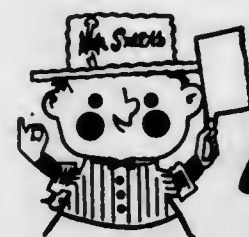
For Chocolate Candy (Int. Cl. 30).  
First use Aug. 15, 1968; in commerce Aug. 30, 1968.

SN 314,705. Di Mare Brothers, Inc., Boston, Mass. Filed Dec. 17, 1968.

## PICK OF THE CROP

For Nuts Having Shells (Int. Cl. 29).  
First use Sept. 1951.

SN 317,332. Fearn International Inc., Franklin Park, Ill., by change of name from Fearn Foods Inc., Franklin Park, Ill. Filed Jan. 23, 1969.



**Mr. Smith's**

For Frozen Meats and Frozen Meat Food Products—Namely, Beef Steaks and Cuts, Beef Patties, Ground Beef, Pork Steaks and Chops, Veal Steaks, Lamb Chops and Patties, Meat Balls, Meat Loaf, Stuffed Peppers, and Barbecue Sauce (Int. Cls. 29 and 30).

First use 1962.  
Subj. to Intf. with SN 317,635.

SN 317,333. Fearn International Inc., Franklin Park, Ill., by change of name from Fearn Foods Inc., Franklin Park, Ill. Filed Jan. 23, 1969.

## MR. SMITH'S

For Frozen Meats and Frozen Meat Food Products—Namely, Beef Steaks and Cuts, Beef Patties, Ground Beef, Pork Steaks and Chops, Veal Steaks, Lamb Chops and Patties, Meat Balls, Meat Loaf, Stuffed Peppers, and Barbecue Sauce (Int. Cls. 29 and 30).

First use 1962.  
Subj. to Intf. with SN 317,635.

SN 320,058. Chris Hoerr & Son Company, East Peoria, Ill. Filed Feb. 25, 1969.



For Canned Fruits and Vegetables, Coffee, Canned Fruit Juices, Canned Soups, Salad Dressings, Pickles, Olives, Catsup and Mustard, Peanut Butter, Tea, Dried Fruit, Flour, and Vegetable Shortening (Int. Cls. 29, 30, 31, and 32).  
First use Feb. 14, 1928.

SN 326,098. Hunt-Wesson Foods, Inc., Fullerton, Calif. Filed May 1, 1969.

## STOUP

For Vegetable Stew (Int. Cl. 29).  
First use Mar. 21, 1969.

SN 326,584. American Dairy of Evansville, Inc., d.b.a. American Dairy Co., Evansville, Ind. Filed May 7, 1969.



For Fortified Low Fat Fluid Milk (Int. Cl. 29).  
First use on or about Feb. 14, 1958.

SN 326,750. Deep Sea Shrimp Importing Company, Inc., d.b.a. Deep Sea Seafood Company, Burbank, Calif. Filed May 8, 1969.

SN 332,300. Ajinomoto Co., Inc., Chuo-ku, Tokyo, Japan. Filed July 11, 1969.

## UNION

For Shrimp and Other Frozen Shellfish (Int. Cl. 29).  
First use Oct. 3, 1963.

SN 328,210. Violet Packing Company, Williamstown, N.J. Filed May 23, 1969.



Owner of Reg. Nos. 658,138 and 768,465.  
For Sweet Peppers, Peperoncini, Spaghetti Sauce, Marinara Sauce and Pizza Sauce (Int. Cls. 29 and 30).  
First use Aug. 28, 1955, on pizza sauce.

SN 330,309. R.S. Toro, d.b.a. C.P.A. Importers and Caribbean Pacific Atlantic Importers, Los Angeles, Calif. Filed June 17, 1969.

## HOLGUIN

For Black Beans, Dry in Bags (Int. Cl. 29).  
First use Jan. 8, 1968.

SN 330,727. Farmers Produce Co., Willmar, Minn. Filed June 23, 1969.



For Frozen Turkeys (Int. Cl. 29).  
First use June 6, 1969.

SN 331,388. Jesse Jones Sausage Company, Garner, N.C. Filed June 30, 1969.



Applicant disclaims exclusive rights to the word "Brand," apart from the mark as shown.  
For Sausages (Int. Cl. 29).  
First use June 16, 1969.

SN 331,964. Wine-Art Sales Ltd., Vancouver, British Columbia, Canada. Filed July 7, 1969.

## ANDOVIN

Priority claimed under Sec. 44(d) on Canadian application filed Feb. 7, 1969; Reg. No. 166,524, dated Nov. 28, 1969.  
For Yeast (Int. Cl. 30).  
First use as early as 1966; in commerce June 1967.



Owner of Japanese Reg. No. 596,758, dated Sept. 14, 1962.  
For Edible Oils of Vegetable Origin (Int. Cl. 29).

SN 332,785. Whipco Foods, Inc., Chicago, Ill. Filed July 17, 1969.



For Prepared Meat Products Sold to the Consuming Public (Int. Cl. 29).  
First use June 20, 1969.

SN 333,228. Deltown Chemurgic Corporation, Yonkers, N.Y. Filed July 23, 1969.



The mark comprises a fanciful showing of the letter "D" with letter "C" enclosed within the "D."  
For Milk Derived Proteins and Protein Fat Emulsions, in Powder Form, for Use as a Food Ingredient and as an Ingredient for Livestock Feeds (Int. Cls. 5 and 31).  
First use October 1969.

SN 333,400. Gro-Kote!, Inc., d.b.a. Gro-Kote Inc., Santa Rosa, Calif. Filed July 24, 1969.



Owner of Reg. No. 851,552.  
For Dog Food (Int. Cl. 31).  
First use June 16, 1969.



SN 333,442. S'n M Feed Specialties, Inc., Hull, Iowa. Filed July 24, 1969.

## GRO-PRO FPC

For Feed for Livestock and Poultry (Int. Cl. 31).  
First use May 7, 1969.

SN 333,791. G. A. Katsiyannis, Athens, Greece. Filed July 10, 1969.

## KAGEOR

For Greek Oregano Leaves (Int. Cl. 30).  
First use Jan. 1, 1964; in commerce Jan. 13, 1964.

SN 333,792. G. A. Katsiyannis, Athens, Greece. Filed July 10, 1969.

## G.A.K.

For Greek Oregano Leaves (Int. Cl. 30).  
First use Oct. 1, 1966; in commerce Oct. 3, 1966.

SN 333,793. G. A. Katsiyannis, Athens, Greece. Filed July 10, 1969.

## GE-KA

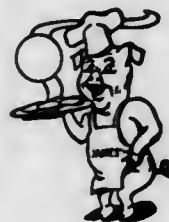
For Greek Oregano Leaves (Int. Cl. 30).  
First use Oct. 1, 1966; in commerce Nov. 23, 1966.

SN 334,119. The Rath Packing Company, Waterloo, Iowa. Filed July 31, 1969.

## CEDAR FARM

Owner of Reg. Nos. 771,999, 845,560, and others.  
For Pork Shoulder Picnics (Int. Cl. 29).  
First use at least as early as December 1966.

SN 335,035. James Sausage Company, Shawnee, Okla. Filed Aug. 11, 1969.



For Pork Sausage (Int. Cl. 29).  
First use about Mar. 1, 1960.

SN 335,474. Schweizerische Schalmuhle-E. Zwicky A.G., d.b.a. E. Zwicky Ltd., Mülheim-Wilgoldingen, Switzerland. Filed Aug. 15, 1969.

## FRUTIFORT

For Dry Cereal Containing Nuts and Fruits (Int. Cl. 30).  
First use at least as early as June 1963; in commerce at least as early as June 1963.

SN 335,616. Standard Milling Company, Kansas City, Mo. Filed Aug. 18, 1969.

## BREAD KING

Owner of Reg. No. 260,547.  
For Wheat Flour (Int. Cl. 30).  
First use on or about Oct. 20, 1928.

SN 335,785. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Aug. 20, 1969.

## GROOVY STICK-ONS

The phrase "Stick-One" is disclaimed, apart from the mark as shown, without disclaiming any common law rights therein.  
For Chewing Gum Sold in Conjunction With Decorative Labels (Int. Cl. 30).  
First use Aug. 1, 1969.

SN 335,854. Duffy-Mott Company, Inc., New York, N.Y. Filed Aug. 21, 1969.

## APPLETIZER

For Canned Mixed Fruit Juices (Int. Cl. 32).  
First use Aug. 8, 1969.

SN 335,893. The Nestle Company, Inc., White Plains, N.Y. Filed Aug. 21, 1969.



Owner of Reg. Nos. 301,073, 782,954, and others.  
For Cake-Like Product for Snacks, Sandwiches and Desserts (Int. Cl. 30).  
First use at least as early as 1933.

SN 335,938. Breaker Confections, Inc., Elk Grove Village, Ill. Filed Aug. 22, 1969.



The word "Candy" is disclaimed apart from the mark as shown.  
For Candy (Int. Cl. 30).  
First use Apr. 7, 1969.

SN 336,435. Federal Sweets & Biscuit Co., Inc., Clifton, N.J. Filed Aug. 27, 1969.

## MR. WAFER

The word "Wafer" is disclaimed apart from the mark as shown.  
For Cookie Wafers (Int. Cl. 30).  
First use Aug. 15, 1969.

SN 336,608. Ripon Foods, Inc., d.b.a. Mom's Cookie Co., New York, N.Y. Filed Aug. 28, 1969.

## WILLOW BROOK

For Cookies (Int. Cl. 30).  
First use Aug. 15, 1969.

SN 336,695. Hoefer's Centennial Chocolates, Inc., Ltd., Oakland, Calif. Filed Aug. 29, 1969.

## HOEFLER'S

Owner of Reg. No. 519,150.  
For Candy (Int. Cl. 30).  
First use Feb. 20, 1914.

SN 336,903. Abbott Laboratories, North Chicago, Ill. Filed Aug. 28, 1969.

## SUCARYL SUGAR

The word "Sugar" is disclaimed apart from the mark as shown, without prejudice to applicant's common law rights in the mark. Owner of Reg. Nos. 536,591, 628,816, and 681,339.  
For Low-Calorie Sweetener (Int. Cl. 1).  
First use Apr. 15, 1969.

SN 336,957. R. S. Toro, d.b.a. C.P.A. Importers and Caribbean Pacific Atlantic Importers, Los Angeles, Calif. Filed Sept. 3, 1969.

## LA SIN RIVAL

The mark is the Spanish equivalent of "without rival."  
For Rice and Alimentary Pastes (Int. Cl. 30).  
First use June 6, 1969.

SN 336,992. Abbott Laboratories, North Chicago, Ill. Filed Sept. 4, 1969.

## SUCARYL CONCENTRATE

The word "Concentrate" is disclaimed apart from the mark as shown, without prejudice to applicant's common law rights in the mark. Owner of Reg. Nos. 536,591 and 628,816.  
For Artificial Sweetening Preparation (Int. Cl. 1).  
First use February 1967.

SN 337,300. W. R. Grace & Co., New York, N.Y. Filed Sept. 8, 1969.

## ONION O'S

No claim is made to the word "Onion" apart from the mark as shown.  
For Onion Flavored Corn Rings (Int. Cl. 29).  
First use Feb. 26, 1969.

SN 338,042. Confection Products Corporation, Perryville, Mo. Filed Sept. 18, 1969.

## WITCH'S WAND

For Candy Sticks (Int. Cl. 30).  
First use Aug. 21, 1969.

SN 338,350. Black River Dairy Products, Inc., Eau Claire, Wis. Filed Sept. 19, 1969.

## ITALIAN HOLIDAY

The word "Italian" is disclaimed apart from the mark as shown but the applicant waives none of his common law rights therein.  
For Frozen Pizza (Int. Cl. 30).  
First use Jan. 4, 1967.

SN 338,448. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Sept. 19, 1969.

## FUNNY DOORS

For Chewing Gum Sold in Conjunction With Novelty Cards (Int. Cl. 30).  
First use July 9, 1969.

SN 338,561. General Foods Corporation, White Plains, N.Y. Filed Sept. 22, 1969.

## DREAM BERRY

For Dessert Topping Mix (Int. Cl. 29).  
First use June 13, 1969.

SN 338,622. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company, New York, N.Y. Filed Sept. 22, 1969.

## CLICO

For Animal Feed Supplement Primarily of a Food Nature (Int. Cl. 31).  
First use July 25, 1969.

SN 338,623. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company, New York, N.Y. Filed Sept. 22, 1969.

## CFS

For Animal Feed Supplement Primarily of a Food Nature (Int. Cl. 31).  
First use Apr. 29, 1969.

SN 341,154. Jenos, Inc., Duluth, Minn. Filed Oct. 20, 1969.  
Owner of Reg. Nos. 683,747, 737,607, and 737,608.

## JENOS

For Frozen Pizza, Including Sausage Pizza, Cheese Pizza and Pepperoni Pizza (Int. Cl. 30).  
First use on or about June 12, 1969.

SN 341,243. DCA Food Industries, Inc., New York, N.Y. Filed Oct. 21, 1969.

## FUNZERT

For Frozen Dessert—Namely, Whipped Yogurt (Int. Cl. 29).  
First use Aug. 29, 1969.

SN 341,307. Bumbleberry Enterprises Inc., Springdale, Utah. Filed Oct. 22, 1969.

## BUMBLEBERRY VALLEY

For Pies, Jams and Jellies, and Buns (Int. Cls. 29 and 30).  
First use March 1968.



SN 343,462. American Sweetener Corporation, New York, N.Y. Filed Nov. 14, 1969.

**WONDER SWEET**

The word "Sweet" is disclaimed apart from the mark as shown.

For Artificial Sweetener (Int. Cl. 1).  
First use Oct. 29, 1969.

SN 344,196. Sucrest Corporation, New York, N.Y. Filed Nov. 21, 1969.

**BEE-FOND**

For Food Supplement for Bees—Namely, a Dry Granular Product Containing Sugar, Invert Sugar and Soy Flour (Int. Cl. 31).

First use Aug. 28, 1969.

SN 344,198. Sucrest Corporation, New York, N.Y. Filed Nov. 21, 1969.

**BEE-STIM**

For Food Supplement for Bees—Namely, a Dry Granular Product Containing Sugar, Invert Sugar, Soy Flour and Pollen (Int. Cl. 31).

First use Aug. 28, 1969.

SN 347,525. North Pacific Cannery & Packers, Inc., Portland, Oreg. Filed Dec. 31, 1969.

**MISTER DIXIE**

For Frozen Vegetables, and Particularly French Fried Potatoes (Int. Cl. 29).

First use Nov. 10, 1969; Jan. 12, 1967, in a different form.

SN 348,232. Van Den Berghs and Jurgens Limited, London, England. Filed Jan. 12, 1970.

**HYCOA**

Owner of British Reg. Nos. 445,606 and 445,607, dated Feb. 22, 1924.

For Edible Vegetable Oils and Edible Vegetable Fats (Int. Cl. 29).

SN 348,527. General Foods Corporation, White Plains, N.Y. Filed Jan. 14, 1970.

**GEE-FERS**

For Corn-Based Snack Foods (Int. Cl. 30).

First use Oct. 15, 1969; Aug. 12, 1969, in a different form.

SN 348,589. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Jan. 14, 1970.



For Lecithin for Use as a Food Ingredient (Int. Cl. 30).  
First use Dec. 6, 1969.

SN 348,699. Village Kitchen Foods, Inc., Dallas, Tex. Filed Jan. 15, 1970.

**VILLAGE KITCHEN**

Owner of Reg. No. 776,284.

For Canned and Frozen Meat Products, Corn Dogs Consisting of Frankfurters in Batter Browned in Vegetable Oil, and Pie Crust Mixes (Int. Cls. 29 and 30).

First use Apr. 1, 1968.

SN 348,700. Village Kitchen Foods, Inc., Dallas, Tex. Filed Jan. 15, 1970.



Owner of Reg. No. 776,284.

For Canned and Frozen Meat Products, Corn Dogs Consisting of Frankfurters in Batter Browned in Vegetable Oil, and Pie Crust Mixes (Int. Cls. 29 and 30).

First use Apr. 1, 1968.

SN 349,433. The Quaker Oats Company, Chicago, Ill. Filed Jan. 23, 1970.

**KING VITAMAN**

Owner of Reg. No. 857,596.

For Ready-to-Eat Cereal (Int. Cl. 30).

First use Dec. 18, 1969.

SN 349,509. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Jan. 23, 1970.



For Starch Conversion Syrup Useable as an Ingredient of Other Food Products (Int. Cl. 30).

First use Dec. 11, 1969.

SN 349,672. National Biscuit Company, New York, N.Y. Filed Jan. 26, 1970.

**FLAME THROWERS**

For Candy (Int. Cl. 30).

First use Oct. 17, 1969.

SN 350,546. Edlo Enterprises, Inc., San Francisco, Calif. Filed Feb. 5, 1970.

TRIM  
N'  
TASTY

No claim is made to the word "Tasty" apart from the mark as shown. Owner of Reg. Nos. 550,505, 873,171, and others.

For Low Fat Milk (Int. Cl. 29).

First use Jan. 30, 1970.

SN 351,243. Unifree Corporation, Cheektowaga, N.Y. Filed Feb. 12, 1970.



The drawing is lined for the colors green and red, but color is not claimed as a feature of the mark.

For Pickles, Peppers and Relishes Including Pickled Cauliflower Specialties (Int. Cls. 29 and 30).

First use on or about May 1, 1969.

SN 351,515. National Biscuit Company, New York, N.Y. Filed Feb. 16, 1970.

**LASER BEAMS**

For Candy (Int. Cl. 30).

First use Dec. 19, 1969.

SN 351,716. National Biscuit Company, New York, N.Y. Filed Feb. 18, 1970.

**AMERICAN HARVEST**

Owner of Reg. No. 737,614.

For Cereal Breakfast Food, Biscuits and Crackers (Int. Cl. 30).

First use Dec. 20, 1960.

SN 356,566. General Mills Chemicals, Inc., Minneapolis, Minn. Filed Apr. 13, 1970.

**CHONO**

For Imitation Whole Egg Powder (Int. Cl. 29).

First use on or about Feb. 9, 1970.

SN 357,475. General Mills, Inc., Minneapolis, Minn. Filed Apr. 15, 1970.

**TEX-MEX**

For Enchilada Sauce (Int. Cl. 30).

First use on or about Jan. 14, 1970.

SN 358,258. Sunnyland Refining Company, Birmingham, Ala. Filed Apr. 29, 1970.

**SUN GLOW**

For Margarine (Int. Cl. 29).

First use 1948.

**Class 47 — Wines**

SN 310,874. Ewald Theod. Drathen K.G., Alf/Mosel, Germany. Filed Oct. 30, 1968.

**DrathenWürzigerWeingarten**

The German words "Würziger Weingarten" literally translated mean "spicy vineyard." The word "Würziger" is disclaimed apart from the mark as shown. Owner of German Reg. No. 738,286; dated Sept. 3, 1958.

For Sparkling Wines (Int. Cl. 33).

SN 316,663. London Winery Limited, London, Ontario, Canada. Filed Jan. 15, 1969.



No claim is made to the word "London" apart from the mark as shown. Owner of Reg. No. 870,989.

For Wines (Int. Cl. 33).

First use Sept. 1, 1968; in commerce Sept. 1, 1968.

SN 343,216. E. & J. Gallo Winery, d.b.a. Gallo Vineyards, Modesto, Calif. Filed Nov. 12, 1969.

**PINK WITCH**

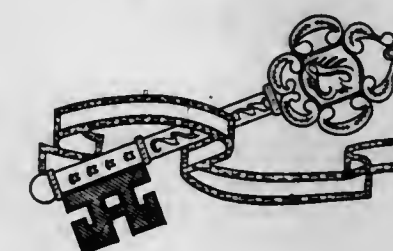
No claim is made to the word "Pink" apart from the mark as shown.

For Wines (Int. Cl. 33).

First use Oct. 29, 1969.

**Class 49 — Distilled Alcoholic Liquors**

SN 300,039. Puerto Rico Distillers, Inc., d.b.a. Compania Ron Llave, Arecibo, Puerto Rico. Filed June 10, 1968.



The drawing is lined for the color gold. Owner of Reg. Nos. 733,907 and 780,029.

For Alcoholic Beverages—Namely, Rum (Int. Cl. 33).

First use Aug. 1, 1967.

SN 322,282. Fromm & Sichel, Inc., San Francisco, Calif. Filed Mar. 20, 1969.



For Whiskey (Int. Cl. 33).

First use Feb. 12, 1947.

SN 343,863. Mediterranean Importing Co., Inc., Long Island City, N.Y. Filed Nov. 18, 1969.

**GLADIATOR**

Owner of Reg. No. 865,892.

For Gin (Int. Cl. 33).

First use Mar. 24, 1969.



SN 349,925. E. Martinoni Co., d.b.a. Seabrook & Company, South San Francisco, Calif. Filed Jan. 29, 1970.

## GOLDEN GATE

For Vodka (Int. Cl. 33).  
First use August 1963.

## Class 50—Merchandise Not Otherwise Classified

SN 343,513. Caproni Galleries, Inc., Boston, Mass. Filed Nov. 14, 1969.

## BEECHWOOD GALLERY COLLECTION

Applicant disclaims the words "Gallery Collection." For Molded and Cast Reproductions of Works in the Arts (Int. Cls. 6, 19, and 20).  
First use Sept. 5, 1969.

## Class 51—Cosmetics and Toilet Preparations

SN 296,293. Arrivals Limited, Chicago, Ill. Filed Apr. 23, 1968.

*2nd  
Début*

Owner of Reg. Nos. 200,218 and 200,677.  
For Skin Cream; Liquid Makeup; Cosmetic Liquid Cleanser; Hand and Body Lotion; Pressed Compact Powder; and Perfumes (Int. Cl. 3).  
First use July 8, 1960, on skin cream.

SN 298,471. Perfumeria Parera, S.A., Badalona (Barcelona), Spain. Filed May 17, 1968.



The word "Español" means "Spanish."  
For Perfumes, Colognes, Shaving Soap, Personal Deodorants, Dusting Powder, and Dentifrices (Int. Cls. 3 and 5).  
First use January 1967; in commerce January 1967.

SN 298,555. Avon Products, Inc., New York, N.Y. Filed May 20, 1968.

## LONGING

For Cologne, Dusting Powder, Perfume, Talcum Powder, Bath Oil, Cream Sachet and Powder Sachet for Personal Use (Int. Cl. 3).  
First use May 8, 1968.

SN 301,407. Chanson Cosmetics Inc., Shizuoka City, Japan. Filed June 26, 1968.

## CHANSON Q. B.

Translation of the French word "Chanson" is "song." Owner of Japanese Reg. No. 721,492, dated Sept. 29, 1966.  
For Skin Lotions and Creams—Namely, Milk Lotion, Cold Cream, Hormone Cream, and Facial Powder (Int. Cl. 3).  
First use Mar. 31, 1969; in commerce May 21, 1968.

SN 301,408. Chanson Cosmetics Inc., Shizuoka City, Japan. Filed June 26, 1968.

## HI CALLOME

For Skin Creams and Skin Lotions—Namely, Cold Cream and Milk Lotion (Int. Cl. 3).  
First use Mar. 28, 1967; in commerce May 21, 1968.

SN 316,215. L'Oreal, Paris, France. Filed Jan. 9, 1969.

## POSIFON

Owner of French Reg. No. 739,867, dated Mar. 29, 1968.  
For Hair Conditioner, Permitting It To Better Tolerate the Action of Permanent Waving Products (Int. Cl. 3).

SN 316,365. Associated Products, Inc., New York, N.Y. Filed Jan. 13, 1969.

## STAY DRY

The word "Dry" is disclaimed apart from the mark as shown.  
For Personal Deodorant (Int. Cl. 5).  
First use Oct. 10, 1968.

SN 323,319. Kenneth Beauty Salons & Products, Inc., New York, N.Y. Filed Apr. 1, 1969.

## PLUPERFECT

For Lipsticks (Int. Cl. 3).  
First use Mar. 1, 1969.

SN 325,989. New York Pencil Co., Inc., New York, N.Y. Filed Apr. 30, 1969.

## ROLL-ON BEAUTY

Applicant disclaims the words "Roll-On" apart from the mark as shown.  
For Cosmetic Make-Up (Int. Cl. 3).  
First use Mar. 28, 1969.

SN 330,188. Chas. Pfizer & Co., Inc., New York, N.Y. Filed June 16, 1969.



The trademark comprises a fanciful arrangement of letters comprising the wording L'Origan de Coty and Design with the letter "r" in Origan appearing as a lower case letter placed inside the capital letter "O." Owner of Reg. Nos. 146,974, 181,134, and others.  
For Toilet Water, Make-Up Foundation, and Skin Lotion (Int. Cl. 3).  
First use in April 1922.

SN 334,607. Ben Nye Inc., West Hollywood, Calif. Filed Aug. 6, 1969.

## FIVE O'SHARP

For Beard Cover for Men (Int. Cl. 5).  
First use Jan. 17, 1969.

SN 336,012. Perma, Paris, France. Filed Aug. 22, 1969.

## STILSOIE

Owner of French Reg. No. 741,593, dated May 21, 1968.  
For Hair Conditioning Lotions (Int. Cl. 3).

SN 336,909. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. Filed Sept. 3, 1969.

## FASHION YOUTH

For Foundation Cream (Int. Cl. 3).  
First use Aug. 21, 1969.

SN 336,954. Textron Inc., Providence, R.I. Filed Sept. 3, 1969.

## BITTER LIME

No claim is made to the word "Lime" apart from the mark.  
Owner of Reg. No. 874,839.  
For Men's Cologne and After Shave Lotion (Int. Cl. 3).  
First use Aug. 20, 1969.

SN 337,082. Nomisol Products (Proprietary) Limited, Spartan, Kempton Park, Republic of South Africa. Filed Sept. 4, 1969.

## NOMISOL

Owner of South African Reg. No. 61/1,353, dated Apr. 25, 1961.  
For Denture Cleanser (Int. Cl. 3).

SN 337,186. Miles Laboratories, Inc., Elkhart, Ind. Filed Sept. 5, 1969.

## BIONS

For Breath Freshener (Int. Cl. 3).  
First use on or before Aug. 21, 1969.

SN 339,034. The Nestle-Le Mur Company, New York, N.Y. Filed Sept. 26, 1969.

## TOUCH 'n GROOM

No claim is made to the word "Groom" apart from the mark as shown.  
For Hair Coloring Preparation (Int. Cl. 3).  
First use Sept. 19, 1969.

SN 339,145. Helene Curtis Industries, Inc., Chicago, Ill. Filed Sept. 29, 1969.

## SURE THING

Owner of Reg. Nos. 863,265 and 871,019.  
For Hair Conditioner (Int. Cl. 3).  
First use on or about June 9, 1969.

SN 339,521. Zayre Corp., Natick, Mass. Filed Oct. 2, 1969.

## ZAYRE

Owner of Reg. No. 675,020.  
For Bay Rum Toiletory (Int. Cl. 3).  
First use at least as early as September 1966.

SN 341,647. The Gillette Company, Boston Mass. Filed Oct. 24, 1969.

## LEMON UP

For the purposes of registration no claim is made to the exclusive right to use "Lemon," apart from the mark as shown, but applicant waives none of its common-law rights therein.  
For Creme Rinse (Int. Cl. 3).  
First use Aug. 29, 1969.

SN 341,411. Chesebrough-Pond's Inc., New York, N.Y. Filed Nov. 3, 1969.

## TEDDY BARE

For Sun Tanning Lotion (Int. Cl. 3).  
First use Oct. 7, 1969.

SN 343,165. Sardeau, Inc., Kenilworth, N.J. Filed Nov. 11, 1969.

## VELVET FLUFF

For Body Moisturizing Foam (Int. Cl. 3).  
First use Sept. 2, 1969.

SN 344,531. Avon Products, Inc., New York, N.Y. Filed Nov. 25, 1969.

## DANCING LIGHTS

Applicant disclaims the word "Lights" apart from the mark as shown.  
For Filled Powder Compact, Nail Enamel, and Lipstick (Int. Cl. 3).  
First use Oct. 21, 1969.

SN 353,248. Carter-Wallace, Inc., New York, N.Y. Filed Mar. 6, 1970.

## EYETEK

For Tear Stain Remover for Dogs (Int. Cl. 3).  
First use Nov. 4, 1969.



SN 353,260. Vitabath Inc., New York, N.Y. Filed Mar. 6, 1970.  
 SN 327,268. General Foods Corporation, White Plains, N.Y. Filed May 14, 1969.

**VELOUR**

Owner of Reg. No. 315,767.  
 For Hand and Body Lotion (Int. Cl. 3).  
 First use November 1967.

**Class 52 — Detergents and Soaps**

SN 318,265. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Feb. 3, 1969.



Owner of Reg. Nos. 613,328, 785,362, and others.  
 For Cleaning, Cleansing, Detergent and Washing Compositions—Namely, Spray and Soak-Type Cleaners for Industrial Uses; Oil, Grease, Carbon, and Oxide Removers; Rust Removers; Emulsion Cleaners; Metal Cleaners for Household and Industrial Use; Fabric Cleaners; Floor and Wall Cleaners; Hand Cleaners; Absorbent and Slip Prevention Compounds for Floors, Sidewalks, Streets and Driveways; Compositions for Use in the Dry-Cleaning Industry—Namely, Dry-Cleaning Detergent Compositions, Spotters, and Stain Removers (Int. Cls. 3 and 4).  
 First use September 1968.

SN 318,881. Kittle Petersen, d.b.a. Charles L. Adams, Syracuse, N.Y. Filed Feb. 11, 1969.

**ADAMS'**

Owner of Reg. No. 681,703.  
 For Pine Tar Soap (Int. Cl. 3).  
 First use Jan. 27, 1969.

SN 321,754. Bazar, Inc., Portland, Ore. Filed Mar. 14, 1969.



For Household Detergents (Int. Cl. 3).  
 First use March 1966.

SN 327,157. Lethelin Products Co., Inc., Mount Vernon, N.Y. Filed May 13, 1969.

**RANDY**

For Hair Shampoo (Int. Cl. 3).  
 First use Apr. 30, 1969.

**DISCOVER**

Owner of Reg. No. 860,297.  
 For Laundry Detergent (Int. Cl. 3).  
 First use Apr. 1, 1969.

SN 328,430. Lever Brothers Company, New York, N.Y. Filed May 27, 1969.

**STAIN-SOLVE**

For Special Combination of Detergency Boosters Incorporated as an Ingredient in a Household Detergent for General Washing and Cleansing (Int. Cl. 3).  
 First use Apr. 28, 1969.

SN 332,559. Michael P. Taras, d.b.a. Noelle Enterprises, Arlington Heights, Ill. Filed June 17, 1969.



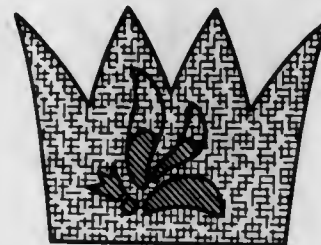
For Cold Water Soap for Delicate Fabrics (Int. Cl. 3).  
 First use Mar. 15, 1969.

SN 335,523. AB Helios Kemisk-Tekniska Fabriker, Stockholm, Sweden. Filed Aug. 18, 1969.



Owner of U.S. Reg. No. 222,136.  
 For Laundry Powder and Household Cleaning Powder for General Cleaning Purposes (Int. Cl. 3).  
 First use June 26, 1969; in commerce June 26, 1969.

SN 335,633. Julius Zalla, d.b.a. Bee-Line Cosmetics of Santa Monica, California, Venice, Calif. Filed Aug. 18, 1969.



The mark consists of a green and gold stylized bee superimposed on a gold crown design. The drawing is lined for the colors gold and green, but color is not claimed as a feature of the mark.  
 For Hair Shampoo (Int. Cl. 3).  
 First use March 1969.

SN 335,634. Julius Zalla, d.b.a. Bee-Line Cosmetics of Santa Monica, California, Venice, Calif. Filed Aug. 18, 1969.  
 SN 347,761. Lien Chemical Company, Franklin Park, Ill. Filed Jan. 5, 1970.

**MINTY BEE**

Applicant disclaims the word "Minty" apart from the overall mark as shown.  
 For Hair Shampoo (Int. Cl. 3).  
 First use March 1969.

SN 336,907. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. Filed Sept. 3, 1969.

**MOIST-ALO**

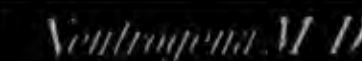
Owner of Reg. No. 831,277.  
 For Bath Gel (Int. Cl. 3).  
 First use Aug. 21, 1969.

SN 337,083. Nomisol Products (Proprietary) Limited, Kempton Park, Republic of South Africa. Filed Sept. 4, 1969.

**NOMISOL**

Owner of South African Reg. No. 61/1,355, dated Apr. 25, 1961.  
 For Combined Cleansing and Bleaching Preparation for Household Use (Int. Cl. 3).

SN 342,936. Natone Company, Santa Monica, Calif. Filed Nov. 7, 1969.



Owner of Reg. Nos. 590,385, 808,965, and others.  
 For Disposable Cleansing Pads Containing a Soap Base Plus Hexachlorophene (Int. Cl. 3).  
 First use Oct. 22, 1969.

SN 346,725. The Cincinnati Milling Machine Company, Cincinnati, Ohio. Filed Dec. 19, 1969.

**MILACRON**

For Cleaning Compound for Industrial Use (Int. Cl. 3).  
 First use Nov. 12, 1969.

**SERVICE MARKS****Class 100 — Miscellaneous**

SN 223,810. Marriott Corporation, Washington, D.C., by change of name from Marriott-Hot Shoppes, Inc., Washington, D.C. Filed July 20, 1965.

**WHEELER DEALER**

For Serving of Foods and Beverages in Restaurants (Int. Cl. 42).  
 First use May 12, 1965.

**GRIMEBUSTER**

Owner of Reg. No. 593,118.  
 For Powdered Hand Soap Containing Lanolin (Int. Cl. 3).  
 First use Apr. 11, 1953.

SN 347,866. The Procter & Gamble Company, Cincinnati, Ohio. Filed Jan. 7, 1970.

**SAN-SO**

Owner of Reg. No. 390,469.  
 For Soap for Personal Use and all Purpose Cleaner (Int. Cl. 3).  
 First use August 1937.

SN 349,429. Professional Aids Corp., Port Washington, N.Y. Filed Jan. 23, 1970.

**VITA-PINE**

For Bath Gel (Int. Cl. 3).  
 First use January 1967.

SN 355,177. Colgate-Palmolive Company, New York, N.Y. Filed Mar. 27, 1970.

**HUSH**

For Fabric Softener (Int. Cl. 3).  
 First use Feb. 6, 1970.

SN 356,551. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 13, 1970.

**SPREE**

Owner of Reg. Nos. 389,695, 856,309, and others.  
 For Detergent With Fabric Softener (Int. Cl. 3).  
 First use Sept. 4, 1969.

SN 293,711. Four Seasons Nursing Centers of America, Inc., Oklahoma City, Okla. Filed S.R. Mar. 20, 1968; Am. P.R. May 13, 1969.



For Operation of Nursing, Convalescent and Extended Care Facilities (Int. Cl. 42).  
 First use Mar. 1, 1966.



SN 300,256. Coffee Plus, Inc., Kansas City, Mo. Filed June 12, 1968.

## COFFEE PLUS

Applicant disclaims the term "Coffee," apart from the mark as shown, without prejudice to its common law rights to the composite mark.

For Providing and Maintaining Food and Beverage Dispensing Equipment and Food Supplies for Business, Industrial, Office, and Institutional Establishments (Int. Cl. 42).  
First use Sept. 1, 1964.

SN 305,870. Amicon Corporation, Lexington, Mass. Filed Aug. 28, 1968.

# amicon

For Consulting, Research, and Development Services in the Field of Chemistry and Chemical and/or Industrial Engineering (Int. Cl. 42).

First use Dec. 11, 1962.

SN 313,689. Electrical Apparatus Service Association, Inc., St. Louis, Mo. Filed Dec. 5, 1968.

## EASA

For Association Services—Namely, Promoting the Interests of Those in the Electrical Apparatus Service Industry, by Issuing Publications, Conducting Seminars and Training Programs, Collecting and Disseminating Various Industry Information, etc. (Int. Cl. 42).  
First use Apr. 1, 1961.

SN 318,409. Editors Inc., Pepper Pike, Ohio. Filed Feb. 5, 1969.



The mark comprises a fanciful representation of a typewriter and the letters "ei."

For Providing Technical Writing Service to Others (Int. Cl. 42).

First use June 20, 1968.

SN 321,295. U-Cruise-It International, Inc., Pompano Beach, Fla. Filed Mar. 10, 1969.

## U-CRUISE-IT

For Boat Rental and Leasing Services (Int. Cl. 42).  
First use at least as early as Feb. 10, 1969.

SN 332,470. Flight Safety Foundation, Inc., Arlington, Va. Filed July 14, 1969.



For Association Services—Namely, Promoting Aviation Safety in the Interest of the Aviation Industry and the General Public (Int. Cl. 42).

First use May 1968; September 1956, as to "FSF."

SN 336,631. John A. Pace, Dallas, Tex. Filed Aug. 29, 1969.

## MISS KEBAB

Applicant disclaims the word "Kebab" apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).

First use at least as early as September 1967.

SN 339,320. Hangtown Beef, Inc., Reno, Nev. Filed Sept. 30, 1969.



The mark comprises, in part, a fanciful representation of the letters "HT."

For Restaurant Services (Int. Cl. 42).

First use July 19, 1969.

SN 342,371. Medichex, Inc., Cherry Hill, N.J. Filed Nov. 3, 1969.

## Medichex

For Taking and Collection of Biological Data and Specimens From Human Beings by the Use of Automated Computer-Based Equipment and Paramedical Personnel in Order to Assist Physicians in Medical Diagnosis of Patients (Int. Cl. 42).

First use Aug. 4, 1969.

SN 347,793. Sundae Junction, Inc., Richmond, Va. Filed Jan. 5, 1970.

## SUNDAE JUNCTION

The word "Sundae" is disclaimed apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).

First use Apr. 21, 1969.

## Class 101—Advertising and Business

SN 272,271. Glendinning Companies, Inc., Westport, Conn. Filed May 24, 1967.

## SURE THINGO

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).

First use Jan. 18, 1967.

SN 287,734. Haskins & Sells, New York, N.Y. Filed Dec. 28, 1967.

## AUDITAPE

For Computer Programming Services Rendered in the Field of Accounting (Int. Cl. 35).

First use Mar. 31, 1967.

SN 291,723. Fairfax, Inc., New York, N.Y. Filed Feb. 23, 1968.

## MAIL BOX U.S.A.

For Preparation of Advertisements and Collating Advertisements for Inclusion in Inserts in National Publication Media (Int. Cl. 35).

First use Jan. 21, 1968.

SN 300,437. Dunhill Personnel Systems, Inc., New York, N.Y., assignee of Dunhill Personnel Agency, Inc., New York, N.Y. Filed June 14, 1968.



Owner of Reg. No. 770,947.

For Employment Agency Services (Int. Cl. 35).

First use on or about Apr. 1, 1968.

SN 312,687. James Pair, Inc., Atlanta, Ga. Filed Nov. 20, 1968.



For Employment Agency Services (Int. Cl. 35).  
First use in or about November 1953.

SN 313,452. E. Ralph Sims, Jr., d.b.a. E. Ralph Sims, Jr. and Associates, Lancaster, Ohio. Filed Dec. 2, 1968.

## SIMSCODER

For Management Consulting Services Offering Consulting Services to Various Institutions and Businesses Concerning a Universal Numerical Language Which Language Provides Access to Pertinent Management Information or Product Information at any Operating Level or Control Point (Int. Cl. 35).

First use on or about Aug. 1, 1968.

SN 315,053. Chalet Susse International, Inc., Nashua, N.H., assignee of Chalet Management Company of America, Inc., Nashua, N.H. Filed Dec. 23, 1968.

## SUSSE

For Rendering Technical Assistance to Others in the Area of Motel Services (Int. Cl. 35).  
First use July 1968.

SN 318,673. Patterson International Corporation, Cincinnati, Ohio. Filed Feb. 7, 1969.

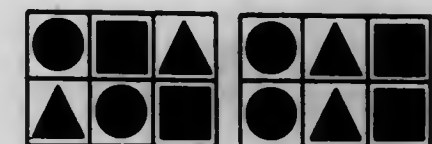
## NATIONAL FOOSBALL ASSOCIATION

Without waiver of common law rights, exclusive rights in the word "Association" are disclaimed apart from the mark as shown.

For Promoting the Establishment of Miniaturized, Coin-Operated Soccer Game Concessions and Advising, Instructing, and Financially Assisting in the Operation Thereof (Int. Cl. 35).

First use Feb. 1, 1965.

SN 318,701. Computer Media, Inc., New York, N.Y. Filed Feb. 10, 1969.



For Consulting and Operational Services Rendered to Those Operating in the Field of Data Processing (Int. Cl. 35).  
First use July 5, 1968.



SN 321,682. Multicomp Inc., Waltham, Mass., by change of name from Multi Access Computing, Inc., Waltham, Mass. Filed Mar. 13, 1969.

## MULTICOMP

For Computer Services—Namely, Timesharing and Computer Programming Services (Int. Cl. 35).  
First use May 3, 1968.

SN 321,788. Fashion-Thimble Shoe Company, Inc., St. Louis, Mo. Filed Mar. 14, 1969.

## SO-LO

For Retail Self-Service Shoe Store Services (Int. Cl. 35).  
First use Dec. 3, 1968.

SN 322,128. GAF Corporation, New York, N.Y. Filed Mar. 19, 1969.



Owner of Reg. Nos. 509,124, 837,005, and others.  
For Promoting the Sale of Goods of Photographic Dealers by Providing to Photographic Dealers Advertising Copy, Advertising Mats, and Aid in Placing Advertisements (Int. Cl. 35).  
First use Feb. 24, 1969.

SN 324,739. Jack O'Grady Studios, Inc., Chicago, Ill. Filed Apr. 16, 1969.



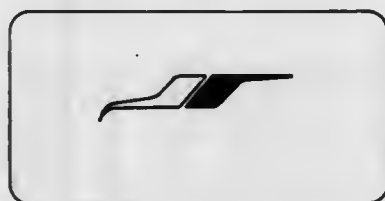
For Advertising Art Services (Int. Cl. 35).  
First use April 1966.

SN 329,757. Quickprint, Inc., Toledo, Ohio. Filed June 11, 1969.



For Duplicating Services (Int. Cl. 35).  
First use Aug. 2, 1968.

SN 331,689. Avitron Corporation, Upper Saddle River, N.J. Filed July 3, 1969.



For Tax and Financial Consulting Services to Companies in the Aviation Industry (Int. Cl. 35).  
First use Jan. 13, 1969.

SN 337,217. The Drug House, Inc., Philadelphia, Pa. Filed Sept. 8, 1969.



The mark comprises a mortar and pestle.  
For Distribution Services in the Fields of Drugs, Pharmaceuticals, Toiletries and Cosmetics (Int. Cl. 35).  
First use Jan. 3, 1966.

SN 343,473. Regensteiner Publishing Enterprises, Inc., Chicago, Ill. Filed Nov. 14, 1969.

## CHICAGO COMPHOTYPE

Without waiving any of its common law rights, applicant disclaims the word "Chicago" apart from the mark as shown.  
For Photo Typesetting (Int. Cl. 35).  
First use on or about June 16, 1969.

SN 343,474. Regensteiner Publishing Enterprises, Inc., Chicago, Ill. Filed Nov. 14, 1969.



The mark comprises a fanciful representation of the letters "CCT."  
For Photo Typesetting (Int. Cl. 35).  
First use on or about June 16, 1969.

## Class 102 — Insurance and Financial

SN 292,033. White & Winston, Inc., New York, N.Y. Filed Feb. 27, 1968.

## WHERE THE BROKERS ALWAYS WRITE

For Insurance Brokerage Services and Services in the Form of Consultation in the Field of Insurance (Int. Cl. 35).  
First use 1953.

SN 324,079. Monarch Life Insurance Company, Springfield, Mass. Filed Apr. 9, 1969.



For Underwriting Life, Health, and Retirement Income Insurance (Int. Cl. 36).  
First use Mar. 25, 1969.

SN 340,089. First Realty Investment Corporation, Miami Beach, Fla. Filed Oct. 8, 1969.



The drawing comprises a fanciful representation of the letters "FRI."  
For Providing Financing and Related Financial Services for Land Development to the Real Estate Construction and Development Industry (Int. Cl. 36).  
First use June 20, 1969.

## Class 103 — Construction and Repair

SN 293,712. Four Seasons Nursing Centers of America, Inc., Oklahoma City, Okla. Filed S.R. Mar. 20, 1968; Am. P.R. May 13, 1969.



For Construction of Nursing, Convalescent and Extended Care Facilities for Others (Int. Cl. 37).  
First use Mar. 1, 1966.

## Class 104 — Communication

SN 341,903. Broadcasting and Television System, Inc., El Paso, Tex. Filed Oct. 28, 1969.



For Radio and Television Broadcasting Services (Int. Cl. 38).  
First use July 21, 1969.

## Class 105 — Transportation and Storage

SN 313,106. I.T.C. International Travel Corporation, Arlington, Va. Filed Nov. 26, 1968.

## I.T.C. INTERNATIONAL TRAVEL CORPORATION

Applicant disclaims any exclusive rights in and to the words "International Travel Corporation" apart from the mark. Owner of Reg. No. 883,104.  
For Travel Touring Service (Int. Cl. 39).  
First use July 1968.

## CUSHION CAR—A SOFT TOUCH FOR FREIGHT

The words "Cushion Car" are disclaimed apart from the mark as shown without abandoning any common law rights in mark in its entirety.  
For Transportation Service by Rail Transportation of Freight (Int. Cl. 39).  
First use July 20, 1969.

## Class 106 — Material Treatment

SN 294,978. Southern Oregon Color Processors, Phoenix, Ore. Filed Apr. 4, 1968.



The pictorial representation of a camera is disclaimed apart from the mark shown.  
For Photographic Finishing Service (Int. Cl. 40).  
First use Mar. 17, 1967.

## Class 107 — Education and Entertainment

SN 329,389. The Society Ordinastral, Yvelines, France. Filed June 6, 1969.

## ASTROFLASH

Owner of French Reg. No. 740,700, dated May 2, 1968.  
For Individualized Astrological Study Services (Int. Cl. 41).

SN 329,521. Smoke Stoppers Inc., New York, N.Y. Filed June 9, 1969.



For Training and Instructional Services Intended to Induce Termination of the Smoking Habit, Including Dissemination and Distribution of Materials Promoting and Identifying Said Services (Int. Cl. 41).  
First use May 1, 1969; Oct. 13, 1968, as to "Smoke Stoppers."



SN 331,562. Clairol Inc. of Canada, Montreal, Quebec, Canada. Filed July 1, 1969.

**BIG SURF**

Priority claimed under Sec. 44(d) on Canadian application, filed Jan. 2, 1969; Reg. No. 166,090, dated Nov. 7, 1969. For Providing Facilities for Sports, Exercise, and Recreation (Int. Cl. 41).

SN 337,477. Norman P. Aldred, McMinnville, Oreg. Filed Sept. 10, 1969.

**THE MORNING MAYOR**

For Entertainment and Information Service—Namely, Local News and Information Program Rendered Through the Medium of Radio (Int. Cl. 41).  
First use on or about October 1953.

SN 341,497. The Turtles, Beverly Hills, Calif. Filed Oct. 28, 1969.

**THE TURTLES**

For Musical Entertainment Services Rendered by a Group (Int. Cl. 41).  
First use May 24, 1965.

SN 349,795. Walt Disney Productions, Burbank, Calif. Filed Jan. 28, 1970.

**ADVENTURELAND**

For Providing Participation Type Entertainment in an Amusement and Educational Park (Int. Cl. 41).  
First use July 17, 1955.

**COLLECTIVE MEMBERSHIP MARKS****Class 200**

SN 285,446. National Association of Women in Construction, Dallas, Tex. Filed Nov. 22, 1967.

**WIC**

For Indicating Membership in Applicant Association.  
First use on or about June 1, 1954.

**TRADEMARK REGISTRATIONS ISSUED****PRINCIPAL REGISTER****Class 1—Raw or Partly Prepared Materials**

- 894,852. HOECHST. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. MULTIPLE CLASS (Classes 1, 4, 5, 6, 10, 12, 16, 18, 44, 46, and 52). SN 287,332. Pub. 5-5-70. Filed 12-21-67.
- 894,853. TENAC. Chicago Mastic Company. SN 292,082. Pub. 12-30-69. Filed 2-28-68.
- 894,854. HY-LINE. Pioneer Hi-Bred Corn Company. SN 319,943. Pub. 5-5-70. Filed 2-24-69.
- 894,855. AURORA. United Chinchilla Associates, Inc. SN 323,175. Pub. 5-5-70. Filed 3-28-69.
- 894,856. EAGLE BRAND AND DESIGN. American Modoc, Inc., d.b.a. Redwood-Pacific Co. SN 329,325. Pub. 5-5-70. Filed 6-6-69.
- 894,857. DI-SEKTO. The Mogul Corporation. SN 330,170. Pub. 5-5-70. Filed 6-16-69.
- 894,858. QUEENSLAND. Docktor Pet Centers, Inc., d.b.a. Docktor's. SN 331,595. Pub. 5-5-70. Filed 7-2-69.
- 894,859. BURKRON. Textron, Inc. SN 331,779. Pub. 5-5-70. Filed 7-3-69.
- 894,860. SHAVER MINICROSS. Shaver Poultry Breeding Farms Limited. SN 332,156. Pub. 5-5-70. Filed 7-9-69.
- 894,861. MONOPOL. Indpol. SN 332,352. Pub. 5-5-70. Filed 7-11-69.
- 894,862. ADAPHAX. American Cyanamid Company. SN 332,906. Pub. 5-5-70. Filed 7-18-69.
- 894,863. ANSILEX. Engelhard Minerals & Chemicals Corporation. SN 346,689. Pub. 5-5-70. Filed 12-19-69.

**Class 2—Receptades**

- 894,864. GULF STATES PLASTICS. Gulf States Paper Corporation. SN 323,895. Pub. 2-3-70. Filed 4-1-69.
- 894,865. SUNBEAM. Sunbeam Corporation. SN 342,909. Pub. 5-5-70. Filed 11-6-69.
- 894,866. WEATHERPAK. Continental Can Company, Inc. SN 342,957. Pub. 5-5-70. Filed 11-7-69.
- 894,867. REDI-RAK. Vision Wrap Industries, Inc. SN 343,342. Pub. 5-5-70. Filed 11-12-69.
- 894,868. WIRE-LITE. Cumberland Corporation. SN 343,390. Pub. 5-5-70. Filed 11-13-69.

**Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks**

- 894,869. THE VILLAGER COLLECTOR. Villager Industries, Inc. MULTIPLE CLASS (Classes 3 and 39). SN 316,856. Pub. 3-17-70. Filed 1-17-69.
- 894,870. VERA. Scarves by Vera, Inc. SN 340,828. Pub. 5-5-70. Filed 10-15-69.

**Class 4—Abrasives and Polishing Materials**

- 894,852. (See Class 1 for this trademark.)
- 894,871. NPI. Nutrilite Products, Inc. SN 281,102. Pub. 5-5-70. Filed 9-25-67.

894,872. BIRCHWOOD CASEY. Fuller Laboratories, Inc. MULTIPLE CLASS (Classes 4, 6, 16, and 52). SN 310,083. Pub. 5-5-70. Filed 10-21-68.

**Class 5—Adhesives**

- 894,852. (See Class 1 for this trademark.)
- 894,873. DECOBOND. Reichhold Chemicals, Inc. SN 338,494. Pub. 5-5-70. Filed 9-22-69.
- 894,874. RELEASTICK. The Valspar Corporation. SN 341,870. Pub. 5-5-70. Filed 10-27-69.

**Class 6—Chemicals and Chemical Compositions**

- 894,852. (See Class 1 for this trademark.)
- 894,872. (See Class 4 for this trademark.)
- 894,875. MONO. Standard Industrial Minerals, Inc. SN 288,548. Pub. 7-15-69. Filed 1-10-68.
- 894,876. GIVAUDAN. Givaudan Corporation. SN 311,484. Pub. 5-5-70. Filed 11-6-68.
- 894,877. DOW CORNING 510. Dow Corning Corporation. SN 316,712. Pub. 5-5-70. Filed 1-16-69.
- 894,878. DOW CORNING 550. Dow Corning Corporation. SN 316,713. Pub. 5-5-70. Filed 1-16-69.
- 894,879. DOW CORNING 702. Dow Corning Corporation. SN 316,714. Pub. 5-5-70. Filed 1-16-69.
- 894,880. DOW CORNING 704. Dow Corning Corporation. SN 316,715. Pub. 5-5-70. Filed 1-16-69.
- 894,881. DOW CORNING 705. Dow Corning Corporation. SN 316,716. Pub. 5-5-70. Filed 1-16-69.
- 894,882. DICURAN. Ciba Limited. SN 317,315. 2-10-70. Filed 1-23-69.
- 894,883. SIGNAL. Murray L. Kaz, d.b.a. Zak Co. SN 318,054. Pub. 2-17-70. Filed 1-31-69.
- 894,884. AGRI-STOCK. M.F.A. Oil Company. SN 324,824. Pub. 5-5-70. Filed 4-17-69.
- 894,885. LWS. Olin Mathieson Chemical Corporation. SN 325,137. Pub. 5-5-70. Filed 4-22-69.
- 894,886. P POVITE AND DESIGN. Poviet Producten, N.V. SN 325,553. Pub. 5-5-70. Filed 4-25-69.
- 894,887. APACHI. Air Products and Chemicals, Inc. SN 325,944. Pub. 5-5-70. Filed 4-30-69.
- 894,888. CALIMER. Pilot Chemical Company. SN 326,122. Pub. 5-5-70. Filed 5-1-69.
- 894,889. CALIPOL. Pilot Chemical Company. SN 326,123. Pub. 5-5-70. Filed 5-1-69.
- 894,890. CALFLOOR. Pilot Chemical Company. SN 326,124. Pub. 5-5-70. Filed 5-1-69.
- 894,891. NUVANOL. Ciba Limited. SN 326,352. Pub. 3-3-70. Filed 5-5-69.
- 894,892. INSTANT BANANA PEEL. The Western Company of North America, d.b.a. The Western Company. SN 330,228. Pub. 5-5-70. Filed 6-16-69.
- 894,893. CYTROLANE. American Cyanamid Company. SN 330,684. Pub. 5-5-70. Filed 6-23-69.
- 894,894. GELISONDE. Hoffmann-La Roche Inc. SN 330,747. Pub. 5-5-70. Filed 6-23-69.



### Class 8—Smokers' Articles, Not Including Tobacco Products

894,895. NEWPORT AND DESIGN. Lorillard Corporation. SN 318,063. Pub. 5-5-70. Filed 1-31-69.

### Class 9—Explosives, Firearms, Equipments, and Projectiles

894,896. TIMEMASTER. Atlas Chemical Industries, Inc. SN 344,315. Pub. 5-5-70. Filed 11-24-69.

894,897. LOCKHEED. Lockheed Aircraft Corporation. SN 344,560. Pub. 5-5-70. Filed 11-25-69.

### Class 10—Fertilizers

894,852. (See Class 1 for this trademark.)

### Class 12—Construction Materials

894,852. (See Class 1 for this trademark.)

894,898. ALLIED FENCE AND DESIGN. Allied Fence Corp., assignee of Allied Chain Link Fence Co., Inc. MULTIPLE CLASS (Classes 12 and 13). SN 250,918. Pub. 5-13-69. Filed 7-25-66.

894,899. FYR-BAN. Niedermeyer-Martin Company. SN 278,158. Pub. 8-13-68. Filed 8-14-67.

894,900. SIEMCRETE. Siemens-Bauunion G.m.b.H. SN 287,836. Pub. 5-5-70. Filed 12-29-67.

894,901. SAN-A-JUST. Sidney Sachs. SN 316,140. Pub. 5-5-70. Filed 1-8-69.

894,902. PACESETTER. United States Ceramic Tile Company. SN 317,985. Pub. 11-25-69. Filed 1-30-69.

894,903. THERMOLAM. Simpson Timber Company. SN 325,144. Pub. 2-3-70. Filed 4-22-69.

894,904. DUREL. Scovill Manufacturing Company. SN 331,131. Pub. 1-20-70. Filed 6-27-69.

894,905. BREAD BOX. Bread Box Mfg., Inc. SN 341,788. Pub. 5-5-70. Filed 10-27-69.

894,906. BENCHMARK. General Products Company Incorporated. SN 344,369. Pub. 5-5-70. Filed 11-24-69.

894,907. MEDALIST. Atlas Rubber, Inc. SN 344,614. Pub. 5-5-70. Filed 11-26-69.

### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

894,898. (See Class 12 for this trademark.)

894,908. AKRON. American Standard Inc. SN 324,672. Pub. 5-5-70. Filed 4-16-69.

894,909. GALLERY 7 AND DESIGN. Eastern Products Corporation. SN 327,372. Pub. 5-5-70. Filed 5-15-69.

894,910. POLYCRIMP. The Lindsay Wire Weaving Company. SN 329,873. Pub. 5-5-70. Filed 6-12-69.

894,911. LINDAPTER. Henry Lindsay Limited. SN 331,046. Pub. 5-5-70. Filed 6-26-69.

894,912. LINDIBOLT. Henry Lindsay Limited. SN 331,047. Pub. 5-5-70. Filed 6-26-69.

894,913. TMI. Technical Materials, Inc. SN 341,086. Pub. 5-5-70. Filed 10-15-69.

### Class 15—Oils and Greases

894,914. GLISSEAL. Anton Borer. SN 331,014. Pub. 5-5-70. Filed 6-26-69.

894,915. W AND DESIGN. Williamsburg Soap and Candle Co. SN 337,994. Pub. 5-5-70. Filed 9-15-69.

894,916. LIGREN. Standard Oil Company. SN 347,007. Pub. 5-5-70. Filed 12-23-69.

### Class 16—Protective and Decorative Coatings

894,852. (See Class 1 for this trademark.)

894,872. (See Class 4 for this trademark.)

894,917. DASCO ARC. D. A. Stuart Oil Co., Limited. SN 314,469. Pub. 5-5-70. Filed 12-13-68.

### Class 17—Tobacco Products

894,918. EL COROJO. Daniel Rodriguez and Diego Rodriguez (firm), d.b.a. Daniel and/or Diego Rodriguez. SN 284,127. Pub. 5-5-70. Filed 10-12-67.

894,919. HUMI-FOIL POUCH. R. J. Reynolds Tobacco Company. SN 322,684. Pub. 5-5-70. Filed 3-25-69.

894,920. CIGUARDS. Consolidated Cigar Corporation. SN 326,503. Pub. 2-10-70. Filed 5-6-69.

### Class 18—Medicines and Pharmaceutical Preparations

894,852. (See Class 1 for this trademark.)

894,921. HOSPITALITY. A. R. Williams & Co. SN 298,496. Pub. 5-5-70. Filed 5-20-68.

894,922. STIM-U-CAP. Dee Cee Laboratories, Inc. SN 312,534. Pub. 5-5-70. Filed 11-14-68.

894,923. ESSENTIALE 303 NATTERMANN. A. Nattermann & Cie. G.m.b.H. SN 321,528. Pub. 5-5-70. Filed 3-12-69.

894,924. RIASOL. Shield Laboratories, Inc. SN 323,966. Pub. 5-5-70. Filed 4-7-69.

894,925. BOSOM BUDDY. The Hamilton Pharmacal Company, Inc. SN 324,063. Pub. 5-5-70. Filed 4-9-69.

894,926. AUREO S 700 AND DESIGN. American Cyanamid Company. SN 325,561. Pub. 5-5-70. Filed 4-25-69.

894,927. KOLADEX. Custom/Laboratories Incorporated. SN 325,586. Pub. 5-5-70. Filed 4-25-69.

894,928. RETINEX. Johnson & Johnson. SN 326,237. Pub. 5-5-70. Filed 5-2-69.

894,929. ROFAY. Max J. Gruhn, d.b.a. Rofay Products. SN 326,875. Pub. 5-5-70. Filed 5-9-69.

894,930. CAGE-CHIK. Agway, Inc. SN 331,302. Pub. 5-5-70. Filed 6-30-69.

894,931. THEX. Ingram Pharmaceutical Co. SN 338,717. Pub. 5-5-70. Filed 9-24-69.

894,932. STIMOVUL. Organon Inc. SN 339,512. Pub. 3-17-70. Filed 10-2-69.

### Class 19—Vehicles

894,933. MOLDED PRODUCTS CO. AND DESIGN. Molded Products Co. SN 309,979. Pub. 5-5-70. Filed 10-18-68.

894,934. RAMCHARGERS. Ramchargers Racing Engines Inc. MULTIPLE CLASS (Classes 19 and 23). SN 323,507. Pub. 12-30-69. Filed 4-3-69.

894,935. LITTLE RED WAGON. M & W Gear Company. SN 333,727. Pub. 5-5-70. Filed 7-28-69.

894,936. FISH DESIGN. American Machine & Foundry Company. SN 339,830. Pub. 5-5-70. Filed 10-6-69.

894,937. TOPY. Topy Industries Limited. SN 340,687. Pub. 5-5-70. Filed 10-14-69.

894,938. CROWN COMMANDER. Ungers Coach Company. SN 346,329. Pub. 5-5-70. Filed 12-15-69.

894,939. THE DURA-BIKE. K-C Mfg. Co., Inc. SN 347,164. Pub. 5-5-70. Filed 12-29-69.

### Class 21—Electrical Apparatus, Machines, and Supplies

894,940. STROMBERG AND DESIGN. Mite Corporation. MULTIPLE CLASS (Classes 21, 26, and 27). SN 302,432. Pub. 5-5-70. Filed 7-10-68.

894,941. EASTERN. General Battery Corporation, by change of name from General Battery and Ceramic Corp. SN 308,614. Pub. 5-5-70. Filed 10-1-68.

894,942. SIGNET. Superior Continental Corporation. SN 312,708. Pub. 12-30-69. Filed 11-20-68.

894,943. COMPULOGIC. Computer Products, Inc. SN 339,141. Pub. 5-5-70. Filed 9-29-69.

894,944. A AND DESIGN. Bat Aero, Inc. SN 341,357. Pub. 5-5-70. Filed 10-22-69.

894,945. MISCELLANEOUS DESIGN. Gen-Rite Auto Electric, Inc. SN 341,809. Pub. 5-5-70. Filed 10-27-69.

894,946. LEVERWHEEL AND DESIGN. Cherry Electrical Products Corporation. SN 343,255. Pub. 5-5-70. Filed 11-12-69.

### Class 22—Games, Toys, and Sporting Goods

894,947. EFFORTLESS EXERCISER. Information, Incorporated. SN 289,404. Pub. 5-5-70. Filed 1-23-68.

894,948. HAPPY JACK. Romper Room Enterprises, Inc., assignee of Romper Room, Inc. SN 294,209. Pub. 5-5-70. Filed 3-26-68.

894,949. DESIGN OF BOWLING BALL SIGHTING DEVICE. Raybestos-Manhattan, Inc. SN 298,353. Pub. 5-5-70. Filed 5-16-68.

894,950. MAGIC CARPET SLIDE AND DESIGN. Magic Carpet Slide Sales Corporation. SN 302,337. Pub. 1-6-70. Filed 7-9-68.

894,951. OBOL. Henk Visser, d.b.a. Henk Visser Sporting Goods. SN 311,871. Pub. 5-5-70. Filed 11-12-68.

894,952. SCUBA COM AND DESIGN. Ord Alexander Associates, Inc. SN 315,676. Pub. 5-5-70. Filed 12-17-68.

894,953. C P SWING. C. P. Swing, Inc. SN 317,771. Pub. 5-5-70. Filed 1-28-69.

894,954. STICKLE BRICKS AND DESIGN. Denys Fisher Toys Limited. SN 318,767. Pub. 5-5-70. Filed 2-10-69.

894,955. VANPAC V AND GLOBE DESIGN. Vanport Pacific Inc. SN 319,522. Pub. 5-5-70. Filed 2-18-69.

894,956. AMERICA THE BEAUTIFUL. The Franklin Mint, Inc. SN 320,478. Pub. 5-5-70. Filed 3-3-69.

894,957. WONDERS OF AMERICA. The Franklin Mint, Inc. SN 320,484. Pub. 5-5-70. Filed 3-3-69.

894,958. AMERICAN LANDMARKS. The Franklin Mint, Inc. SN 320,487. Pub. 5-5-70. Filed 3-3-69.

894,959. FAMOUS SIGHTS. The Franklin Mint, Inc. SN 320,490. Pub. 5-5-70. Filed 3-3-69.

894,960. HISTORY OF FLIGHT. The Franklin Mint, Inc. SN 320,496. Pub. 5-5-70. Filed 3-3-69.

894,961. ROAD TO THE FUTURE. The Franklin Mint, Inc. SN 320,502. Pub. 5-5-70. Filed 3-3-69.

894,962. SATELLITES AND PRIZES. The Franklin Mint, Inc. SN 320,511. Pub. 5-5-70. Filed 3-3-69.

894,963. HISTORY IN ACTION. The Franklin Mint, Inc. SN 320,514. Pub. 5-5-70. Filed 3-3-69.

894,964. TOUR THROUGH HISTORY. The Franklin Mint, Inc. SN 320,520. Pub. 5-5-70. Filed 3-3-69.

894,965. GREAT EXPLORERS. The Franklin Mint, Inc. SN 320,523. Pub. 5-5-70. Filed 3-3-69.

894,966. GREAT EXPLORATIONS. The Franklin Mint, Inc. SN 320,526. Pub. 5-5-70. Filed 3-3-69.

894,967. GREAT DISCOVERERS. The Franklin Mint, Inc. SN 320,532. Pub. 5-5-70. Filed 3-3-69.

894,968. GREAT INVENTORS. The Franklin Mint, Inc. SN 320,535. Pub. 5-5-70. Filed 3-3-69.

894,969. CAVALCADE OF SPORTS. The Franklin Mint, Inc. SN 320,546. Pub. 5-5-70. Filed 3-3-69.

894,970. MAN OF THE YEAR. The Franklin Mint, Inc. SN 320,552. Pub. 5-5-70. Filed 3-3-69.

894,971. HEROES OF THE WEST. The Franklin Mint, Inc. SN 320,555. Pub. 5-5-70. Filed 3-3-69.

894,972. GREAT STARS. The Franklin Mint, Inc. SN 320,558. Pub. 5-5-70. Filed 3-3-69.

894,973. HISTORY MAKERS. The Franklin Mint, Inc. SN 320,561. Pub. 5-5-70. Filed 3-3-69.

894,974. AMERICAN PATRIOTS. The Franklin Mint, Inc. SN 320,567. Pub. 5-5-70. Filed 3-3-69.

894,975. REVOLUTIONARY HEROES. The Franklin Mint, Inc. SN 320,574. Pub. 5-5-70. Filed 3-3-69.

894,976. T TUPPERWARE TOYS AND DESIGN. Dart Industries Inc., by change of name from Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 321,273. Pub. 5-5-70. Filed 8-10-69.

894,977. BALLOON OLYMPICS. Miner Industries, Inc. SN 322,319. Pub. 5-5-70. Filed 3-20-69.

894,978. LOOPY HOOP. Skor-Mor Corporation. SN 322,490. Pub. 5-5-70. Filed 3-21-69.

894,979. MICRO FIT. Riddell, Inc. SN 323,597. Pub. 5-5-70. Filed 4-3-69.

894,980. CHEVRON. Eaton Yale & Towne Inc. SN 326,365. Pub. 1-20-70. Filed 5-5-69.

894,981. ASTRO-COIN. The Franklin Mint, Inc. SN 327,257. Pub. 5-5-70. Filed 5-14-69.

894,982. BALOBA! Absolutely Free Unlimited. SN 329,192. Pub. 5-5-70. Filed 6-5-69.

894,983. CHATTER-BUGGIES. Mattel, Inc. SN 345,244. Pub. 5-5-70. Filed 12-4-69.

894,984. CLANGY-CLANGER. Mattel, Inc. SN 345,247. Pub. 5-5-70. Filed 12-4-69.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

894,934. (See Class 19 for this trademark.)

894,985. SIGMA AND DESIGN. Scambia Industrial Developments Aktiebolaget, Aktiengesellschaft, assignee of Technicuria AG. SN 271,294. Pub. 10-7-69. Filed 5-11-67.

894,986. DAIRY-FORM. Midland-Ross Corporation. SN 293,733. Pub. 5-5-70. Filed 3-20-68.

894,987. UNICLONE. Universal Oil Products Company. SN 302,786. Pub. 12-2-69. Filed 7-15-68.



- 894,988. UTM. Jackson Products Company. SN 305,139. Pub. 5-5-70. Filed 8-14-68.
- 894,989. VIBRAJET. Plant Protection Limited. SN 306,070. Pub. 5-5-70. Filed 8-27-68.
- 894,990. K AND DESIGN. Petrus Johannes Aloysius de Kinkelder. SN 317,672. Pub. 5-5-70. Filed 11-18-68.
- 894,991. KOMAREK-GREAVES. Berwind Corporation. SN 326,885. Pub. 5-5-70. Filed 5-9-69.
- 894,992. X AND DESIGN. Ermanco Incorporated. SN 337,647. Pub. 5-5-70. Filed 9-11-69.
- 894,993. AGRI KING. J. I. Case Company. SN 340,120. Pub. 5-5-70. Filed 10-8-69.
- 894,994. SEALED POWER. Sealed Power Corporation. SN 340,226. Pub. 5-5-70. Filed 10-9-69.
- 894,995. JAC-JIB. "Automatic" Sprinkler Corporation of America. SN 341,005. Pub. 5-5-70. Filed 10-17-69.
- 894,996. MISCELLANEOUS DESIGN. Sealed Power Corporation. SN 341,117. Pub. 5-5-70. Filed 10-20-69.
- 894,997. MERCO. Dorr-Oliver Incorporated. SN 341,268. Pub. 5-5-70. Filed 10-21-69.
- 894,998. HI-LO. HI-Lo Manufacturing Company. SN 341,924. Pub. 5-5-70. Filed 10-28-69.
- 894,999. CHECK-O-GRAPH. William W. Maloney, d.b.a. Check-O-Graph Checkwriter Co. SN 341,933. Pub. 5-5-70. Filed 10-28-69.
- 895,000. MERCO AND DESIGN. Dorr-Oliver Incorporated. SN 344,350. Pub. 5-5-70. Filed 11-24-69.
- 895,001. DRYAD. Dryad Limited. SN 346,559. Pub. 5-5-70. Filed 12-18-69.
- 895,002. MINIMISER. Engls Equipment Company. SN 347,808. Pub. 5-5-70. Filed 1-6-70.
- 895,018. MERCURY. Mercury Instruments, Inc. SN 337,452. Pub. 5-5-70. Filed 9-9-69.
- 895,019. CAPACILINE. Barber-Colman Company. SN 337,510. Pub. 5-5-70. Filed 9-10-69.
- 895,020. MINI-MATE. Universal Graphics Corporation. SN 338,198. Pub. 5-5-70. Filed 9-17-69.
- 895,021. OFFICE MASTER. Litton Business Systems, Inc. SN 338,413. Pub. 5-5-70. Filed 9-19-69.
- 895,022. ILLITRON. Illinois Tool Works Inc. SN 338,638. Pub. 5-5-70. Filed 9-22-69.
- 895,023. FLUROSPOT. Eastman Kodak Company. SN 338,667. Pub. 5-5-70. Filed 9-23-69.
- 895,024. JUST-RITE. Commodity Marketers, Inc. SN 338,890. Pub. 5-5-70. Filed 9-25-69.
- 895,025. DUPLEX ELECTRO-PULSE. Honeywell Inc. SN 339,185. Pub. 5-5-70. Filed 9-29-69.
- 895,026. AUTO-YARD. J. Warren Hovorka. SN 339,186. Pub. 5-5-70. Filed 9-29-69.
- 895,027. NEWS-LINE. Powers Chemco, Inc., d.b.a. Chemco Photoproducts Company. SN 339,223. Pub. 5-5-70. Filed 9-29-69.
- 895,028. STATI-TESTER. Most Associates, Inc. SN 339,345. Pub. 5-5-70. Filed 9-30-69.
- 895,029. COMMAND 690. Industrial Computer Laboratories, Inc. SN 340,556. Pub. 5-5-70. Filed 10-13-69.
- 895,030. SERVIVAR. Ambac Industries, Inc. SN 341,004. Pub. 5-5-70. Filed 10-17-69.
- 895,031. VEEDER-ROOT. Veeder Industries Inc. SN 343,195. Pub. 5-5-70. Filed 11-10-69.
- 895,032. MAGNON. Ogino Boeki Co., Ltd. SN 343,417. Pub. 5-5-70. Filed 11-13-69.
- 895,033. ROCOM. Hoffmann-La Roche Inc. MULTIPLE CLASS (Classes 26 and 36). SN 347,136. Pub. 5-5-70. Filed 12-29-69.

## Class 26—Measuring and Scientific Appliances

- 894,940. (See Class 21 for this trademark.)
- 895,003. ISI (DESIGN). Integrated Systems, Incorporated. SN 304,094. Pub. 5-5-70. Filed 8-1-68.
- 895,004. GROSS. Gross Cash Registers, Limited. SN 305,045. Pub. 5-5-70. Filed 8-13-68.
- 895,005. TL AND DESIGN. Tinsley Laboratories, Inc. SN 310,505. Pub. 5-5-70. Filed 10-24-68.
- 895,006. STRIPPIT C/C. Houdaille Industries, Inc. SN 314,074. Pub. 5-5-70. Filed 12-10-68.
- 895,007. MIX-GARD. Graymills Corporation. SN 316,429. Pub. 5-5-70. Filed 1-13-69.
- 895,008. SECURITY ELECTRONICS MFG. AND BADGE DESIGN. Mock Distributing Company, Inc. SN 317,251. Pub. 5-5-70. Filed 1-22-69.
- 895,009. ANNUBAR. Dieterich Standard Corporation. SN 317,536. Pub. 5-5-70. Filed 1-27-69.
- 895,010. HALLMARK. Puretec, Inc. SN 317,611. Pub. 5-5-70. Filed 1-27-69.
- 895,011. IMLAC. Imlac Corporation. SN 319,770. Pub. 2-17-70. Filed 2-24-69.
- 895,012. VIDIQUE. Trans-Lux Corporation. SN 321,438. Pub. 5-5-70. Filed 3-12-69.
- 895,013. ENCO. Azoplate Corporation. SN 325,000. Pub. 5-5-70. Filed 4-21-69.
- 895,014. GUARDOHM. Systomation, Inc. SN 329,302. Pub. 5-5-70. Filed 6-6-69.
- 895,015. DOUBLE CIRCLE DESIGN. Educational Computer Systems, Inc. SN 330,593. Pub. 5-5-70. Filed 6-20-69.
- 895,016. KARA-KOUNT. Shaffstall Equipment Inc. SN 331,259. Pub. 5-5-70. Filed 6-27-69.
- 895,017. SENSABLE. Hy-Cal Engineering. SN 337,309. Pub. 5-5-70. Filed 9-8-69.

## Class 27—Horological Instruments

- 894,940. (See Class 21 for this trademark.)
- 895,034. DATAPHONE. Movado Watch Agency, Inc. SN 333,595. Pub. 5-5-70. Filed 7-25-69.

## Class 28—Jewelry and Precious-Metal Ware

- 895,035. GALL. Gall, Inc. SN 301,223. Pub. 5-5-70. Filed 6-24-68.
- 895,036. COLLEGE SEAL SYMBOL OF EXCELLENCE AND DESIGN. College Seal & Crest Company, Inc. SN 311,435. Pub. 5-5-70. Filed 11-6-68.
- 895,037. D'EB. D'Esposito Bros. SN 338,898. Pub. 5-5-70. Filed 9-25-69.
- 895,038. DAHLIA. M. Weingrod Company. SN 339,262. Pub. 5-5-70. Filed 9-29-69.

## Class 29—Brooms, Brushes, and Dusters

- 895,039. PORTODENT. Jomila International Corp. SN 341,522. Pub. 5-5-70. Filed 10-23-69.

## Class 31—Filters and Refrigerators

- 895,040. BUTCHER BOY. Butcher Boy Refrigerator Door Co. SN 341,471. Pub. 5-5-70. Filed 10-23-69.
- 895,041. CHANNEL-WALL. Flanders Filters, Inc. SN 347,455. Pub. 5-5-70. Filed 12-31-69.

## Class 32—Furniture and Upholstery

- 895,042. SPRITE. Faces West, Inc. SN 344,103. Pub. 5-5-70. Filed 11-20-69.

## Class 34—Heating, Lighting, and Ventilating Apparatus

- 895,043. WIK-IT. Wik-It Electronics Corporation. SN 301,867. Pub. 5-5-70. Filed 7-2-68.
- 895,044. PRECISION. Precision Parts Corporation. SN 340,187. Pub. 5-5-70. Filed 10-8-69.
- 895,045. CHEMBRITE. Air Reduction Company, Incorporated. SN 340,750. Pub. 5-5-70. Filed 10-15-69.
- 895,046. DRAFT LOK AND DESIGN. Prefco Products Inc. SN 341,194. Pub. 5-5-70. Filed 10-20-69.
- 895,047. AIR LOK AND DESIGN. Prefco Products Inc. SN 341,196. Pub. 5-5-70. Filed 10-20-69.
- 895,048. REDHEAD. 3D, Inc. SN 341,506. Pub. 5-5-70. Filed 10-23-69.

## Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 895,049. FLEXLINK. The Reliance Electric and Engineering Company. SN 291,772. Pub. 5-5-70. Filed 2-23-68.
- 895,050. ULTRA GLAS. The Armstrong Rubber Company. SN 338,996. Pub. 5-5-70. Filed 9-4-69.

## Class 36—Musical Instruments and Supplies

- 895,033. (See Class 26 for this trademark.)
- 895,051. DMA. The Dick Marx Production Group, Inc., d.b.a. DMA Records. SN 335,884. Pub. 5-5-70. Filed 8-21-69.
- 895,052. MISCELLANEOUS DESIGN. Blue Thumb Records, Inc. SN 338,531. Pub. 5-5-70. Filed 9-22-69.
- 895,053. BELLE WOOD. Belle Wood Corp. SN 347,388. Pub. 5-5-70. Filed 12-30-69.

## Class 37—Paper and Stationery

- 895,054. MELOLITH. Ethyl Corporation. SN 305,427. Pub. 5-5-70. Filed 8-19-68.
- 895,055. BAMBI. Swanee Paper Company, Inc., assignee of Swanee Paper Corporation. SN 313,453. Pub. 5-5-70. Filed 12-2-68.
- 895,056. GOOD GUY. Tuckersharpe Pen Company, Inc. SN 330,310. Pub. 5-5-70. Filed 6-17-69.
- 895,057. ELITE. Penn Corporation. SN 333,173. Pub. 5-5-70. Filed 7-22-69.
- 895,058. PENCILIST. The Bates Manufacturing Company. SN 333,858. Pub. 5-5-70. Filed 7-24-69.
- 895,059. CAVALIER. The Bates Manufacturing Company. SN 333,359. Pub. 5-5-70. Filed 7-24-69.
- 895,060. WRAP/UP. Borden, Inc. SN 343,820. Pub. 5-5-70. Filed 11-18-69.
- 895,061. PROVENWORTH. P. H. Glatfelter Co. SN 344,371. Pub. 5-5-70. Filed 11-24-69.

## Class 38—Prints and Publications

- 895,062. OIL WEEK. Maclean-Hunter Limited; Maclean-Hunter Limited. SN 297,197. Pub. 5-5-70. Filed 5-2-68.
- 895,063. PROFITUNITIES DOT O MATS AND DESIGN. Profitunities Incorporated. MULTIPLE CLASS (Classes 38 and 101). SN 308,653. Pub. 5-5-70. Filed 10-2-68.
- 895,064. FOCUS ON FASHION. Sales Promotions, Inc. SN 314,036. Pub. 7-22-69. Filed 12-10-68.
- 895,065. TREAS-O-GRAM. General Features Corporation. SN 319,048. Pub. 7-15-69. Filed 2-13-69.
- 895,066. FRANCISCAN'S TABLE TOP FASHIONS. Interpace Corporation. SN 319,901. Pub. 10-7-69. Filed 2-24-69.
- 895,067. ISSUES TODAY. Xerox Corporation. SN 325,639. Pub. 5-5-70. Filed 4-25-69.
- 895,068. ABC PICTURES CORP. AND DESIGN. American Broadcasting Companies, Inc. SN 326,169. Pub. 5-5-70. Filed 5-2-69.
- 895,069. PROTOCOL. Manuel Cabral. SN 332,687. Pub. 5-5-70. Filed 7-16-69.
- 895,070. THE OLD FARMER'S ALMANAC AND DESIGN. Yankee, Inc. SN 334,898. Pub. 5-5-70. Filed 8-8-69.
- 895,071. COLONEL BUYER AND FEMALE DESIGN. Lester I. Chadwell, d.b.a. Buyer's Guide Publishing and Printing Co. SN 334,985. Pub. 5-5-70. Filed 8-11-69.
- 895,072. MY LOVE SECRET CONFESSION. K.M.R. Publications Inc. SN 346,176. Pub. 5-5-70. Filed 12-15-69.
- 895,073. CHRISTMAS ART. H. S. Crocker Co., Inc., d.b.a. California Artists. SN 347,859. Pub. 5-5-70. Filed 1-7-70.

## Class 39—Clothing

- 894,869. (See Class 3 for this trademark.)
- 895,074. ANGEL SKIN. Spalding Knitting Mills, Inc. SN 281,127. Pub. 7-22-69. Filed 9-25-67.
- 895,075. YACHTSHU. Bangor Punta Operations, Inc. SN 284,076. Pub. 3-25-69. Filed 6-13-68.
- 895,076. WUNDR-WOOL. Levi Strauss & Co. SN 286,161. Pub. 5-5-70. Filed 12-4-67.
- 895,077. CG DESIGN. Carlo Gruber. SN 287,910. Pub. 3-17-70. Filed 1-15-68.
- 895,078. FIGURE FORM. Karpf Industries, Inc. SN 301,627. Pub. 5-5-70. Filed 6-28-68.
- 895,079. YAS THE WORLD IS IN NEED OF TRUTH. Nina Footwear Co., Inc. SN 317,087. Pub. 5-5-70. Filed 1-21-69.
- 895,080. ENRO SHIRTBUILDERS. The Enro Shirt Company, Inc. SN 319,844. Pub. 2-24-70. Filed 2-24-69.
- 895,081. ENRO PAJAMABUILDERS. The Enro Shirt Company, Inc. SN 319,845. Pub. 3-17-70. Filed 2-24-69.
- 895,082. TRUTEST. Leath, McCarthy & Maynard, Inc. SN 320,726. Pub. 5-5-70. Filed 3-4-69.
- 895,083. BLOCH FRERES. I. C. Herman & Company, Inc. SN 321,354. Pub. 5-5-70. Filed 1-9-69.
- 895,084. HANDS BEAUTIFUL BY ARIS. Consolidated Foods Corporation, assignee of Aris Gloves, Incorporated. SN 322,688. Pub. 5-5-70. Filed 3-25-69.
- 895,085. UPSTAIRS CLOSET. Upstairs Closet, Inc. SN 324,768. Pub. 5-5-70. Filed 4-16-69.
- 895,086. DOUBLY SOFT. The Lovable Company. SN 326,040. Pub. 5-5-70. Filed 5-1-69.
- 895,087. HYTIQUE. Rice Hosiery Corporation. SN 326,314. Pub. 5-5-70. Filed 5-5-69.
- 895,088. DUNHAM'S. Dunham Brothers Company. SN 326,362. Pub. 2-17-70. Filed 5-5-69.
- 895,089. BOY STUFF. Children's Wear Corporation of America. SN 328,667. Pub. 5-5-70. Filed 5-29-69.
- 895,090. M.V.P. LOFERS. Barrow Manufacturing Company. SN 330,244. Pub. 5-5-70. Filed 6-17-69.
- 895,091. "STOCK-AID." Kops Bros., Inc. SN 330,806. Pub. 5-5-70. Filed 6-24-69.



- 895,092. THIN 'N THIN. Melville Shoe Corporation. SN 330,882. Pub. 5-5-70. Filed 6-25-69.
- 895,093. ALAIN K. Howard Uniforms, Inc. SN 331,201. Pub. 5-5-70. Filed 6-27-69.
- 895,094. FRED SEGAL. Fred Segal, d.b.a. Fred Segal Men's Store. SN 332,744. Pub. 5-5-70. Filed 7-16-69.
- 895,095. FRED SEGAL AND DESIGN. Fred Segal, d.b.a. Fred Segal Men's Store. SN 332,745. Pub. 5-5-70. Filed 7-16-69.
- 895,096. EAGLE ROYAL AND DESIGN. Acme Boot Company, Inc. SN 332,904. Pub. 5-5-70. Filed 7-18-69.
- 895,097. WEXFORD HALL. Buxton, Incorporated. SN 332,915. Pub. 5-5-70. Filed 7-18-69.
- 895,098. HI SHADOW RIB. Royce Hosiery Mills, Inc. SN 335,179. Pub. 5-5-70. Filed 8-13-69.
- 895,099. ROTHMOOR AND DOG DESIGN. Rothmoor Corporation. SN 335,266. Pub. 5-5-70. Filed 8-13-69.
- 895,100. MEDIA ONE STOP AND DESIGN. James Hudson Davis. SN 335,434. Pub. 5-5-70. Filed 8-15-69.
- 895,101. NEW WRINKLE. Bear Brand Hosiery Co. SN 335,935. Pub. 5-5-70. Filed 8-22-69.
- 895,102. PABLO. Block-Southland Sportswear, Inc., d.b.a. Pablo Shirtmakers. SN 335,936. Pub. 5-5-70. Filed 8-22-69.
- 895,103. THAT SHIRT. Block-Southland Sportswear, Inc., d.b.a. Pablo. SN 335,937. Pub. 5-5-70. Filed 8-22-69.
- 895,104. NEATNIK. Sears, Roebuck and Co. SN 336,184. Pub. 5-5-70. Filed 8-25-69.
- 895,105. NEATNIK. Sears, Roebuck and Co. SN 336,185. Pub. 5-5-70. Filed 8-25-69.
- 895,106. THE MATERNITY MART ETC. AND DESIGN. Marilyn Steinberg, d.b.a. The Maternity Mart. SN 336,751. Pub. 5-5-70. Filed 9-2-69.
- 895,107. COMING EVENTS. Caressa, Inc. SN 336,917. Pub. 5-5-70. Filed 9-3-69.
- 895,108. SW1. Coterie of London, Ltd. SN 337,640. Pub. 5-5-70. Filed 9-11-69.
- 895,109. NOT MORE THAN A YEAR AHEAD. Susan Thomas Incorporated. SN 337,728. Pub. 5-5-70. Filed 9-11-69.
- 895,110. WHEN YOU LOOK GOOD WE LOOK GOOD. Susan Thomas Incorporated. SN 337,729. Pub. 5-5-70. Filed 9-11-69.
- 895,111. "HOODFLING." Lish Bros. Incorporated. SN 338,585. Pub. 5-5-70. Filed 9-22-69.
- 895,112. BIRDS NEST. Smiths Clothiers of California. SN 339,238. Pub. 5-5-70. Filed 9-29-69.
- 895,113. MULTI-KNIT. Chadbourn Inc. SN 339,420. Pub. 5-5-70. Filed 10-1-69.
- 895,114. PORTSIDERS. Somersworth Manufacturing Co., Inc. SN 340,433. Pub. 5-5-70. Filed 10-10-69.
- 895,115. QUICK CAT. Bob Wolf Associates, Inc. SN 347,564. Pub. 5-5-70. Filed 1-2-70.
- 895,116. MOONSKIN. Gilbert Freeman Fabrics Company. SN 347,810. Pub. 5-5-70. Filed 1-6-70.

### Class 40—Fancy Goods, Furnishings, and Notions

- 895,117. RUDOLPH. General Wig Manufacturers, Inc. SN 334,842. Pub. 5-5-70. Filed 8-8-69.

### Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 895,118. THE CUDDLER. The U.S. Pillow Corporation, d.b.a. Willikin Creations. SN 312,634. Pub. 3-10-70. Filed 11-20-68.

- 895,119. QUARANTE. Stevcoknit Textile Co. SN 322,494. Pub. 5-5-70. Filed 3-21-69.
- 895,120. HOBBY NOBBY. Dan River Mills, Incorporated. SN 322,607. Pub. 5-5-70. Filed 3-24-69.
- 895,121. HANNAH. Hannah Textiles Inc. SN 325,037. Pub. 5-5-70. Filed 4-21-69.
- 895,122. GAF. GAF Corporation. SN 327,204. Pub. 5-5-70. Filed 5-14-69.
- 895,123. WHITE MAGIC. Deering Milliken, Inc. SN 327,811. Pub. 10-14-69. Filed 5-21-69.
- 895,124. STRACCA. Strachman Associates, Inc. SN 328,206. Pub. 5-5-70. Filed 5-23-69.
- 895,125. ARMO-PRESS. Crown Textile Mfg. Corp. SN 333,903. Pub. 5-5-70. Filed 7-30-69.
- 895,126. CAROUSEL. A. Leon Capel & Sons, Incorporated. SN 334,689. Pub. 5-5-70. Filed 8-7-69.
- 895,127. BELL FRESH. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd. SN 335,988. Pub. 5-5-70. Filed 8-22-69.
- 895,128. RUBXYSTER. Ernst W. Dorn Co., Inc. SN 342,700. Pub. 5-5-70. Filed 11-5-69.

### Class 44—Dental, Medical, and Surgical Appliances

- 894,852. (See Class 1 for this trademark.)
- 895,129. CONVAIR. Pennwalt Corporation, by change of name from Pennsalt Chemicals Corporation. SN 296,370. Pub. 4-15-69. Filed 4-5-68.
- 895,130. MINISSET. Baxter Laboratories, Inc. SN 312,746. Pub. 4-29-69. Filed 11-21-68.
- 895,131. POLYVAR. Credo Company. SN 317,209. Pub. 11-18-69. Filed 1-22-69.
- 895,132. CUTTI-SHARP. American Cyanamid Company. SN 328,642. Pub. 1-27-70. Filed 5-29-69.

### Class 45—Soft Drinks and Carbonated Waters

- 895,133. SINALCO KOLA AND DESIGN. Sinalco Aktiengesellschaft. SN 253,915. Pub. 5-5-70. Filed 9-6-66.
- 895,134. DINO. Monarch Citrus Products Company. SN 309,686. Pub. 10-7-69. Filed 10-15-68.
- 895,135. SIESTA AND HAT DESIGN. Home Town Foods, Inc. SN 332,825. Pub. 5-5-70. Filed 7-17-69.
- 895,136. CHERIKEE RED. The Cotton Club Bottling Company. SN 333,685. Pub. 5-5-70. Filed 7-28-69.

### Class 46—Foods and Ingredients of Foods

- 894,852. (See Class 1 for this trademark.)
- 895,137. CHEESE WIPT. Vogeler, Inc. SN 268,635. Pub. 5-5-70. Filed 4-7-67.
- 895,138. JIMBO AND DESIGN. Compagnie des Restaurants Jacques Borel, Societe Anonyme. MULTIPLE CLASS (Classes 46 and 100). SN 281,413. Pub. 3-3-70. Filed 9-29-67.
- 895,139. BLIZZARD. American Dairy Queen Corporation. SN 282,523. Pub. 3-25-69. Filed 10-16-67.
- 895,140. PERE DODU. Abattoirs de Bellevue, Societe Anonyme, d.b.a. Abattoirs de Bellevue. SN 284,434. Pub. 5-5-70. Filed 11-9-67.

- 895,141. CAFE MIX. R.G.B. Laboratories, Inc., assignee of Gaymont Laboratories, Inc. SN 295,326. Pub. 2-10-70. Filed 4-10-68.
- 895,142. STAR FLAKE. Morton International, Inc. SN 297,013. Pub. 10-22-68. Filed 5-1-68.
- 895,143. HELGE'S HICKORY Q AND DESIGN. Clarence R. Helgesen, d.b.a. Helge's Hickory Q. SN 303,165. Pub. 5-5-70. Filed 7-19-68.
- 895,144. LOTT'S. Jerrico, Inc. SN 303,997. Pub. 5-5-70. Filed 7-31-68.
- 895,145. SUN QUEEN. Francis B. Vohryzek, d.b.a. Vohryzek and Company. SN 304,876. Pub. 5-5-70. Filed 8-12-68.
- 895,146. BAKON CRUMBLES. McCormick & Company, Incorporated. SN 305,845. Pub. 5-5-70. Filed 8-23-68.
- 895,147. RITEMIX. Wacker-Elliott-Wacker Company. SN 306,413. Pub. 5-5-70. Filed 8-30-68.
- 895,148. ALBA AND DESIGN. Weldon Farm Products, Inc., assignee of Weldon Foods, Inc. SN 306,829. Pub. 5-5-70. Filed 9-6-68.
- 895,149. BUTTER POP. Terrell Wayne Miller, d.b.a. T. Miller Co. SN 309,778. Pub. 3-10-70. Filed 10-16-68.
- 895,150. PEPE'S PIZZA. Wholesale Pizza Co. SN 314,861. Pub. 9-9-69. Filed 12-19-68.
- 895,151. D AND MALE DESIGN. David & Frere (1967) Ltee. SN 320,249. Pub. 1-13-70. Filed 2-27-69.
- 895,152. COLA-CAO AND DESIGN. Nutrepa, S.A. SN 321,260. Pub. 5-5-70. Filed 3-10-69.
- 895,153. POPPENBURGER AND DESIGN. Hans Poppenburg. SN 323,102. Pub. 5-5-70. Filed 3-28-69.
- 895,154. FAMILY-MATE. Zevo, Inc. SN 323,616. Pub. 3-10-70. Filed 4-3-69.
- 895,155. SCHOOL HOUSE COOKIES AND DESIGN. Ruth T. Baker. SN 328,647. Pub. 5-5-70. Filed 5-29-69.
- 895,156. QUALITY CHEKD. Quality Chekd Dairy Products Association. SN 330,008. COLLECTIVE MARK. Pub. 5-5-70. Filed 6-13-69.
- 895,157. VESPER. Peavey Company. SN 330,185. Pub. 2-17-70. Filed 6-16-69.
- 895,158. MRS. KINSEY'S. Mrs. Kinser's Home Style Foods, Inc. SN 332,420. Pub. 5-5-70. Filed 7-14-69.
- 895,159. GEMS. General Mills, Inc. SN 334,025. Pub. 2-10-70. Filed 7-31-69.
- 895,160. OWENSBURGER. Owens Country Sausage, Inc. SN 335,302. Pub. 5-5-70. Filed 8-14-69.
- 895,161. FUNNY FACE. The Pillsbury Company. SN 335,465. Pub. 5-5-70. Filed 8-15-69.
- 895,162. "500." American Sugar Company. SN 335,528. Pub. 5-5-70. Filed 8-18-69.
- 895,163. SWISS PARFAIT. Kraftco Corporation. SN 335,821. Pub. 2-17-70. Filed 8-21-69.
- 895,164. EAT-M-UPS. American Flavor Corp. SN 335,836. Pub. 5-5-70. Filed 8-21-69.
- 895,165. IMPERIAL HARVEST AND DESIGN. Delta Food Processing Corporation. SN 335,953. Pub. 5-5-70. Filed 8-22-69.
- 895,166. MISCELLANEOUS DESIGN. Food Technology, Inc. SN 335,968. Pub. 5-5-70. Filed 8-22-69.
- 895,167. ELMWOOD BRAND. National Tea Co. SN 336,215. Pub. 5-5-70. Filed 8-25-69.
- 895,168. JF VITA RICH AND DESIGN. Johanna Farms, Inc. SN 336,270. Pub. 5-5-70. Filed 8-13-69.
- 895,169. LITTLE PEPI'S. Philip W. Schettone, d.b.a. Little Pepi's. SN 336,473. Pub. 5-5-70. Filed 8-27-69.
- 895,170. GUBBLE BUM. Philadelphia Chewing Gum Corporation. SN 336,594. Pub. 5-5-70. Filed 8-28-69.
- 895,171. HELUVA. The Cheese Joint, Inc. SN 336,974. Pub. 5-5-70. Filed 9-4-69.
- 895,172. FLORIDAGOLD. Lykes-Pasco Packing Company. SN 337,182. Pub. 5-5-70. Filed 9-5-69.

### Class 47—Wines

- 895,173. DOLE-STAR. Castle & Cooke, Inc., d.b.a. Dole Company. SN 338,469. Pub. 5-5-70. Filed 9-22-69.
- 895,174. MINT COOLERS. American Home Products Corporation. SN 346,429. Pub. 5-5-70. Filed 12-17-69.

### Class 48—Malt Beverages and Liquors

- 895,175. RUSTICO. Anthony D. Scotto. SN 245,347. Pub. 2-10-70. Filed 5-10-66.
- 895,176. BUDWEISER AND LABEL DESIGN. Anheuser-Busch, Incorporated. SN 330,875. Pub. 5-5-70. Filed 6-25-69.

### Class 50—Merchandise Not Otherwise Classified

- 895,177. HEAVENS ABOVE! Joan D. Clark. SN 326,353. Pub. 5-5-70. Filed 5-5-69.
- 895,178. SMOKEEZ. William B. Senecey. SN 332,561. Pub. 5-5-70. Filed 6-17-69.
- 895,179. CRAFTEX. Craftex Products Co. SN 337,893. Pub. 5-5-70. Filed 9-15-69.
- 895,180. LYKA. Meljay Industries, Inc. SN 338,209. Pub. 5-5-70. Filed 9-18-69.

### Class 51—Cosmetics and Toilet Preparations

- 895,181. LADY LANCASTER. Beecham Inc., assignee of Middlebrooke-Lancaster, Inc. SN 282,740. Pub. 1-30-68. Filed 10-19-67.
- 895,182. MINI-SHOWER. Head-To-Toe Products, assignee of David Jaffe. SN 300,937. Pub. 11-25-69. Filed 6-20-68.
- 895,183. FONDLE. Lan-O-Sheen, Inc. SN 321,513. Pub. 5-5-70. Filed 3-12-69.
- 895,184. EVERGREEN. Vitabath Inc. SN 324,146. Pub. 1-27-70. Filed 4-10-69.
- 895,185. KOSMICATED KREAM. Koscot Interplanetary, Inc. SN 329,734. Pub. 5-5-70. Filed 6-11-69.
- 895,186. BARE BROW. Merle Norman Cosmetics, Inc. SN 331,221. Pub. 5-5-70. Filed 6-27-69.
- 895,187. TOTAL WOMAN. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 331,799. Pub. 2-24-70. Filed 7-7-69.
- 895,188. LOVESHINE. Menley & James Laboratories, Ltd. SN 332,072. Pub. 2-10-70. Filed 7-9-69.
- 895,189. BFFP. Laboratoires Goupil S.A. SN 332,188. Pub. 5-5-70. Filed 7-8-69.
- 895,190. PLAYTHINGS. Warner-Lambert Pharmaceutical Company. SN 335,180. Pub. 5-5-70. Filed 8-13-69.
- 895,191. ALL GIRL. Cosmetex Industries, Inc. SN 340,375. Pub. 5-5-70. Filed 10-10-69.
- 895,192. BEAUTY DYNAMICS. Beauty Dynamics, Inc. SN 341,358. Pub. 5-5-70. Filed 10-22-69.
- 895,193. NITTI-GRITTI. Faberge, Incorporated. SN 341,804. Pub. 5-5-70. Filed 10-27-69.
- 895,194. FLEURETTE. Lustray Laboratories, Inc. SN 341,825. Pub. 5-5-70. Filed 10-27-69.
- 895,195. ASILI. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 341,887. Pub. 5-5-70. Filed 10-28-69.



- 895,196. RECLAIR. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 341,888. Pub. 5-5-70. Filed 10-28-69.
- 895,197. DURASOFT. Johnson & Johnson. SN 344,632. Pub. 5-5-70. Filed 11-26-69.
- 895,198. PER-OD-EX. Chas. Pfizer & Co., Inc. SN 345,566. Pub. 5-5-70. Filed 12-8-69.

## Class 52—Detergents and Soaps

- 894,852. (See Class 1 for this trademark.)
- 894,872. (See Class 4 for this trademark.)
- 895,187. (See Class 51 for this trademark.)
- 895,195. (See Class 51 for this trademark.)
- 895,196. (See Class 51 for this trademark.)
- 895,199. KENT AND DESIGN. Diversified Industries, Inc., assignee of Colonial Chemical Corporation, d.b.a. Kent Chemicals. SN 199,654. Pub. 11-1-66. Filed 8-11-64.
- 895,200. CODE-O-SPRAY. Continental Organization of Distributor Enterprises, Inc. SN 282,888. Pub. 6-18-68. Filed 10-19-67.
- 895,201. CRUSHED CARNATION. Yardley of London, Inc. SN 305,592. Pub. 5-5-70. Filed 8-20-68.
- 895,202. SOUL MATE. Inner Cities Chemical Products Inc. SN 317,689. Pub. 5-5-70. Filed 1-28-69.
- 895,203. BANISH. A. E. Staley Manufacturing Company. SN 324,248. Pub. 2-10-70. Filed 4-10-69.
- 895,204. AQUA K-7. Thetford Corporation, by change of name from Thetford Engineering Corporation. SN 327,700. Pub. 3-3-70. Filed 5-19-69.
- 895,205. STAN-STRIP. Standard T Chemical Company, Inc. SN 334,877. Pub. 5-5-70. Filed 8-8-69.
- 895,206. DISPOZ-AWAY. Camp Laboratories, Inc. SN 347,807. Pub. 5-5-70. Filed 1-6-70.

## Service Marks

## Class 100—Miscellaneous

- 895,138. (See Class 46 for this trademark.)
- 895,207. CONSUMER TESTING LABORATORIES ETC. AND DESIGN. Consumer Testing Laboratories, Inc. SN 157,286. Pub. 4-12-66. Filed 11-15-62.
- 895,208. CARTER'S RENTAL. Carter's of California, Inc. SN 291,836. Pub. 5-5-70. Filed 2-26-68.
- 895,209. LEASING CORPORATION OF AMERICA AND DESIGN. Leasing Corporation of America. SN 303,322. Pub. 5-5-70. Filed 7-22-68.
- 895,210. THE CHAR-HOUSE. John F. Pounds, d.b.a. The Char-House. SN 303,340. Pub. 5-5-70. Filed 7-22-68.
- 895,211. RED CARPET. American Optical Corporation. SN 306,209. Pub. 5-5-70. Filed 8-29-68.
- 895,212. REPRESENTATION OF HUMAN EYE. R.D. Products, Inc. SN 312,065. Pub. 1-18-70. Filed 11-13-68.
- 895,213. BALLOONER. United States Leasing Corporation. SN 322,649. Pub. 5-5-70. Filed 3-24-69.
- 895,214. HOLLY'S (LOGO). Holly Grills, Inc. SN 328,179. Pub. 5-5-70. Filed 5-23-69.
- 895,215. HOLLY'S AND DESIGN. Holly Grills, Inc. SN 328,180. Pub. 5-5-70. Filed 5-23-69.
- 895,216. THE SOCIABLES. The Sociables, Inc., assignee of Samuel J. Temperato, d.b.a. The Sociables. SN 338,332. Pub. 3-31-70. Filed 9-19-69.

## Class 101—Advertising and Business

- 895,063. (See Class 38 for this trademark.)
- 895,217. LEASE LEASE ELECTRONIC ACCOUNTING SYSTEM AND DESIGN. The Reynolds and Reynolds Company. SN 286,036. Pub. 5-5-70. Filed 12-1-67.
- 895,218. 'KWIKEE.' Multi-Ad Services, Inc. SN 301,239. Pub. 5-5-70. Filed 6-24-68.
- 895,219. COHEN AND KELLEY DRIVE-IN DELI. Jay J. Shuer. SN 305,074. Pub. 2-17-70. Filed 8-13-68.
- 895,220. HOSPITALITY. Hospitality Supply Company, by change of name from Best Value Stores, Inc., d.b.a. Hospitality Supply. SN 321,432. Pub. 2-10-70. Filed 3-12-69.
- 895,221. ONEIDA TABLE TOP FASHION SHOP. Oneida Ltd. SN 340,451. Pub. 5-5-70. Filed 12-5-69.

## Class 102—Insurance and Financial

- 895,222. C AND CONSTELLATION DESIGN. Constellation Reinsurance Company. SN 294,375. Pub. 2-17-70. Filed 3-28-68.
- 895,223. FAST FLOW. Imperial Mortgage Corp. SN 320,721. Pub. 5-5-70. Filed 3-4-69.
- 895,224. GOLDEN LION. Harris Trust and Savings Bank. SN 324,289. Pub. 5-5-70. Filed 4-11-69.
- 895,225. FULL STOCK. Van Dusen Aircraft Supplies, Incorporated. SN 332,208. Pub. 5-5-70. Filed 7-10-69.

## Class 103—Construction and Repair

- 895,226. BRAKE-O AND DESIGN. Brake-O International, Inc. SN 302,584. Pub. 5-5-70. Filed 7-12-68.
- 895,227. PEPE'S PIZZA. Wholesale Pizza Co. SN 314,860. Pub. 9-9-69. Filed 12-19-68.
- 895,228. AJ CO. ETC. AND DESIGN. Anning-Johnson Company. SN 325,452. Pub. 5-5-70. Filed 4-24-69.

## Class 105—Transportation and Storage

- 895,229. WORLDWIDE ADVENTURES. Trans World Airlines, Inc. SN 280,112. Pub. 10-14-69. Filed 9-11-67.
- 895,230. THE CLUB COMMUTER AND DESIGN. United Air Lines, Inc. SN 304,265. Pub. 5-5-70. Filed 8-2-68.
- 895,231. PANIC BUTTON. Chandos Industries, Inc. SN 317,318. Pub. 5-5-70. Filed 1-23-69.
- 895,232. GALAXY. Air Canada. SN 318,378. Pub. 12-30-69. Filed 2-5-69.
- 895,233. TOP HAT AND DESIGN. Stillwagon Enterprises, Inc. SN 322,627. Pub. 5-5-70. Filed 3-24-69.

## Class 106—Material Treatment

- 895,234. THE SOFT TOUCH. Water Treatment Corporation. SN 306,005. Pub. 5-5-70. Filed 8-26-68.

## Collective Membership Mark

## Class 200

- 895,235. MBA ETC. AND DESIGN. Mortgage Bankers Association of America. SN 320,731. Pub. 5-5-70. Filed 3-4-69.

## SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

## Class 12—Construction Materials

- 895,236. Joe W. Armstrong, d.b.a. Shadow Screen Co., Phoenix, Ariz. SN 319,260. Filed 2-17-69.

## SHADOW SCREEN

The word "Screen" is disclaimed apart from the mark. For Reflective Window Screen Sheet Having Punched Holes Formed Therein and With the Outside Surface of Decorative and Reflective Material (Int. Cl. 19). First use Jan. 14, 1964.

## Class 19—Vehicles

- 895,241. Little Bike Industries, Inc., Manchester, Conn. SN 272,617. Filed P.R. 5-29-67; Am. S.R. 4-13-70.

## LITTLE BIKE

For Commercial and Adult Tricycles and Parts Thereof (Int. Cl. 12). First use Mar. 6, 1967.

- 895,242. Omnilfac Corporation, Oyster Bay, N.Y. SN 277,929. Filed P.R. 8-9-67; Am. S.R. 2-27-70.

## OMNI-PITCH

For Propellers for Use for Inboard and Outboard Marine Engines (Int. Cl. 12). First use Jan. 11, 1967.

## Class 16—Protective and Decorative Coatings

- 895,237. Fender Mender, Inc., Nashville, Tenn., assignee of Faultless Starch Company, Kansas City, Mo. SN 304,680. Filed P.R. 8-8-68; Am. S.R. 3-18-70.

## FENDER MENDER

For Lacquer (Int. Cl. 2). First use on or about July 30, 1968.

## Class 17—Tobacco Products

- 895,238. Reemtsma Cigarettenfabriken G.m.b.H., Hamburg, Germany. SN 318,818. Filed 2-10-69.



Priority claimed under Sec. 44(d) on German application filed Aug. 10, 1968; Reg. No. 852,201, dated Nov. 27, 1968. The drawing is lined for the colors red and gold. Owner of U.S. Reg. No. 667,630. For Cigarettes (Int. Cl. 34).

- 895,239. Liggett & Myers Incorporated, New York, N.Y. SN 329,495. Filed P.R. 6-9-69; Am. S.R. 4-20-70.

## HARRINGTON'S

For Smoking Tobacco (Int. Cl. 34). First use Apr. 11, 1969.

- 895,240. Liggett & Myers Incorporated, New York, N.Y. SN 334,240. Filed P.R. 8-1-69; Am. S.R. 4-20-70.

## WELLMAN'S

For Smoking Tobacco (Int. Cl. 34). First use in or about 1911.

TM 876 O.G.—8

## Class 21—Electrical Apparatus, Machines, and Supplies

- 895,243. Superior Continental Corporation, Hickory, N.C. SN 350,974. Filed 2-9-70.

## SERVING YOUR WORLD OF COMMUNICATIONS NEEDS

For Electronic Distribution and Communications Equipment—Namely, Telephone and Tele-Communications Wire and Cable, Aerial Drop Wires, Direct Burial Service Wire and Cable, Inside Telephone Wire, Station Installation Wire (Both Aerial and Duct), Supported Aerial and Equipment Housings for Television System Applications (Both Aerial and Direct Burial), Splice Cases, Wire Connector and Terminal Block Units, Load Coils, and Telephone Carrier Apparatus, Namely Central Office and Subscriber Carrier Telephone Units for Connection to an Existing Cable Pair To Create an Additional Talking Circuit at the Subscriber's Location (Int. Cl. 9). First use no later than May 1965.

## Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 895,244. New Plastic Corporation, Los Angeles, Calif. SN 264,951. Filed P.R. 2-17-67; Am. S.R. 5-29-69.

## CUSH-N-GRIP

For Tool Handles and Replacement Handle Kits (Int. Cl. 20). First use in 1954.

- 895,245. Bimba Manufacturing Company (Delaware corporation), Monee, Ill., assignee of Bimba Manufacturing Company (Illinois corporation), Monee, Ill. SN 267,604. Filed P.R. 3-27-67; Am. S.R. 8-15-69.

## BELL-RING

For Fluid Power Cylinders (Int. Cl. 7). First use Feb. 2, 1967.

TM 187



895,246. W. H. Brady Co., Milwaukee, Wis. SN 298,566. Filed P.R. 5-20-68; Am. S.R. 4-1-70.

## QUIK-LABEL

For Machines for Embossing Indicia on Adhesive Plastic Tape (Int. Cl. 16).  
First use Mar. 3, 1967.

895,247. Eversharp, Inc., Milford, Conn. SN 319,233. Filed P.R. 2-17-69; Am. S.R. 4-29-70.

## SUPER CHROMIUM

For Safety Razors, Safety Razor Blades and Dispensers Therefor (Int. Cl. 8).  
First use Feb. 5, 1969.

895,248. Eversharp, Inc., Milford, Conn. SN 319,234. Filed P.R. 2-17-69; Am. S.R. 4-29-70.

## SUPER CHROME

For Safety Razors, Safety Razor Blades and Dispensers Therefor (Int. Cl. 8).  
First use Feb. 5, 1969.

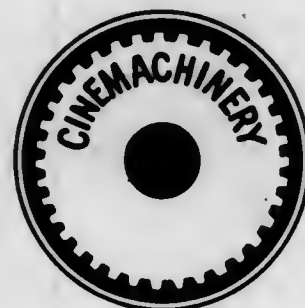
895,249. Harnischfeger Corporation, West Milwaukee, Wis. SN 327,896. Filed P.R. 5-21-69; Am. S.R. 4-17-70.

## POWER SLING

For Overhead Hoists (Int. Cl. 7).  
First use Mar. 24, 1969.

## Class 26—Measuring and Scientific Appliances

895,250. Victor H. Gordon, Astoria, N.Y. SN 312,039. Filed P.R. 11-13-68; Am. S.R. 4-24-70.



For Replacement Parts for Motion Picture Projectors and Machines (Int. Cl. 9).  
First use on or about June 15, 1962.

895,251. Perfect Parts, Inc., Carlstadt, N.J. SN 315,099. Filed P.R. 12-23-68; Am. S.R. 10-29-69.

## POWER/CHECK

For Battery Charge Test Hydrometer for Checking the Specific Gravity of the Liquid in the Battery (Int. Cl. 9).  
First use Sept. 30, 1968.

## Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

895,252. Bridgestone Tire Company Limited, Chuo-ku, Tokyo, Japan. SN 302,011. Filed P.R. 7-5-68; Am. S.R. 3-5-70.

## SUPER SPEED RADIAL

For All Kinds of Rubber Tires and Tubes for Automobiles, Autobicycles, or Any Other Vehicles (Int. Cl. 12).  
First use Mar. 15, 1968; in commerce Mar. 15, 1968.

## Class 36—Musical Instruments and Supplies

895,253. Ruth Lind, Springfield, Va. SN 315,293. Filed P.R. 12-27-68; Am. S.R. 3-25-70.

## CHILDREN'S CLASSICS ON TAPE

For Pre-Recorded Magnetic Tapes (Int. Cl. 9).  
First use Dec. 8, 1966.

## Class 51—Cosmetics and Toilet Preparations

895,254. Johnson Laboratories, Culver City, Calif. SN 342,475. Filed 11-3-69.



The words "Aqua de Colonia" means "cologne water."  
For Cologne (Int. Cl. 3).  
First use Apr. 15, 1968.

## Service Marks

## Class 100—Miscellaneous

895,255. Casa Taco Corporation, Memphis, Tenn. SN 321,039. Filed P.R. 3-7-69; Am. S.R. 3-23-70.

**Casa  
Taco**

The term "Casa" is Spanish for "house."  
For Restaurant Services (Int. Cl. 42).  
First use Feb. 7, 1969.

## Class 101—Advertising and Business

895,256. Watchaus of Switzerland Corporation, Lansing, Mich. SN 300,299. Filed P.R. 6-12-68; Am. S.R. 4-20-70.

## Watchaus of Switzerland

For Horological Instrument Retail Store Services (Int. Cl. 35).  
First use May 13, 1968.

895,257. Watchaus of Switzerland Corporation, Lansing, Mich. SN 300,300. Filed P.R. 6-12-68; Am. S.R. 4-20-70.



For Horological Instrument Retail Store Services (Int. Cl. 35).  
First use May 13, 1968.

895,258. General Employment Enterprises, Inc., Chicago, Ill. SN 300,348. Filed P.R. 6-13-68; Am. S.R. 3-12-70.

## LOOP PERSONNEL

For Employment Agency Services (Int. Cl. 35).  
First use 1959.

895,259. General Employment Enterprises, Inc., Chicago, Ill. SN 300,350. Filed P.R. 6-13-68; Am. S.R. 3-12-70.

## ENGINEERING AGENCY

For Employment Agency Services (Int. Cl. 35).  
First use 1893.

895,260. General Employment Enterprises, Inc., Chicago, Ill. SN 300,923. Filed P.R. 6-20-68; Am. S.R. 3-12-70.

## COMPUTER CENTRE

For Employment Agency Services (Int. Cl. 35).  
First use during the year 1967.

895,261. Supermarkets General Corporation, Cranford, N.J. SN 313,151. Filed P.R. 11-27-68; Am. S.R. 3-9-70.

## THE STORE FOR VALUE

For Retail Food Supermarket Services (Int. Cl. 35).  
First use Nov. 4, 1968.

895,262. Computer Exposition Inc., New York, N.Y. SN 322,042. Filed P.R. 3-18-69; Am. S.R. 2-11-70.

## INTERNATIONAL COMPUTER EXPOSITION

For Staging Trade Exhibitions Featuring Computer Equipment and Services and Related New Products (Int. Cl. 35).  
First use July 20, 1966.

## Class 103—Construction and Repair

895,263. Neyrpic Inc., New York, N.Y. SN 294,302. Filed P.R. 3-27-68; Am. S.R. 3-30-70.

## BETTER WATER CONTROL IS OUR BUSINESS

For Installation, Ballasting and Maintenance of Hydraulic Apparatus Used in Irrigation Projects, Drainage, Water Supply, Sewage, Water Treatment Plants and Industrial Applications (Int. Cl. 37).  
First use on or about Feb. 1, 1968.

895,264. Skilled Hands, Inc., Nashville, Tenn., assignee of Fender Mender, Inc., Nashville, Tenn. SN 315,221. Filed P.R. 12-26-68; Am. S.R. 3-18-70.

## FENDER MENDER

For Automobile Body Repair Shop Services (Int. Cl. 37).  
First use on or about Sept. 4, 1968.

## Class 105—Transportation and Storage

895,265. Anderson Brothers Storage & Moving Co., Chicago, Ill. SN 242,196. Filed P.R. 3-30-66; Am. S.R. 10-2-69.



For Storage of Office Records (Int. Cl. 39).  
First use Apr. 1, 1965.

895,266. Marine Trading Limited, Nassau, Bahamas. SN 325,112. Filed P.R. 4-1-69; Am. S.R. 3-16-70.

## MARINE EXPRESS LINE

For Marine Freight Forwarding Services (Int. Cl. 39).  
First use Mar. 26, 1966.

## Class 106—Material Treatment

895,267. Monie S. Hudson, d.b.a. Hudson Research, Spartanburg, S.C. SN 302,742. Filed P.R. 7-15-68; Am. S.R. 3-10-70.

## SLURRY-SEAL

For Impregnating Lengths of Wood With Preservatives, Fire Retardants, Dimensional Stabilizing Agents, Finishes, and the Like (Int. Cl. 40).  
First use at least as early as December 1965.



## TRADEMARK REGISTRATIONS RENEWED

34,877. ERGOPIOL. Cl. 18 (Int. Cl. 5). 7-10-1900.	523,528. GOLDEN ROD. Cl. 46 (Int. Cl. 30). 4-4-50.
76,584. CREMORA. Cl. 46 (Int. Cl. 29). 2-1-10	523,548. ROSSI. Cl. 46 (Int. Cl. 30). 4-4-50.
77,730. VICTORY AND REPRESENTATION OF WREATH. Cl. 23 (Int. Cl. 7). 5-3-10.	523,718. HART DELITE AND DESIGN. Cl. 52 (Int. Cl. 3). 4-11-50.
79,097. REPRESENTATION OF HAND. Cl. 12 (Int. Cl. 19). 8-9-10.	523,814. THOR. Cl. 29 (Int. Cl. 21). 4-11-50.
79,196. DOXA. Cl. 27 (Int. Cl. 14). 8-16-10.	523,881. OLIVITE. Cl. 23 (Int. Cl. 7). 4-11-50.
79,377. TYCOS. Cl. 26 (Int. Cl. 10). 8-30-10.	523,899. HAPPY JIM AND DESIGN. Cl. 17 (Int. Cl. 34). 4-11-50.
79,874. GOOD MORNING. Cl. 27 (Int. Cl. 14). 10-11-10.	524,325. YORKE. Cl. 39 (Int. Cl. 25). 4-25-50.
79,875. BABY. Cl. 27 (Int. Cl. 14). 10-11-10.	524,661. PULVER-AID. Cl. 19 (Int. Cl. 12). 5-2-50.
266,920. LUCHADOR ETC. AND DESIGN. Cl. 23 (Int. Cls. 7 and 8). 2-11-30.	524,669. PUNCH AND DESIGN. Cl. 38 (Int. Cl. 16). 5-2-50.
267,000. ROMAN SPEAR. Cl. 46 (Int. Cl. 31). 2-11-30.	524,698. JACKPOT. Cl. 45 (Int. Cl. 32). 5-2-50.
267,216. BREEZEWEAVE. Cl. 39 (Int. Cl. 25). 2-18-30.	524,741. MISCELLANEOUS DESIGN. Cl. 47 (Int. Cl. 33). 5-2-50.
268,483. COMFOJAMA. Cl. 39 (Int. Cl. 25). 3-18-30.	524,744. EXCELSIOR. Cl. 19 (Int. Cl. 12). 5-2-50.
268,621. JAKURV. Cl. 15 (Int. Cl. 4). 3-18-30.	524,818. JAIL ON WHEELS. Cl. 107 (Int. Cl. 41). 5-2-50.
269,129. CHECKIT AND REPRESENTATION OF CHECK MARK. Cl. 37 (Int. Cl. 16). 3-25-30.	524,910. BG AND DESIGN. Cl. 23 (Int. Cl. 7). 5-9-50.
269,135. KINDOGRAPH. Cl. 37 (Int. Cl. 16). 3-25-30.	524,969. FIREFLY AND DESIGN. Cl. 35 (Int. Cl. 17). 5-9-50.
269,463. F 85 AND DESIGN. Cl. 14 (Int. Cl. 6). 4-8-30.	525,039. KANRY-TEX. Cl. 35 (Int. Cl. 7). 5-9-50.
270,439. OLD FARM. Cl. 49 (Int. Cl. 33). 5-6-30.	525,087. PUNCHO. Cl. 22 (Int. Cl. 28). 5-9-50.
270,470. DE-ION AND DESIGN. Cl. 21 (Int. Cl. 9). 5-6-30.	525,097. MAGNET. Cl. 15 (Int. Cl. 4). 5-9-50.
270,496. LUXURY ETC. Cl. 51 (Int. Cl. 3). 5-6-30.	525,115. PHILCO. Cl. 21 (Int. Cl. 11). 5-9-50.
270,764. JOHN B. STETSON COMPANY. Cl. 39 (Int. Cl. 25). 5-13-30.	525,142. STERIMATIC. Cl. 103 (Int. Cl. 37). 5-9-50.
271,202. RED WHITE AND BLUE ETC. AND DESIGN. Cl. 48 (Int. Cl. 32). 5-27-30.	525,180. RAINMAKER. Cl. 13 (Int. Cl. 6). 5-16-50.
271,273. NAPOLEON CLIPPINGS AND DESIGN. Cl. 17 (Int. Cl. 34). 5-27-30.	525,188. DREAMWAY. Cl. 39 (Int. Cl. 25). 5-16-50.
271,900. TAXI-KLOTH. Cl. 39 (Int. Cl. 25). 6-17-30.	525,281. WHINK. Cl. 52 (Int. Cl. 3). 5-16-50.
271,901. TAXI-KLOTH. Cl. 42 (Int. Cl. 24). 6-17-30.	525,354. CORONET. Cl. 15 (Int. Cl. 4). 5-16-50.
272,035. BROOKMORE. Cl. 39 (Int. Cl. 25). 6-24-30.	525,367. VERI-LITE. Cl. 35 (Int. Cl. 17). 5-16-70.
272,132. COLORART. Cl. 37 (Int. Cl. 16). 7-1-30.	525,435. SAND-MEX. Cl. 1 (Int. Cl. 1). 5-23-50.
273,077. MECHANIGRIPT. Cl. 23 (Int. Cls. 7 and 8). 7-22-30.	525,602. JACK ARMSTRONG. Cl. 38 (Int. Cl. 38). 5-30-50.
273,427. HOUSE BEAUTIFUL. Cl. 38 (Int. Cl. 16). 8-5-30.	525,696. FERROJET. Cl. 6 (Int. Cl. 1). 5-30-50.
273,670. ONE HUNDRED PLUS 100+. Cl. 23 (Int. Cl. 8). 8-5-30.	525,825. INDUSTRIAL FLOOR DRY NO. 85. Cl. 6 (Int. Cl. 4). 5-30-50.
273,676. RCA AND DESIGN. Cl. 36 (Int. Cl. 9). 8-5-30.	525,889. BOND. Cl. 26 (Int. Cl. 7). 6-6-50.
274,802. HARPER'S BAZAAR. Cl. 38 (Int. Cl. 16). 9-9-30.	525,890. SCOTT. Cl. 26 (Int. Cl. 7). 6-6-50.
275,340. SPECIAL CLUB. Cl. 22 (Int. Cl. 16). 9-23-30.	525,982. SWEEPING THE NATION AND DESIGN. Cl. 52 (Int. Cl. 4). 6-6-50.
275,409. AMBRITE. Cl. 37 (Int. Cl. 38). 9-23-30.	526,360. BANDERA. Cl. 39 (Int. Cl. 25). 6-13-50.
275,413. MAG-NA-LINE. Cl. 12 (Int. Cl. 19). 9-23-30.	526,617. WELLER. Cl. 28 (Int. Cl. 14). 6-20-50.
275,915. AUSTEX. Cl. 46 (Int. Cl. 29). 10-7-30.	526,697. AVIANIZED. Cl. 18 (Int. Cl. 5). 6-20-50.
276,100. MAOLIN. Cl. 18 (Int. Cl. 5). 10-7-30.	527,044. PARK MAINTENANCE. Cl. 38 (Int. Cl. 16). 6-27-50.
276,597. LA SALLITA. Cl. 27 (Int. Cl. 14). 10-21-30.	527,089. PNEUMAFIL. Cl. 23 (Int. Cl. 11). 7-4-50.
276,628. SUN-GOLD. Cl. 27 (Int. Cl. 14). 10-21-30.	527,252. WATASEAL AND DESIGN. Cl. 42 (Int. Cl. 17). 7-4-50.
443,281. SHOWERETTES. Cl. 52 (Int. Cl. 3). 8-23-49.	527,289. NATIONAL SPEAKER AND DESIGN. Cl. 17 (Int. Cl. 34). 7-4-50.
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443,920. WEATHER-READY. Cl. 39 (Int. Cl. 25). 4-18-50.	527,573. U AND DESIGN. Cl. 21 (Int. Cl. 9). 7-11-50.
444,020. ECONOMY DELAY AND DESIGN. Cl. 21 (Int. Cl. 9). 6-6-50.	527,696. THOR. Cl. 4 (Int. Cls. 3 and 7). 7-18-50.
444,045. KORD CROWNETTE CONCERN-CREME AND DESIGN. Cl. 52 (Int. Cl. 3). 6-20-70.	527,771. KRUSADER. Cl. 52 (Int. Cl. 3). 7-18-50.
444,174. METALAM. Cl. 50 (Int. Cl. 6). 8-29-50.	527,828. SUPERTANE. Cl. 6 (Int. Cl. 4). 7-18-50.
444,197. DIXIE-DEB. Cl. 39 (Int. Cl. 25). 9-5-50.	528,261. DELSON MERRI-MINTS. Cl. 46 (Int. Cl. 30). 8-1-50.
444,234. KECO. Cl. 34 (Int. Cl. 11). 9-19-50.	528,327. ELECTROCARB. Cl. 1 (Int. Cl. 1). 8-1-50.
444,264. QUIX. Cl. 16 (Int. Cl. 2). 7-21-70.	528,417. DELSON. Cl. 46 (Int. Cl. 30). 8-1-50.
520,328. STYLES OF TOMORROW . . . TODAY. Cl. 39 (Int. Cl. 25). 1-24-50.	528,465. ACCROBRITE. Cl. 6 (Int. Cl. 1). 8-1-50.
520,821. PROSPERITY. Cl. 37 (Int. Cl. 16). 2-7-50.	528,511. BIOFAST. Cl. 6 (Int. Cl. 5). 8-1-50.
520,852. MAGNIKOL. Cl. 37 (Int. Cl. 16). 2-7-50.	528,626. MULTISEAT. Cl. 13 (Int. Cl. 7). 8-8-50.
520,916. HARTFORD FIRE INSURANCE CO. Cl. 102 (Int. Cl. 36). 2-7-50.	528,674. GLENLOGIE. Cl. 49 (Int. Cl. 33). 8-8-50.
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522,321. DRIWELL. Cl. 37 (Int. Cl. 16). 3-14-50.	529,294. SPAM. Cl. 46 (Int. Cl. 29). 8-22-50.
522,485. PETROLITE AND DESIGN. Cl. 15 (Int. Cl. 4). 3-21-50.	529,494. TIC. Cl. 26 (Int. Cl. 9). 8-22-50.
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531,325. SAPPHIRE. Cl. 38 (Int. Cl. 16). 9-26-50.	532,375. MC AND DESIGN. Cl. 46 (Int. Cls. 1 and 2). 10-24-50.
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 157,980. BRISTOL AND DESIGN. Cl. 22. 8-22-22.  
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 770,559. COLOR DUET. Cl. 2.  
 770,564. DESIGN OF A 20 MULE TEAM. Cl. 4.  
 770,567. NIO-STICK. Cl. 5.  
 770,572. FAIRFAX GEM AND DESIGN. Cl. 6.  
 770,577. AQUA-GLO. Cl. 11.  
 770,578. HERCULES. Cl. 12.  
 770,585. NIFCO ETC. AND DESIGN. Cl. 12.  
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 770,605. 800-9LT. Cl. 13.  
 770,609. ROCK ISLAND. Cl. 13.  
 770,612. PORT-O-FOUNTAIN. Cl. 13.  
 770,614. STRAN-CLAD. Cl. 14.  
 770,618. ALUMAHUME. Cl. 14.  
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 770,626. SUPER RC AND DESIGN. Cl. 15.  
 770,627. TFLP. Cl. 15.  
 770,640. AIRFLOAT LOWBOY AND DESIGN. Cl. 19.  
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770,909. PEPPY AND DESIGN. Cl. 46.  
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 770,930. AUTOMOBILE QUARTERLY. Cl. 38.  
 770,934. SLIDE LOX. Cl. 40.  
 770,935. ANTIQUE COTTON BY CONCORD. Cl. 42.  
 770,936. GOLDEN AGE AND DESIGN. Cl. 45.

770,937. TOPAZ. Cl. 46.  
 770,939. CRAVENS OF YORK ENGLAND ORIGINAL COFFEE SNAP AND DESIGN. Cl. 46.  
 770,944. SUNS AND LOVERS. Cl. 51.  
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85,968. IRENE AND DESIGN. Cl. 39. 4-2-12.  
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 846,851. MISCELLANEOUS DESIGN. Cls. 5 and 23. 4-2-68.  
 860,294. FLOWER GIRL. Cl. 52. 11-12-68.  
 863,263. FLOWER GIRL. Cl. 51. 1-7-69.  
 875,408. 4-EVER-WEAR. Cl. 39. 8-19-69.

## TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

267,844. PURITAN MALT EXTRACT. Cl. 46. 3-4-30. Puritan Malt Extract Co., assignor to Puritan Malt Extract Company. Premier Malt Products, Inc., Milwaukee, Wis. Amended to appear:

## PURITAN MALT EXTRACT

269,425. ICE CREAM GOOD HUMORS. Cl. 46. 4-8-30. Good Humor Corporation of America. Good Humor Corporation, Englewood Cliffs, N.J. Amended to appear:



509,054. THE RECORD HOLDER AND DESIGN. Cl. 39. 4-26-49. Ades-Lexington Dry Goods Co., Inc., Lexington, Ky. Corrected: In the statement, column 1, line 1, after "Co.", Inc. should be inserted.

521,031. TWO DOTTY DIMPLE DISH CLOTHS. Cl. 42. 2-14-50. Granite Looms, Inc., Fall River, Mass. Amended: In the statement, column 1, lines 22 and 23 are deleted, and the drawing is amended to appear:

## DOTTY DIMPLE

521,963. PRESDON WONDERITER. Cl. 37. 3-7-50. Presdon Manufacturing Corporation. Venus Esterbrook Corporation, New York, N.Y. Amended to appear:

## WONDERITER

523,300. MELCO ETC. AND DESIGN. Cl. 34. 4-4-50. Melchior, Armstrong, Dessau Co. of Delaware, Inc. Melchior, Armstrong, Dessau, Inc., Ridgefield, N.J. Amended to appear:



526,917. GD. Cl. 6. 6-27-50. Philadelphia Quartz Company. Philadelphia, Pa. Amended: In the statement, column 1, line 8, "silicate of soda" is deleted and sodium silicate is inserted.

650,206. CP MAPLE LEAF AND DESIGN. Cl. 46. 8-13-57. Canada Packers Limited, Toronto, Ontario, Canada. Amended to appear:

## MAPLE LEAF

650,873. VERSA-MATIC. Cl. 23. 8-27-57. Saco-Lowell Shops. Maremont Corporation, Chicago, Ill. Amended to appear:

## VERSAMATIC

742,078. ACCO AND DESIGN. Cl. 46. 12-11-62. Anderson, Clayton & Co., Houston, Tex. Amended: In the statement, column 2, after line 5, The word "Feeds" is disclaimed apart from the mark shown. Is inserted, and the drawing is amended to appear:



765,641. PEARLY POWDER. Cl. 51. 2-25-64. Nettie Rosenstern, Inc., New York, N.Y. Corrected: In the statement, column 1, line 1, "Perfumes" should be deleted and, Inc. should be inserted.

767,307. KOOL KUP ETC. AND DESIGN. Cl. 2. 3-24-64. The Herald Corporation. American Polystyrene Corporation, Austin, Tex. Amended to appear:

## KOOL KUPS

880,185. PROVIDENT COSTCONTROL. Cl. 102. 11-4-69. Provident National Bank, Philadelphia, Pa. Corrected: In the statement, column 1, line 1, "Pennsylvania corporation" should be deleted and national banking association should be inserted.

889,177. DOUBLETREE INN. Cl. 100. 4-7-70. Doubletree Inns, Inc., assignee of Double Tree Inns, Inc., Phoenix, Ariz. Corrected: In the statement, column 1, lines 1 through 5 should be deleted and Doubletree Inns, Inc. (Delaware corporation), 1006 South 24th St., Phoenix, Ariz. 85034, assignee of Double Tree Inns, Inc. (Arizona corporation), Phoenix, Ariz. should be inserted.

889,368. P. Cl. 26. 4-14-70. Parker Instrument Corporation, Stamford, Conn. Corrected: In the statement, column 2, line 6, "1968" should be deleted and 1958 should be inserted.

890,004. DELTA. Cl. 21. 4-28-70. Delta Products, Inc., Grand Junction, Colo. Corrected: The heading should be deleted and Ser. No. 329,442, filed June 9, 1969 should be inserted.

890,288. GOLDEN KEY PASSBOOK ACCOUNT. Cl. 102. 4-28-70. Provident National Bank, Philadelphia, Pa. Corrected: In the statement, column 1, line 1, "Pennsylvania corporation" should be deleted and national banking association should be inserted.

890,416. RUPCO. Cls. 23 and 35. 5-5-70. Rubber Products Company. Solon, Ohio. Corrected: In the statement, column 2, line 3, "roller" should be deleted and rollers should be inserted.

890,816. STOLIFTER. Cl. 19. 5-12-70. Conroy Aircraft Corporation, Goleta, Calif. Corrected: In the statement, column 2, line 1, "airport" should be deleted and aircraft should be inserted.

891,472. MS4. Cl. 15. 5-26-70. Midland Silicones Limited, Reading, England. Corrected: In the statement, column 2, line 1, "silicon" should be deleted and silicone should be inserted.

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 Absolutely Free Unlimited, Madison, Wis. 894,982, pub. 5-5-70. Cl. 22.  
 Acme Boot Co., Inc., Clarksville, Tenn. 895,096, pub. 5-5-70. Cl. 39.  
 Ades-Lexington Dry Goods Co., Inc., Lexington, Ky. 509,054, cor. Cl. 38.  
 Aero Service Corp., Philadelphia, Pa. 770,777, can. Cl. 26.  
 Agway, Inc., De Witt, N.Y. 894,930, pub. 5-5-70. Cl. 18.  
 Air Canada, Montreal, Quebec, Canada. 895,232, pub. 12-30-69. Cl. 105.  
 Air Products & Chemicals, Inc., Allentown, Pa. 894,887, pub. 5-5-70. Cl. 6.  
 Air Reduction Co., Inc., New York, N.Y. 895,045, pub. 5-5-70. Cl. 34.  
 Algas Industries, Los Angeles, Calif. 770,729, can. Cl. 23.  
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 Aluminum Co. of America, Pittsburgh, Pa. 770,618, can. Cl. 14.  
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 American Beauti Pleat, Inc., Whittier, Calif. 770,597, can. Cl. 13.  
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 American Biltrite Rubber Co., Inc., Chelsea, Mass. 525,367, ren. 7-21-70. Cl. 35.  
 American Broadcasting Companies, Inc., New York, N.Y. 895,068, pub. 5-5-70. Cl. 38.  
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 American Greetings Corp., Cleveland, Ohio. 581,325, ren. 7-21-70. Cl. 38.  
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 American Oil Co., The, Chicago, Ill. 529,901, ren. 7-21-70. Cl. 6.  
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 Awco Corp., Portland, Ore. 770,838, can. Cl. 37.  
 Azoplate Corp., Murray Hill, N.J. 895,013, pub. 5-5-70. Cl. 26.  
 B.L. Dental Co., Inc., Richmond Hill, N.J. 528,511, ren. 7-21-70. Cl. 8.  
 B.L. Dental Co., Inc., Richmond Hill, N.Y. 529,127, ren. 7-21-70. Cl. 44.  
 Baker, Ruth T., West Hollywood, Fla. 895,155, pub. 5-5-70. Cl. 46.  
 Bandera Hat Co., Fort Worth, Tex. 526,360, ren. 7-21-70. Cl. 39.  
 Bangor Punta Operations, Inc., New York, N.Y. 895,075, pub. 3-25-69. Cl. 39.  
 Barber-Colman Co., Rockford, Ill. 895,019, pub. 5-5-70. Cl. 26.  
 Barber-Greene Co., Aurora, Ill. 524,910, ren. 7-21-70. Cl. 23.  
 Barrow Mfg. Co., Winder, Ga. 875,408, can. Cl. 39.  
 Barrow Mfg. Co., Winder, Ga. 895,090, pub. 5-5-70. Cl. 39.  
 Basch, George, Co., The, Freeport, N.Y. 532,980, ren. 7-21-70. Cl. 4.  
 Bat Aero, Inc., Port Chester, N.Y. 894,944, pub. 5-5-70. Cl. 21.  
 Bates Mfg. Co., The, Orange, N.J. 895,058-9, pub. 5-5-70. Cl. 37.  
 Baxter Laboratories, Inc., Morton Grove, Ill. 895,130, pub. 4-29-69. Cl. 44.  
 Bear Brand Hosiery Co., Chicago, Ill. 895,101, pub. 5-5-70. Cl. 39.  
 Beauty Dynamics, Inc., Lafayette, N.J. 895,192, pub. 5-5-70. Cl. 51.  
 Beecham Inc., Clifton, N.J., from Middlebrooke-Lancaster, Inc., Brooklyn, N.Y. 895,181, pub. 1-30-68. Cl. 51.  
 Belle Wood Corp., Deerfield, Ill. 895,053, pub. 5-5-70. Cl. 86.  
 Bellows, Paul M. and Joe E. Harlow, Ridgefield, Wash. 770,923, can. Cl. 23.  
 Berent-Richards Packing Co., Sacramento, Calif. 770,909, can. Cl. 46.  
 Berwind Corp., Rosemont, Ill. 894,991, pub. 5-5-70. Cl. 23.  
 Bimba Mfg. Co., from Bimba Mfg. Co., Monee, Ill. 895,245. Cl. 23.  
 Bisset, John, & Co., Ltd., d.b.a. W. J. Hay & Co., Leith, Edinburgh, Scotland. 528,674, ren. 7-21-70. Cl. 49.  
 Block-Southland Sportswear, Inc., d.b.a. Plabio Shirtmakers, Wilmington, N.C. 895,102-3, pub. 5-5-70. Cl. 39.  
 Blue Thumb Records, Inc., Beverly Hills, Calif. 895,052, pub. 5-5-70. Cl. 36.  
 Bon Clare, Decatur, Ill. 770,832, can. Cl. 37.  
 Bon Dana Sportswear Co., Inc., New York, N.Y. 770,880, can. Cl. 39.  
 Borden, Inc., New York, N.Y. 76,584, ren. 7-21-70. Cl. 46.  
 Borden, Inc., New York, N.Y. 895,060, pub. 5-5-70. Cl. 37.  
 Borer, Anton, Solothurn, Switzerland. 894,914, pub. 5-5-70. Cl. 15.  
 Bowmar Instrument Corp., Fort Wayne, Ind. 529,494, ren. 7-21-70. Cl. 28.  
 Bradbury, Agnew & Co. Ltd., London, England. 524,669, ren. 7-21-70. Cl. 38.  
 Brady, W. H., Co., Milwaukee, Wis. 895,246. Cl. 23.  
 Brake-O International, Inc., Dallas, Tex. 895,226, pub. 5-5-70. Cl. 103.  
 Bread Box Mfg., Inc., Kokomo, Ind. 894,905, pub. 5-5-70. Cl. 12.  
 Brewer, E. F. Co., Butler, Wis. 770,645, can. Cl. 19.  
 Bridgestone Tire Co. Ltd., Tokyo, Japan. 895,252. Cl. 35.  
 British Footwear Ltd., Lachine, Quebec, Canada. 770,868, can. Cl. 39.  
 Brown Co., New York, N.Y. 520,821, ren. 7-21-70. Cl. 37.  
 Brown Co., New York, N.Y. 521,948, ren. 7-21-70. Cl. 37.  
 Brown Co., New York, N.Y. 527,351, ren. 7-21-70. Cl. 37.  
 Buffington's, Inc., Worcester, Mass. 742,254, ren. 7-21-70. Cl. 18.  
 Bulova Watch Co., Inc., Flushing, N.Y. 276,628, ren. 7-21-70. Cl. 27.  
 Butcher Boy Refrigerator Door Co., Harvard, Ill. 895,040, pub. 5-5-70. Cl. 31.  
 Buxton, Inc., Agawam, Mass. 895,097, pub. 5-5-70. Cl. 39.  
 Cabral, Manuel, Providence, R.I. 895,069, pub. 5-5-70. Cl. 38.  
 Camp Laboratories, Inc., Brooklyn, N.Y. 895,206, pub. 5-5-70. Cl. 52.  
 Canada Packers Ltd., Toronto, Ontario, Canada. 650,206, new cert. Cl. 46.  
 Cannon Show Co., Baltimore, Md. 525,188, ren. 7-21-70. Cl. 39.  
 Capel, A. Leon, & Sons, Inc., Troy, N.C. 895,126, pub. 5-5-70. Cl. 42.



## LIST OF PATENTEES

Caressa, Inc., Miami, Fla. 895,107, pub. 5-5-70. Cl. 39.  
 Carlette Juniors, Inc., New York, N.Y. 770,883, can. Cl. 39.  
 Carter's of California, Inc., Berkeley, Calif. 895,208, pub. 5-5-70. Cl. 100.  
 Casa Taco Corp., Memphis, Tenn. 895,255. Cl. 100.  
 Case, J. I., Co., Racine, Wis. 894,993, pub. 5-5-70. Cl. 23.  
 Castle & Cooke Inc., d.b.a. F. M. Ball & Co., Honolulu, Hawaii. 529,708, ren. 7-21-70. Cl. 46.  
 Castle & Cooke, Inc., d.b.a. Dole Co., Honolulu, Hawaii. 895,173, pub. 5-5-70. Cl. 46.  
 Castro, Anthony N., d.b.a. Castro & Son, Los Angeles, Calif. ren. 7-21-70. Cl. 46.  
 Chadbourn Inc., Charlotte, N.C. 895,113, pub. 5-5-70. Cl. 39.  
 Chadwell, Lester I., d.b.a. Buyer's Guide Publishing and Printing Co., Frankfort, Ky. 895,071, pub. 5-5-70. Cl. 38.  
 Chandos Industries, Inc., Chicago, Ill. 895,231, pub. 5-5-70. Cl. 105.  
 Channel Master Corp., Ellenville, N.Y. 770,666, can. Cl. 21.  
 Charlescraft Corp., Elk Grove, Ill. 770,685-6, can. Cl. 23.  
 Cheese Joint, Inc., The, Sodas, N.Y. 895,171, pub. 5-5-70. Cl. 46.  
 Chemetron Corp., Chicago, Ill. 525,696, ren. 7-21-70. Cl. 6.  
 Cherry Electrical Products Corp., Highland Park, Ill. 894,946, pub. 5-5-70. Cl. 21.  
 Chesbrough-Pond's Inc., New York, N.Y. 523,452, ren. 7-21-70. Cl. 51.  
 Chicago Mastic Co., Des Plaines, Ill. 894,853, pub. 12-30-69. Cl. 1.  
 Children's Wear Corp. of America, Miami, Fla. 895,089, pub. 5-5-70. Cl. 39.  
 Ciba Ltd., Basel, Switzerland. 894,891-2, pub. 3-3-70. Cl. 6.  
 Cities Service Oil Co., New York, N.Y. 770,622, ren. 7-21-70. Cl. 15.  
 Citizens Insurance Co. of New Jersey, Hartford, Conn. 520,916, ren. 7-21-70. Cl. 102.  
 Clairrol Inc., New York, N.Y. 895,187, pub. 2-24-70. Multiple Class (Classes 51 and 52).  
 Clairrol Inc., New York, N.Y. 895,185-6, pub. 5-5-70. Multiple Class (Classes 51 and 52).  
 Clark, Joan D., Winnetka, Ill. 895,177, pub. 5-5-70. Cl. 50.  
 Clark Corp., San Gabriel, Calif. 770,759, can. Cl. 26.  
 Cobcut Co., The, St. Louis, Mo. 531,682, ren. 7-21-70. Cl. 46.  
 Cold Spring Granite Co., Cold Spring, Minn. 372,303, can. Cl. 12.  
 Coleco Industries, Inc., Hartford, Conn. 525,087, ren. 7-21-70. Cl. 22.  
 College Seal & Crest Co., Inc., Cambridge, Mass. 895,036, pub. 5-5-70. Cl. 28.  
 Colonial Chemical Corp.: See—  
 Diversified Industries, Inc.  
 Colorforms, Norwood, N.J. 770,921, can. Cl. 22.  
 Combustion Engineering, Inc., Windsor, Conn. 84,851, can. Multiple Class (Classes 5 and 23).  
 Commodity Markets, Inc., Salt Lake City, Utah. 895,024, pub. 5-5-70. Cl. 26.  
 Compagnie des Restaurants Jacques Borel, Paris, France. 895,136, pub. 3-3-70. Multiple Class (Classes 46 and 100).  
 Compexion-Lamp Co., New York, N.Y. 770,919, can. Cl. 21.  
 Computer Exposition Inc., New York, N.Y. 895,262. Cl. 101.  
 Computer Products, Inc., Ft. Lauderdale, Fla. pub. 5-5-70. Cl. 21.  
 Concord Textile Co. Inc., New York, N.Y. 770,935, can. Cl. 42.  
 Conroy Aircraft Corp., Goleta, Calif. 890,816, cor. Cl. 19.  
 Consolidated Cigar Corp., New York, N.Y. 894,920, pub. 2-10-70. Cl. 17.  
 Consolidated Foods Corp., Chicago, Ill., from Arls Gloves, Inc., New York, N.Y. 895,084, pub. 5-5-70. Cl. 39.  
 Constellation Reinsurance Co., New York, N.Y. 895,222, pub. 2-17-70. Cl. 102.  
 Consumer Testing Laboratories, Inc., Boston 11, Mass. 895,207, pub. 4-12-66. Cl. 100.  
 Continental Can Co., Inc., New York, N.Y. 531,429, ren. 7-21-70. Cl. 2.  
 Continental Can Co., Inc., New York, N.Y. 894,866, pub. 5-5-70. Cl. 2.  
 Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany. 770,889, can. Cl. 39.  
 Continental Organization of Distributor, Pittsburgh, Pa. 895,200, pub. 6-18-68. Cl. 52.  
 Cooper Laboratories, Inc., Harrison, N.J. 34,877, ren. 7-21-70. Cl. 18.  
 Copperloy Corp., Cleveland, Ohio. 770,590, can. Multiple Class (Classes 12, 23, and 50).  
 Coronet Lubricants Co., Los Angeles, Calif. 525,354, ren. 7-21-70. Cl. 15.  
 Cosmetex Industries, Inc., Minneapolis, Minn. 895,191, pub. 5-5-70. Cl. 51.  
 Coterie of London, Ltd., New York, N.Y. 895,108, pub. 5-5-70. Cl. 39.  
 Cotton Club Bottling Co., The, Cleveland, Ohio. 895,136, pub. 5-5-70. Cl. 45.  
 Craftex Products Co., Brooklyn, N.Y. 895,179, pub. 5-5-70. Cl. 50.  
 Craven, M. A., & Son Ltd., Coppergate, York, England. 770,939, can. Cl. 46.  
 Credo Co., Fenton, Mo., 895,131, pub. 11-18-69. Cl. 44.  
 Crescendoe Gloves, Inc., Johnstown, N.Y. 770,884, can. Cl. 39.  
 Crocker, H. S., Co., Inc., San Bruno, Calif. 895,073, pub. 5-5-70. Cl. 38.  
 Crown Textile Mfg. Corp., New York, N.Y., 895,125, pub. 5-5-70. Cl. 42.  
 Cumberland Corp., Chattanooga, Tenn. 894,868, pub. 5-5-70. Cl. 2.  
 Custom Laboratories Inc., Baltimore, Md. 894,927, pub. 5-5-70. Cl. 18.  
 D'Amico Macaroni Co., Steger, Ill. 523,548, ren. 7-21-70. Cl. 46.  
 Dan River Mills, Inc., Danville, Va., 895,120, pub. 5-5-70. Cl. 42.  
 Darr-Oliver Inc., Stamford, Conn. 523,881, ren. 7-21-70. Cl. 23.  
 Dart Industries Inc., from Rexall Drug & Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 894,976, pub. 5-5-70. Cl. 22.  
 David & Frere (1967) Ltd., Montreal, Quebec, Canada. 895,151, pub. 1-13-70. Cl. 46.  
 Davis, James Hudson, New Brunswick, N.J. 895,100, pub. 5-5-70. Cl. 39.  
 Dee-Cee Laboratories, Inc., Madison, Tenn. 894,922, pub. 5-5-70. Cl. 18.  
 Deering Milkken, Inc., New York, N.Y. 895,123, pub. 10-14-69. Cl. 42.  
 De Kinkelder, Petrus J. A., Zevenaar, Netherlands. 894,990, pub. 5-5-70. Cl. 23.  
 De la Salle Institute, Rheem Valley, Calif. 524,741, ren. 7-21-70. Cl. 47.  
 Delson Candy Co., Inc., New York, N.Y. 528,261, ren. 7-21-70. Cl. 46.  
 Delson Candy Co., Inc., New York, N.Y. 528,417, ren. 7-21-70. Cl. 46.  
 Delta Food Processing Corp., Moorhead, Miss. 895,165, pub. 5-5-70. Cl. 46.  
 Delta Products, Inc., Grand Junction, Colo. 890,004, cor. Cl. 21.  
 Denys Fisher Toys Ltd., Boston Spa, England. 894,954, pub. 5-5-70. Cl. 22.  
 D'Esposito Bros., New York, N.Y. 895,037, pub. 5-5-70. Cl. 28.  
 Deutsch Co., The, Los Angeles, Calif. 770,599-600, can. Cl. 13.  
 Dieterich Standard Corp., New Buffalo, Mich. 895,009, pub. 5-5-70. Cl. 26.  
 Diversified Industries, Inc., from Colonial Chemical Corp., Dalton, Ga. 895,199, pub. 11-1-66. Cl. 52.  
 Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 269,129, ren. 7-21-70. Cl. 37.  
 Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 269,135, ren. 7-21-70. Cl. 37.  
 Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 272,132, ren. 7-21-70. Cl. 37.  
 Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 275,409, ren. 7-21-70. Cl. 37.  
 Docktor Pet Centers, Inc., d.b.a. Docktor's, Philadelphia, Pa. 894,858, pub. 5-5-70. Cl. 1.  
 Dorby Frocks, Ltd., New York, N.Y. 770,892, can. Cl. 39.  
 Dorn, Ernest W., Co., Inc., Los Angeles, Calif. 895,128, pub. 5-5-70. Cl. 42.  
 Dorr-Oliver Inc., Stamford, Conn. 894,997, pub. 5-5-70. Cl. 23.  
 Dorr-Oliver Inc., Stamford, Conn. 895,000, pub. 5-5-70. Cl. 23.  
 Doubletree Inns, Inc., from Double Tree Inns, Inc., Phoenix, Ariz. 889,177, cor. Cl. 100.  
 Dow Chemical Co., The, Midland, Mich. 444,174, ren. 7-21-70. Cl. 50.  
 Dow Corning Corp., Midland, Mich. 894,877, pub. 5-5-70. Cl. 6.  
 Dow Corning Corp., Midland, Mich. 894,878-81, pub. 5-5-70. Cl. 6.  
 Dresser Industries, Inc., Dallas, Tex. 770,603, can. Cl. 13.  
 Drexel Enterprises, Inc., Drexel, N.C. 770,813, can. Cl. 32.  
 Dri Mark Products, Inc., Mount Vernon, N.Y. 770,823, can. Cl. 37.  
 Dryad Ltd., Leicester, England. 894,001, pub. 5-5-70. Cl. 23.  
 Dunham Bros. Co., Brattleboro, Vt. 895,088, pub. 2-17-70. Cl. 39.  
 Eagle-Picher Industries, Inc., Cincinnati, Ohio. 525,825, ren. 7-21-70. Cl. 6.  
 Eastern Products Corp., Columbia, Md. 894,909, pub. 5-5-70. Cl. 13.  
 Eastman Kodak Co., Rochester, N.Y. 895,023, pub. 5-5-70. Cl. 26.  
 Eaton Yale & Towne Inc., Cleveland, Ohio. 894,980, pub. 1-20-70. Cl. 22.  
 Ebauches S.A., Neuchatel, Switzerland. 770,651, can. Multiple Class (Classes 21 and 26).  
 Educational Computer Systems, Inc., Phoenix, Ariz. 895,015, pub. 5-5-70. Cl. 26.  
 Elmcraft, Inc., Chicago, Ill. 529,787, ren. 7-21-70. Cl. 38.  
 Emerson Electric Co., St. Louis, Mo. 529,683, ren. 7-21-70. Cl. 21.  
 Empire Crafts Corp., Newark, N.Y. 770,815, can. Cl. 33.  
 Engelhard Minerals & Chemicals Corp., Edison, N.J. 894,863, pub. 5-5-70. Cl. 1.  
 Engle Equipment Co., Morton Grove, Ill. 895,002, pub. 5-5-70. Cl. 23.  
 Enro Shirt Co., Inc., The, Louisville, Ky. 267,216, ren. 7-21-70. Cl. 39.  
 Enro Shirt Co., Inc., The, Louisville, Ky. 268,483, ren. 7-21-70. Cl. 39.  
 Enro Shirt Co., Inc., The, Louisville, Ky. 520,328, ren. 7-21-70. Cl. 39.  
 Enro Shirt Co., Inc., The, Louisville, Ky. 895,080-1, pub. 2-24-70. Cl. 39.  
 Ermanco Inc., Grand Haven, Mich. 894,992, pub. 5-5-70. Cl. 23.  
 Espino, Carlos, Los Angeles, Calif. 770,800, can. Cl. 28.  
 Ethyl Corp., Richmond, Va. 895,054, pub. 5-5-70. Cl. 37.  
 Eversharp, Inc., Milford, Conn. 895,247-8. Cl. 23.  
 Ex-Cell-O Corp., Detroit, Mich. 770,775, can. Cl. 26.  
 Faberge Inc., New York, N.Y. 895,193, pub. 5-5-70. Cl. 51.  
 Faces West, Inc., Santa Monica, Calif. 895,042, pub. 5-5-70. Cl. 32.  
 Fairbanks, Morse & Co., Yonkers, N.Y. 770,693, can. Cl. 23.  
 Fairfax Photo Products, Inc., Fort Lee, N.J. 770,572, can. Cl. 6.

## INDEX OF REGISTRANTS

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt (Main), Germany. 894,852, pub. 5-5-70. Multiple Class (Classes 1, 4, 5, 6, 10, 12, 16, 18, 44, 46, and 52).  
 Farrell-Cheek Steel Co., Sandusky, Ohio. 269,463, ren. 7-21-70. Cl. 14.  
 Faultless Starch Co.: See—  
 Fender Mender, Inc.  
 Federal Pacific Electric Co., Newark, N.J. 444,020, ren. 7-21-70. Cl. 21.  
 Federated Department Stores, Inc., Brooklyn, N.Y. 272,035, ren. 7-21-70. Cl. 39.  
 Fender Mender, Inc., Nashville, Tenn., from Faultless Starch Co., Kansas City, Mo. 895,237. Cl. 16.  
 Ferro Corp., Cleveland, Ohio. 275,413, ren. 7-21-70. Cl. 12.  
 Ferro Corp., Cleveland, Ohio. 528,327, ren. 7-21-70. Cl. 1.  
 Firth Sterling Corp., McKeesport, Pa. 273,077, ren. 7-21-70. Cl. 23.  
 Fisher Scientific Co., Pittsburgh, Pa. 770,748, can. Cl. 26.  
 Flanders Filters, Inc., Washington, N.C. 895,041, pub. 5-5-70. Cl. 31.  
 Food Technology, Inc., Chicago, Ill. 895,166, pub. 5-5-70. Cl. 46.  
 Foster, Ken, Co., Inc., d.b.a. Touring America Self-Drive, San Francisco, Calif. 770,948, can. Cl. 105.  
 Fox, H., & Co., Brooklyn, N.Y. 211,209, can. Cl. 45.  
 Franklin Mint, Inc., The, Yeadon, Pa. 894,956-75, pub. 5-5-70. Cl. 22.  
 Franklin Mint, Inc., The, Yeadon, Pa. 894,981, pub. 5-5-70. Cl. 22.  
 Freeman, Gilbert, Fabrics Co., Boston, Mass. 895,116, pub. 5-5-70. Cl. 39.  
 Frieder, S., & Sons, Co., The, Philadelphia, Pa. 527,289, ren. 7-21-70. Cl. 17.  
 Frieder, S., & Sons Co., The, Philadelphia, Pa. 529,495, ren. 7-21-70. Cl. 17.  
 Fuller Laboratories, Inc., Eden Prairie, Minn. 894,872, pub. 5-5-70. Multiple Class (Classes 4, 6, 16, and 52).  
 GAF Corp., New York, N.Y. 895,122, pub. 5-5-70. Cl. 42.  
 Gall, Inc., New York, N.Y. 895,035, pub. 5-5-70. Cl. 28.  
 Gandrud, E. S., Co., Owatonna, Minn. 611,404, can. Cl. 23.  
 Gattfelder, P. H., Co., Spring Grove, Pa. 895,061, pub. 5-5-70. Cl. 37.  
 Gaydell, Inc., Pacific Palisades, Calif. 770,774, can. Cl. 26.  
 Gaymont Laboratories, Inc.: See—  
 R.G.B. Laboratories, Inc.  
 General Atomics Corp., Bala-Cynwyd, Pa. 770,740, can. Cl. 26.  
 General Battery Corp., from General Battery & Ceramic Corp., Reading, Pa. 894,941, pub. 5-5-70. Cl. 21.  
 General Employment Enterprises, Inc., Chicago, Ill. 895,258-60. Cl. 101.  
 General Features Corp., New York, N.Y. 895,065, pub. 7-15-69. Cl. 38.  
 General Mills, Inc., Minneapolis, Minn. 525,802, ren. 7-21-70. Cl. 38.  
 General Mills, Inc., Minneapolis, Minn. 895,159, pub. 2-10-70. Cl. 46.  
 General Products Co. Inc., Fredericksburg, Va. 894,906, pub. 5-5-70. Cl. 12.  
 General Time Corp., Phoenix, Ariz. 79,874-5, ren. 7-21-70. Cl. 27.  
 General Time Corp., Phoenix, Ariz. 276,597, ren. 7-21-70. Cl. 27.  
 General Wlg Mfg., Inc., Miami, Fla. 895,117, pub. 5-5-70. Cl. 40.  
 Gen-Rite Auto Electric, Inc., Hicksville, N.Y. 894,945, pub. 5-5-70. Cl. 21.  
 Glivaudan Corp., Clifton, N.J. 894,876, pub. 5-5-70. Cl. 6.  
 Globe Albany Corp., Buffalo, N.Y. 525,039, ren. 7-21-70. Cl. 35.  
 Good Humor Corp. of America, Good Humor Corp., Englewood Cliffs, N.J. 269,425. Am. 7(d). Cl. 46.  
 Gordon, Victor, H., Astoria, N.Y. 895,250. Cl. 26.  
 Graig Instrument Corp., Long Branch, N.J. 770,753, can. Cl. 26.  
 Granite City Steel Co., Granite City, Ill. 770,578, can. Cl. 12.  
 Granite Looms, Inc., Fall River, Mass. 521,031. Am. 7(d). Cl. 42.  
 Graymills Corp., Chicago, Ill. 895,007, pub. 5-5-70. Cl. 26.  
 Gross Cash Registers, Ltd., London, England. 895,004, pub. 5-5-70. Cl. 26.  
 Gruber, Carlo, Graz-Gosting, Austria. 895,077, pub. 3-17-70. Cl. 39.  
 Grublin, Max J., d.b.a. Rofay Products, Carteret, N.J. 894,929, pub. 5-5-70. Cl. 18.  
 Gulf States Paper Corp., Tuscaloosa, Ala. 894,864, pub. 2-8-70. Cl. 2.  
 Hall, George P., Inc., New York, N.Y. 770,869, can. Cl. 39.  
 Hall, George P., Inc., New York, N.Y. 770,895, can. Cl. 39.  
 Hammond Machinery Builders, Inc., Kalamazoo, Mich. 532,034, ren. 7-21-70. Cl. 23.  
 Hamilton Pharmacal Co., Inc., The, Hamilton, N.Y. 894,925, pub. 5-5-70. Cl. 18.  
 Hannah Textiles Inc., Palisades Park, N.J. 895,121, pub. 5-5-70. Cl. 42.  
 Harf Inc., Hatfield, Pa. 523,718, ren. 7-21-70. Cl. 52.  
 Harnischfeger Corp., West Milwaukee, Wis. 895,249. Cl. 23.  
 Harris Trust and Savings Bank, Chicago, Ill. 895,224, pub. 5-5-70. Cl. 102.  
 Harris-Renwick Co. Ltd., The, Ottawa, Ontario, Canada. 770,689, can. Cl. 23.  
 Harte & Co., Inc., New York, N.Y. 527,252, ren. 7-21-70. Cl. 42.  
 Head-To-Toe Products, Rahway, N.J., from David Jaffee, Scotch Plains, N.J. 895,182, pub. 11-25-69. Cl. 51.  
 Hearst Corp., The, New York, N.Y. 273,427, ren. 7-21-70. Cl. 38.  
 Hearst Corp., The, New York, N.Y. 274,802, ren. 7-21-70. Cl. 38.  
 Helgesen, Clarence R., d.b.a. Helge's Hickory Q., Omaha, Nebr. 895,143, pub. 5-5-70. Cl. 46.  
 Herald Corp., The, American Polystyrene Corp., Austin, Tex. 767,307. Am. 7(d). Cl. 2.  
 Herman, I. C., & Co., Inc., New York, N.Y. 895,083, pub. 5-5-70. Cl. 39.  
 Herzog, David Roy, d.b.a. Topic-Craft Covers, Minneapolis, Minn. 770,838, can. Cl. 37.  
 Hickory Publishing Co., Inc., Syosset, N.Y. 770,926-7, can. Cl. 38.  
 Hi-Lo Mfg. Co., Minneapolis, Minn. 894,998, pub. 5-5-70. Cl. 23.  
 Hoffmann-La Roche Inc., Nutley, N.J. 894,894, pub. 5-5-70. Cl. 6.  
 Hoffmann-La Roche Inc., Nutley, N.J. 895,033, pub. 5-5-70. Multiple Class (Classes 26 and 36).  
 Holly Grills, Inc., Grand Rapids, Mich. 895,214-15, pub. 5-5-70. Cl. 100.  
 Home Town Foods, Inc., Jacksonville, Fla. 895,185, pub. 5-5-70. Cl. 45.  
 Honeywell Inc., Minneapolis, Minn. 895,025, pub. 5-5-70. Cl. 26.  
 Hormel, Geo. A., & Co., Austin, Minn. 529,294, ren. 7-21-70. Cl. 46.  
 Horton Mfg. Co., The, Bristol, Conn. 157,980, can. Cl. 22.  
 Hospitality Supply Co., Minneapolis, Minn. 895,220, pub. 2-10-70. Cl. 101.  
 Houdaille Industries, Inc., Buffalo, N.Y. 895,006, pub. 5-5-70. Cl. 26.  
 Howorka, J. Warren, Anaheim, Calif. 895,026, pub. 5-5-70. Cl. 26.  
 Howard Uniforms, Inc., Woodside, N.Y. 895,093, pub. 5-5-70. Cl. 39.  
 Hudson Hosiery Co., Charlotte, N.C. 770,875, can. Cl. 39.  
 Hudson, Monie S., d.b.a. Hudson Research, Spartanburg, S.C. 895,267. Cl. 106.  
 Hunter Ltd.: Maclean-Hunter Limitee, Toronto, Ontario, Canada. 895,062, pub. 5-5-70. Cl. 38.  
 Hupp Corp., Cleveland, Ohio. 770,725, can. Cl. 23.  
 Hy-Cal Engineering, Santa Fe Springs, Calif. 895,017, pub. 5-5-70. Cl. 26.  
 Illinois Tool Works Inc., Chicago, Ill. 895,022, pub. 5-5-70. Cl. 26.  
 Imlac Corp., Watertown, Mass. 895,011, pub. 2-17-70. Cl. 26.  
 Imperial Mortgage Corp., Griffin, Ga. 895,223, pub. 5-5-70. Cl. 102.  
 Indpol, Cucamonga, Calif. 894,861, pub. 5-5-70. Cl. 1.  
 Industrial Computer Laboratories, Inc., Salt Lake City, Utah. 895,029, pub. 5-5-70. Cl. 26.  
 Information Inc., New York, N.Y. 894,947, pub. 5-5-70. Cl. 22.  
 Ingram Pharmaceutical Co., San Francisco, Calif. 894,931, pub. 5-5-70. Cl. 18.  
 Inner Cities Chemical Products Inc., Jamaica, N.Y. 895,202, pub. 5-5-70. Cl. 52.  
 Integrated Systems, Inc., Norcross, Ga. 895,003, pub. 5-5-70. Cl. 26.  
 Interchemical Corp., New York, N.Y. 770,577, can. Cl. 11.  
 International Telephone & Telegraph Corp., New York, N.Y. 770,751, can. Cl. 26.  
 Interpace Corp., Los Angeles, Calif. 895,066, pub. 10-7-69. Cl. 38.  
 Jackson Products Co., Tampa, Fla. 894,988, pub. 5-5-70. Cl. 23.  
 Jaffee, David: See—  
 Head-To-Toe Products.  
 Jay-Thomas, Inc., Milwaukee, Wis. 770,858, can. Cl. 39.  
 Jerico, Inc., Lexington, Ky. 895,144, pub. 5-5-70. Cl. 46.  
 Jet-Speed, Inc., Springfield, Mo. 770,714, can. Cl. 23.  
 Johanna Farms, Inc., Flemington, N.J. 895,168, pub. 5-5-70. Cl. 46.  
 Johnson & Johnson, New Brunswick, N.J. 894,928, pub. 5-5-70. Cl. 18.  
 Johnson & Johnson, New Brunswick, N.J. 895,197, pub. 5-5-70. Cl. 51.  
 Johnson Laboratories, Culver City, Calif. 895,254. Cl. 51.  
 Jomila International Corp., Elmsford, N.Y. 895,039, pub. 5-5-70. Cl. 29.  
 Juvenile Mfg. Co., Inc., The, San Antonio, Tex. 770,848, can. Cl. 39.  
 K-C Mfg. Co., Inc., Quincy, Fla. 894,939, pub. 5-5-70. Cl. 19.  
 K.M.R. Publications Inc., New York, N.Y. 895,072, pub. 5-5-70. Cl. 38.  
 Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka, Japan. 895,127, pub. 5-5-70. Cl. 42.  
 Karpf Industries, Inc., San Antonio, Tex. 895,078, pub. 5-5-70. Cl. 39.  
 Kaz, Murray L., d.b.a. Zak Co., Chicago, Ill. 894,883, pub. 2-17-70. Cl. 6.  
 Keco Industries, Inc., Cincinnati, Ohio. 444,234, ren. 7-21-70. Cl. 34.  
 Kenner Products Co., Cincinnati, Ohio. 529,271, ren. 7-21-70. Cl. 22.  
 King Richards, Inc., Compton, Calif. 770,840, ren. 7-21-70. Cl. 19.  
 Kinser's, Mrs., Home Style Foods, Inc., Atlanta, Ga. 895,158, pub. 5-5-70. Cl. 46.  
 Koller & Smith Co., Inc., New York, N.Y. 520,852, ren. 7-21-70. Cl. 87.  
 Kops Bros., Inc., New York, N.Y. 895,091, pub. 5-5-70. Cl. 39.  
 Koscot Interplanetary, Inc., Orlando, Fla. 895,185, pub. 5-5-70. Cl. 61.



Kosta, James P., Fort Lauderdale, Fla. 444,045, ren. 7-21-70. Cl. 52.  
 Kraftco Corp., New York, N.Y. 895,163, pub. 2-17-70. Cl. 46.  
 Laboratoires Goupil S.A., Cachan, France. 895,189, pub. 5-5-70. Cl. 51.  
 Lan-O-Sheen, Inc., St. Paul, Minn. 895,183, pub. 5-5-70. Cl. 51.  
 Lapstrap, Inc., Wichita, Kans. 770,918, can. Cl. 19.  
 Leasing Corp. of America, East Braintree, Mass. 895,209, pub. 5-5-70. Cl. 100.  
 Leath, McCarthy & Maynard, Inc., Burlington, N.C. 895,082, pub. 5-5-70. Cl. 39.  
 Levi Strauss & Co., San Francisco, Calif. 895,076, pub. 5-5-70. Cl. 39.  
 Levy, Seymour H., Chicago, Ill. 770,653, can. Cl. 21.  
 Liggett & Myers Inc., New York, N.Y. 895,239-40, Cl. 17.  
 Lind, Ruth, Springfield, Va. 895,253, Cl. 36.  
 Lindsay, Henry Ltd., Shipley, England. 894,911-12, pub. 5-5-70. Cl. 13.  
 Lindsay Wire Weaving Co., The, Cleveland, Ohio. 894,910, pub. 5-5-70. Cl. 13.  
 Lish Bros. Inc., New York, N.Y. 895,111, pub. 5-5-70. Cl. 39.  
 Little Bike Industries, Inc., Manchester, Conn. 895,241, Cl. 19.  
 Litton Business Systems, Inc., New York, N.Y. 895,021, pub. 5-5-70. Cl. 26.  
 Lockheed Aircraft Corp., Burbank, Calif. 894,897, pub. 5-5-70. Cl. 9.  
 Logan Smith & Associates, Harbor City, Calif. 770,793, can. Cl. 26.  
 Lorillard Corp., New York, N.Y. 894,895, pub. 5-5-70. Cl. 8.  
 Lovable Co., The, Atlanta, Ga. 895,086, pub. 5-5-70. Cl. 39.  
 Lustray Laboratories, Inc., Brooklyn, N.Y. 895,194, pub. 5-5-70. Cl. 51.  
 Lykes-Pasco Packing Co., Dade City, Fla. 895,172, pub. 5-5-70. Cl. 46.  
 M.F.A. Oil Co., Columbia, Mo. 894,884, pub. 5-5-70. Cl. 6.  
 MSI Electronics Inc., Richmond Hill, N.Y. 770,649, can. Cl. 21.  
 M & W Gear Co., Gibson City, Ill. 894,935, pub. 5-5-70. Cl. 19.  
 Madame Irene, New York, N.Y. 85,968, can. Cl. 39.  
 Magic Carpet Silde Sales Corp., Fort Worth, Tex. 894,950, pub. 1-6-70. Cl. 22.  
 Maloney, William W., d.b.a. Check-O-Graph Checkwriter Co., Chicago, Ill. 894,999, pub. 5-5-70. Cl. 23.  
 Malouf Co., Dallas, Tex. 444,197, ren. 7-21-70. Cl. 39.  
 Mann, Glenn T., d.b.a. Central Records & Recording Co., Flint, Mich. 770,822, can. Cl. 36.  
 Marine Trading Ltd., Nassau, Bahamas. 895,266, Cl. 105.  
 Marx, Dick Production Group, Inc., The, d.b.a. Records, Chicago, Ill. 895,051, pub. 5-5-70. Cl. 36.  
 Mary Jane Inc., New York, N.Y. 770,864, can. Cl. 39.  
 Materials Engineering Co. Inc., Glenwood, Minn. 770,922, can. Cl. 23.  
 Mattel, Inc., Hawthorne, Calif. 894,983-4, pub. 5-5-70. Cl. 22.  
 McCormick and Co., Inc., Cockeysville, Md. 532,375, ren. 7-21-70. Cl. 46.  
 McCormick & Co., Inc., Baltimore, Md. 895,146, pub. 5-5-70. Cl. 46.  
 Melchior, Armstrong Dessau Co. of Delaware, Inc., Melchior, Armstrong, Dessau, Inc., Ridgedfield, N.J. 523,300, Am. 7(d). Cl. 34.  
 Meljay Industries, Inc., Santa Monica, Calif. 895,180, pub. 5-5-70. Cl. 50.  
 Melville Show Corp., New York, N.Y. 895,092, pub. 5-5-70. Cl. 39.  
 Menley & James Laboratories, Ltd., Philadelphia, Pa. 895,188, pub. 2-10-70. Cl. 51.  
 Mercury Instruments, Inc., Cincinnati, Ohio. 895,018, pub. 5-5-70. Cl. 26.  
 Middlebrooke-Lancaster, Inc.: See—  
 Beecham Inc.  
 Midland Silicons Ltd., Reading, England. 891,472, cor. Cl. 15.  
 Midland-Ross Corp., Cleveland, Ohio. 894,986, pub. 5-5-70. Cl. 23.  
 Miller, C. O. and James Adamson, d.b.a. Thoro Chemical Co., Van Nuys, Calif. 525,142, ren. 7-21-70. Cl. 103.  
 Miller, Terrell W., d.b.a. T. Miller Co., Trenton, Mo. 895,149, pub. 3-10-70. Cl. 46.  
 Miner Industries, Inc., New York, N.Y. 894,977, pub. 5-5-70. Cl. 22.  
 Min-1-Soft Co., The, Denver, Colo. 770,808, can. Cl. 31.  
 Minneapolis Scientific Controls Corp., Minneapolis, Minn. 770,872, can. Cl. 21.  
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 770,788, can. Cl. 26.  
 Mite Corp., New Haven, Conn. 894,940, pub. 5-5-70. Multiple Class (Classes 21, 26, and 27).  
 Mock Distributing Co., Inc., Decatur, Ala. 895,008, pub. 5-5-70. Cl. 26.  
 Modern Engineering Co., Inc., St. Louis, Mo. 528,626, ren. 7-21-70. Cl. 13.  
 Mogul Corp., The, Chagrin Falls, Ohio. 894,857, pub. 5-5-70. Cl. 1.  
 Molded Products Co., Fort Worth, Tex. 894,933, pub. 5-5-70. Cl. 19.  
 Monarch Citrus Products Co., Doraville, Ga. 895,134, pub. 10-7-69. Cl. 45.  
 Monarch Wine Co. of Georgia, Atlanta, Ga. 530,982, ren. 7-21-70. Cl. 47.  
 Monroe Calculating Machine Co., Orange, N.J. 770,794, can. Cl. 26.  
 Montclair Mobile Homes, Inc., Montclair, Calif. 770,841, ren. 7-21-70. Cl. 19.  
 Mortgage Bankers Association of America, Washington, D.C. 895,235, pub. 5-5-70. Cl. 200.  
 Morton International, Inc., Chicago, Ill. 895,142, pub. 10-22-68. Cl. 46.  
 Most Associates, Inc., Marblehead, Mass. 895,028, pub. 5-5-70. Cl. 26.  
 Movado Watch Agency, Inc., New York, N.Y. 895,034, pub. 5-5-70. Cl. 27.  
 Multi-Ad Services, Inc., Peoria, Ill. 895,218, pub. 5-5-70. Cl. 101.  
 NCC Food Corp., Chicago, Ill. 532,824, ren. 7-21-70. Cl. 46.  
 National Distillers & Chemical Corp., d.b.a. National Distillers Products Co., New York, N.Y. 270,439, ren. 7-21-70. Cl. 49.  
 National Semiconductor Corp., Danbury, Conn. 770,654, can. Cl. 21.  
 National Tea Co., Chicago, Ill. 895,167, pub. 5-5-70. Cl. 46.  
 Nattermann, A., & Cie. G.m.b.H., Cologne-Braunsfeld, Germany. 894,923, pub. 5-5-70. Cl. 18.  
 New Jersey Zinc Co., The, New York, N.Y. 529,977, ren. 7-21-70. Cl. 38.  
 New Jersey Zinc Co., The, New York, N.Y. 530,755, ren. 7-21-70. Cl. 38.  
 Newspaper Enterprise Association, Inc., Cleveland, Ohio. 770,948, can. Cl. 107.  
 Neyrpic Inc., New York, N.Y. 895,263, Cl. 103.  
 Niedermeyer-Martin Co., Portland, Oreg. 894,899, pub. 8-13-68. Cl. 12.  
 Nina Footwear Co., Inc., Long Island City, N.Y. 895,079, pub. 5-5-70. Cl. 39.  
 Niobia Co., Inc., The, Winthrop, Mass. 770,587, can. Cl. 5.  
 Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 895,186, pub. 5-5-70. Cl. 51.  
 Northern Indiana Fence Co., Inc., Tippecanoe, Ind. 770,585, can. Cl. 12.  
 Numerical Control Corp., San Diego, Calif. 770,687, can. Cl. 23.  
 Nutrepa, S.A., Barcelona, Spain. 895,152, pub. 5-5-70. Cl. 46.  
 Nutrilite Products, Inc., Buena Park, Calif. 894,871, pub. 5-5-70. Cl. 4.  
 Oceanic Instruments, Inc., Houghton, Wash. 770,787, can. Cl. 26.  
 Ogino Book Co., Ltd., Yokohama, Japan. 895,032, pub. 5-5-70. Cl. 26.  
 Olin Mathieson Chemical Corp., New Haven, Conn. 894,885, pub. 5-5-70. Cl. 6.  
 Omnifacet Corp., Oyster Bay, N.Y. 895,242, Cl. 19.  
 Onelda Ltd., Onelda, N.Y. 895,221, pub. 5-5-70. Cl. 101.  
 Ord Alexander Associates, Inc., Washington, D.C. 894,952, pub. 5-5-70. Cl. 22.  
 Organon Inc., West Orange, N.J. 894,932, pub. 3-17-70. Cl. 18.  
 Orkin Exterminating Co., Inc., Atlanta, Ga. 527,771, ren. 7-21-70. Cl. 52.  
 Orlando, Vincent, d.b.a. Vorland Sales Co., Kearny, N.J. 770,804, can. Cl. 28.  
 Owens Country Sausage, Inc., Richardson, Tex. 895,160, pub. 5-5-70. Cl. 46.  
 Pabst Brewing Co., Milwaukee, Wis. 271,202, ren. 7-21-70. Cl. 48.  
 Pan American World Airways, Inc., New York, N.Y. 770,642, ren. 7-21-70. Cl. 19.  
 Parke, Davis & Co., Detroit, Mich. 419,767, can. Cl. 18.  
 Palmer Instrument Corp., Stamford, Conn. 889,368, cor. Cl. 26.  
 Peavey Co., Minneapolis, Minn. 895,157, pub. 2-17-70. Cl. 46.  
 Peninsular Paper Co., Ypsilanti, Mich. 531,791, ren. 7-21-70. Cl. 37.  
 Penn Corp., Princeton, N.J. 895,057, pub. 5-5-70. Cl. 37.  
 Pennsalt Chemicals Corp.: See—  
 Pennwalt Corp.  
 Pennwalt Corp., from Pennsalt Chemicals Corp., Philadelphia, Pa. 895,129, pub. 4-15-69. Cl. 44.  
 Pep Boys, Manny, Moe & Jack, The, Philadelphia, Pa. 770,826, can. Cl. 15.  
 Perfect Parts, Inc., Carlstadt, N.J. 895,251, Cl. 26.  
 Perfection Co., Ltd., The, Waco, Tex. 524,698, ren. 7-21-70. Cl. 45.  
 Petrolite Corp., St. Louis, Mo. 522,485, ren. 7-21-70. Cl. 15.  
 Pfizer, Chas., & Co., Inc., New York, N.Y. 895,198, pub. 5-5-70. Cl. 51.  
 Philadelphia Chewing Gum Corp., Havertown, Pa. 895,170, pub. 5-5-70. Cl. 46.  
 Philadelphia Quartz Co., Philadelphia, Pa. 526,917, Am. 7(d). Cl. 6.  
 Philco-Ford Corp., Philadelphia, Pa. 525,115, ren. 7-21-70. Cl. 21.  
 Pillsbury Co., The, Minneapolis, Minn. 895,161, pub. 5-5-70. Cl. 48.  
 Pilot Chemical Co., Santa Fe Springs, Calif. 894,888-90, pub. 5-5-70. Cl. 6.  
 Pioneer Hi-Bred Corn Co., Des Moines, Iowa. 894,854, pub. 5-5-70. Cl. 1.  
 Plant Protection Ltd., Yalving, Kent, England. 894,989, pub. 5-5-70. Cl. 23.  
 Plastronics Corp., Asheboro, N.C. 770,553, can. Cl. 2.  
 Plymouth Mfg. Co., Boston, Mass. 443,920, ren. 7-21-70. Cl. 39.  
 Pneumafil Corp., Charlotte, N.C. 527,089, ren. 7-21-70. Cl. 23.  
 Poppenburg, Hans, Westphalia, Germany. 895,153, pub. 5-5-70. Cl. 46.  
 Pounds, John F., d.b.a. The Char-House, Enid, Okla. 895,210, pub. 5-5-70. Cl. 100.  
 Poviet Producten, N.V., Amsterdam, Netherlands. 894,886, pub. 5-5-70. Cl. 6.  
 Powers Chemco, Inc., d.b.a. Chemco Photoproducts Co., Glen Cove, N.Y. 895,027, pub. 5-5-70. Cl. 26.  
 Precision Parts Corp., Nashville, Tenn. 895,044, pub. 5-5-70. Cl. 34.  
 Prefco Products Inc., Buckingham, Pa. 895,046-7, pub. 5-5-70. Cl. 34.

Presdon Mfg. Corp. Venus Esterbrook Corp., New York, N.Y. 521,963, Am. 7(d). Cl. 37.  
 Profitunities Inc., New York, N.Y. 895,063, pub. 5-5-70. Multiple Class (Classes 38 and 101).  
 Provident National Bank, Philadelphia, Pa. 890,185, cor. Cl. 102.  
 Provident National Bank, Philadelphia, Pa. 890,288, cor. Cl. 102.  
 Puretec, Inc., Los Angeles, Calif. 895,010, pub. 5-5-70. Cl. 26.  
 Puritan Fashions Corp., New York, N.Y. 770,863, can. Cl. 39.  
 Puritan Malt Extract Co., assignor to Puritan Malt Extract Co., Premier Malt Products, Inc., Milwaukee, Wis. 267,844, Am. 7(d). Cl. 48.  
 Quality Check Dairy Products Association, Hinsdale, Ill. 895,158, pub. 5-5-70. Cl. 46.  
 RCA Corp., New York, N.Y. 273,678, ren. 7-21-70. Cl. 36.  
 R. D. Products, Inc., East Rochester, N.Y. 895,212, pub. 1-13-70. Cl. 100.  
 R.G.B. Laboratories, Inc., Kansas City, Mo., from Gaymont Laboratories, Inc., Chicago, Ill. 895,141, pub. 2-10-70. Cl. 46.  
 Rainmaker Pipe Co., Stockton, Calif. 525,180, ren. 7-21-70. Cl. 13.  
 Ramchargers Racing Engines Inc., Taylor, Mich. 894,934, pub. 12-30-69. Multiple Class (Classes 19 and 23).  
 Ray Data Corp., Columbus, Ohio. 770,742, can. Cl. 26.  
 Raybestos-Manhattan, Inc., Passaic, N.J. 894,949, pub. 5-5-70. Cl. 22.  
 Red Cap Industries, Inc., Holyoke, Mass. 522,521, ren. 7-21-70. Cl. 6.  
 Reddy Co., Inc., Montpelier, Va. 770,934, can. Cl. 40.  
 Reemtsma Cigarettenfabriken G.m.b.H., Parkstr., Germany. 895,238, Cl. 17.  
 Regal Knitwear Co., Inc., New York, N.Y. 433,403, can. Cl. 39.  
 Reichhold Chemicals, Inc., White Plains, N.Y. 894,873, pub. 5-5-70. Cl. 5.  
 Reliance Electric & Engineering Co., The, Euclid, Ohio. 895,049, pub. 5-5-70. Cl. 35.  
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 894,919, pub. 5-5-70. Cl. 17.  
 Reynolds and Reynolds Co., The, Dayton, Ohio. 895,217, pub. 5-5-70. Cl. 101.  
 Rexall Drug & Chemical Co.: See—  
 Dart Industries Inc.  
 Rice Hosiery Corp., High Point, N.C. 895,087, pub. 5-5-70. Cl. 39.  
 Riddell, Inc., Des Plaines, Ill. 894,979, pub. 5-5-70. Cl. 22.  
 Rikson Associates, Inc., Appleton, Wis. 527,044, ren. 7-21-70. Cl. 38.  
 Riviana Foods, Inc., Houston, Tex. 275,915, ren. 7-21-70. Cl. 46.  
 Roach, J. Sons, Inc., Plainfield, Iowa. 770,772, can. Cl. 66.  
 Rock Island Oil Refining Co., Inc., Wichita, Kans. 770,609, can. Cl. 13.  
 Rodriguez, Daniel, and Diego Rodriguez, d.b.a. Daniel and/or Diego Rodriguez, Havana, Fla. 894,918, pub. 5-5-70. Cl. 17.  
 Rollside Corp., The, Columbus, Ohio. 770,721, can. Cl. 23.  
 Romper Room Enterprises, Inc., from Romper Room, Inc., Baltimore, Md. 894,948, pub. 5-5-70. Cl. 22.  
 Romper Room, Inc.: See—  
 Romper Room Enterprises, Inc.  
 Ronick, Inc., New York, N.Y. 770,891, can. Cl. 39.  
 Rosenstein, Nettie, Inc., New York, N.Y. 765,641, cor. Cl. 51.  
 Russell, Henry, & Co. Ltd., Sheffield, England. 77,730, ren. 7-21-70. Cl. 23.  
 Rothmoor Corp., Chicago, Ill. 895,099, pub. 5-5-70. Cl. 39.  
 Royce Hosiery Mills, Inc., New York, N.Y. 895,098, pub. 5-5-70. Cl. 39.  
 Rubber Products Co., Solon, Ohio. 890,416, cor. Multiple Class (Classes 23 and 35).  
 Russell & Stoll Co., Inc., New York, N.Y. 770,864, can. Cl. 21.  
 Rust, Fred, and Carol Rust, d.b.a. Albany Hardware Specialty Mfg. Co., Albany, Wis. 532,004, ren. 7-21-70. Cl. 25.  
 Sachs, Sidney, Paramus, N.J. 894,901, pub. 5-5-70. Cl. 12.  
 Saco-Lowell Shops, Maremont Corp., Chicago, Ill. 650,873, Am. 7(d). Cl. 23.  
 Sales Promotions, Inc., New York, N.Y. 895,064, pub. 7-22-69. Cl. 38.  
 Sanders Associates, Inc., Nashua, N.H. 770,747, can. Cl. 26.  
 Sarco Co., Inc., New York, N.Y. 186,041, can. Cl. 13.  
 Sarco Co., Inc., New York, N.Y. 187,188, can. Cl. 26.  
 Sardeau, Inc., Kenilworth, N.J. 443,281, ren. 7-21-70. Cl. 52.  
 Saxon Industries, Inc., New York, N.Y. 522,821, ren. 7-21-70. Cl. 37.  
 Scambila Industrial Developments Aktiebolaget Aktiengesellschaft, Schaan, Liechtenstein, from Technicuria A.G., Chur/Grisons, Switzerland. 894,985, pub. 10-7-69. Cl. 23.  
 Scarves By Vera, Inc., New York, N.Y. 894,870, pub. 5-5-70. Cl. 3.  
 Schettone, Philip W., d.b.a. Little Pepl's, Norristown, Pa. 895,169, pub. 5-5-70. Cl. 46.  
 Schumacker, Marvin, Appleton, Wis. 525,982, ren. 7-21-70. Cl. 52.  
 Schwinn Bicycle Co., Chicago, Ill. 524,744, ren. 7-21-70. Cl. 19.  
 Scott, Anthony D., Patchogue, N.Y. 895,175, pub. 2-10-70. Cl. 47.  
 Scovill Mfg. Co., Waterbury, Conn. 894,904, pub. 1-20-70. Cl. 12.  
 Scully Signal Co., Wilmington, Mass. 529,704, ren. 7-21-70. Cl. 13.  
 Seablue Corp., Dallas, Tex. 529,717, ren. 7-21-70. Cl. 13.  
 Sealed Power Corp., Muskegon, Mich. 894,994, pub. 5-5-70. Cl. 23.  
 Sealed Power Corp., Muskegon, Mich. 894,996, pub. 5-5-70. Cl. 23.  
 Sears, Roebuck and Co., Chicago, Ill. 895,104-5, pub. 5-5-70. Cl. 39.  
 Segal, Fred, d.b.a. Fred Segal Men's Store, Los Angeles, Calif. 895,094-5, pub. 5-5-70. Cl. 39.  
 Seiss Ikon A.G., Stuttgart, Germany. 770,741, can. Cl. 26.  
 Senecey, William B., Pittsburgh, Pa. 895,178, pub. 5-5-70. Cl. 50.  
 Sequela Wire Co., Redwood City, Calif. 770,869, can. Cl. 21.  
 Serone Corp., New York, N.Y. 770,821, can. Cl. 36.  
 Service Heal Co., Inc., Lawrence, Mass. 770,853, can. Cl. 39.  
 Shaffstall Equipment Inc., Indianapolis, Ind. 895,016, pub. 5-5-70. Cl. 26.  
 Shaver Poltry Breeding Farms Ltd., Galt, Ontario, Canada. 894,860, pub. 5-5-70. Cl. 1.  
 Shelby Mfg., Shelbyville, Ind. 770,852, can. Cl. 39.  
 Shell Oil Co., New York, N.Y. 770,593, can. Cl. 12.  
 Shell Oil Co., New York, N.Y. 770,627, can. Cl. 15.  
 Shell Laboratories, Inc., Yonkers, N.Y. 894,924, pub. 5-5-70. Cl. 18.  
 Shuer, Jay J., Toledo, Ohio. 895,219, pub. 2-17-70. Cl. 101.  
 Siemens-Bauunion G.m.b.H., Munich, Germany. 894,900, pub. 5-5-70. Cl. 12.  
 Simpson Timber Co., Seattle, Wash. 894,903, pub. 2-3-70. Cl. 12.  
 Sinalco Aktiengesellschaft, Detmold, Germany. 895,133, pub. 5-21-70.  
 Skilled Hands, Inc., from Fender Mender, Inc., Nashville, Tenn. 895,264, Cl. 103.  
 Skor-Mor Corp., Anaheim, Calif. 894,978, pub. 5-5-70. Cl. 22.  
 Slavin, J. Edward, New Haven, Conn. 524,818, ren. 7-21-70. Cl. 107.  
 Smiths Clothiers of California, Oakland, Calif. 895,112, pub. 5-5-70. Cl. 39.  
 Sociables, Inc., The, from Samuel J. Temperato, d.b.a. The Sociables, St. Louis, Mo. 895,216, pub. 8-31-70. Cl. 100.  
 Somersworth Mfg. Co., Inc., Somersworth, N.H. 895,114, pub. 5-5-70. Cl. 39.  
 Southwest Flour & Feed Co., The, Glendale, Ariz. 770,910, can. Cl. 46.  
 Spalding Knitting Mills, Inc., Griffin, Ga. 895,074, pub. 7-22-69. Cl. 39.  
 Spang & Co., Butler, Pa. 770,695, can. Cl. 23.  
 Spang & Co., Butler, Pa. 770,898, can. Cl. 23.  
 Squibb, E. R., & Sons, Inc., New York, N.Y. 530,328, ren. 7-21-70. Cl. 13.  
 Staley, A. E., Mfg. Co., Decatur, Ill. 895,203, pub. 2-10-70. Cl. 52.  
 Standard Industrial Minerals, Inc., Bishop, Calif. 894,876, pub. 7-15-69. Cl. 6.  
 Standard Laboratories, Inc., Morris Plains, N.J. 443,763, ren. 7-21-70. Cl. 18.  
 Standard Milling Co., Kansas City, Mo. 531,681, ren. 7-21-70. Cl. 46.  
 Standard Oil Co., Flemington, N.J. 894,916, pub. 5-5-70. Cl. 15.  
 Standard Packaging Corp., New York, N.Y. 770,825, can. Cl. 37.  
 Standard T Chemical Co., Inc., Chicago, Ill. 895,205, pub. 5-5-70. Cl. 52.  
 Stanley Works, The, New Britain, Conn. 266,920, ren. 7-21-70. Cl. 23.  
 Stanley Works, The, New Britain, Conn. 273,670, ren. 7-21-70. Cl. 23.  
 Statesville Flour Mills Co., Statesville, N.C. 523,528, ren. 7-21-70. Cl. 46.  
 Steinberg, Marilyn, d.b.a. The Maternity Mart, Philadelphia, Pa. 895,106, pub. 5-5-70. Cl. 39.  
 Stern, Michaels, & Co., Inc., Rochester, N.Y. 770,894, can. Cl. 39.  
 Sterone Corp., New York, N.Y. 770,819, can. Cl. 36.  
 Stetson, John B., Co., Philadelphia, Pa. 270,764, ren. 7-21-70. Cl. 39.  
 Stevconit Textile Co., New York, N.Y. 895,119, pub. 5-5-70. Cl. 42.  
 Stillwagon Enterprises, Inc., Houston, Tex. 895,233, pub. 5-5-70. Cl. 105.  
 Strachman Associates, Inc., New York, N.Y. 895,124, pub. 5-5-70. Cl. 42.  
 Stran-Steel Corp., Houston, Tex. 770,614, can. Cl. 14.  
 Stuart, Charles, Enterprises Corp., New York, N.Y. 770,798, can. Cl. 28.  
 Stuart, D. A., Oil Co., Ltd., Chicago, Ill. 894,917, pub. 5-5-70. Cl. 16.  
 Sturgis Business Forms Corp., Sturgis, Mich. 770,829, can. Cl. 37.  
 Suitline Inc., New York, N.Y. 770,878, can. Cl. 39.  
 Sunbeam Corp., Chicago, Ill. 894,865, pub. 5-5-70. Cl. 2.  
 Superior Continental Corp., Hickory, N.C. 894,942, pub. 12-30-69. Cl. 21.  
 Superior Continental Corp., Hickory, N.C. 895,243, Cl. 21.  
 Superior Watch Corp., Pelham, N.Y. 530,364, ren. 7-21-70. Cl. 27.  
 Supermarkets General Corp., Cranford, N.J. 895,261, Cl. 101.  
 Supertane Gas Corp., Ranson, W. Va. 527,828, ren. 7-21-70. Cl. 6.  
 Swanee Paper Co., Inc., from Swanee Paper Corp., New York, N.Y. 895,065, pub. 5-5-70. Cl. 37.  
 Swanee Paper Corp.: See—  
 Swanee Paper Co., Inc.  
 Swing, C. P., Inc., Woodside, N.Y. 894,953, pub. 5-5-70. Cl. 22.  
 Swingline Inc., Long Island City, N.Y. 770,605, can. Cl. 13.  
 Swingline Inc., Long Island City, N.Y. 770,711-12, can. Cl. 23.  
 Sybron Corp., Rochester, N.Y. 79,877, ren. 7-21-70. Cl. 26.  
 Synchron Ltd., United Watch Factories, Neuchatel, Switzerland. 79,196, ren. 7-21-70. Cl. 27.



- Systemation, Inc., Schenectady, N.Y. 895,014, pub. 5-5-70. Cl. 26.  
 Technical Materials, Inc., Providence, R.I. 894,913, pub. 5-5-70. Cl. 14.  
 Technicuria A.G.: See—  
 Scania Industrial Developments Aktiebolaget, Aktiengesellschaft.  
 Temperato, Samuel J.: See—  
 Sociables, Inc., The.  
 Textron, Inc., Providence, R.I. 770,727, can. Cl. 23.  
 Textron, Inc., Providence, R.I. 894,859, pub. 5-5-70. Cl. 1.  
 Thetford Corp., from Thetford Engineering Corp., Ann Arbor, Mich. 895,204, pub. 3-3-70. Cl. 52.  
 Thetford Engineering Corp.: See—  
 Thetford Corp.  
 Thomas, Susan, Inc., New York, N.Y. 895,109-10, pub. 5-5-70. Cl. 39.  
 Thor Power Tool Co., Aurora, Ill. 523,015, ren. 7-21-70. Cl. 26.  
 Thor Power Tool Co., Aurora, Ill. 523,814, ren. 7-21-70. Cl. 29.  
 Thor Power Tool Co., Aurora, Ill. 527,696, ren. 7-21-70. Cl. 4.  
 3D, Inc., Cleveland, Ohio. 895,048, pub. 5-5-70. Cl. 34.  
 Timme, E. F., & Son, Inc., New York, N.Y. 531,859, ren. 7-21-70. Cl. 42.  
 Tinsley Laboratories, Inc., Berkeley, Calif. 895,005, pub. 5-5-70. Cl. 26.  
 Topy Industries Ltd., Tokyo, Japan. 894,937, pub. 5-5-70. Cl. 19.  
 Trans-Lux Corp., New York, N.Y. 895,012, pub. 5-5-70. Cl. 26.  
 Trans World Airlines, Inc., New York, N.Y. 895,229, pub. 10-14-69. Cl. 105.  
 True Temper Corp., Cleveland, Ohio. 523,307, ren. 7-21-70. Cl. 23.  
 Tuckersharpe Pen Co., Inc., Richmond, Va. 895,056, pub. 5-5-70. Cl. 37.  
 Turner Bros. Asbestos Co. Ltd., Rochdale, England. 524,969, ren. 7-21-70. Cl. 35.  
 Turtle Wax, Inc., Chicago, Ill. 770,643, can. Cl. 19.  
 Ultra Carbon Corp., Bay City, Mich. 527,573, ren. 7-21-70. Cl. 21.  
 Ungers Coach Co., Madison, Ohio. 894,938, pub. 5-5-70. Cl. 19.  
 Union Hardware Co., Torrington, Conn. 23,727, can. Cl. 22.  
 United Air Lines, Inc., Chicago, Ill. 895,230, pub. 5-5-70. Cl. 105.  
 United Chinchilla Associates, Inc., New York, N.Y. 894,855, pub. 5-5-70. Cl. 1.  
 United States Automatic Box Machinery Co., Inc., Boston, Mass. 525,889-90, ren. 7-21-70. Cl. 26.  
 United States Borax & Chemical Corp., Los Angeles, Calif. 770,564, can. Cl. 4.  
 United States Ceramic Tile Co., Canton, Ohio. 894,902, pub. 11-25-69. Cl. 12.  
 United States Leasing Corp., San Francisco, Calif. 895,213, pub. 5-5-70. Cl. 100.  
 U.S. Pillow Corp., d.b.a. Willikin Creations, New York, N.Y. 895,118, pub. 3-10-70. Cl. 42.  
 United States Playing Card Co., The, Cincinnati, Ohio. 275-340, ren. 7-21-70. Cl. 22.  
 Universal Graphics Corp., Burnsville, Minn. 895,020, pub. 5-5-70. Cl. 26.  
 Universal Oil Products Co., Des Plaines, Ill. 894,987, pub. 12-2-69. Cl. 23.  
 Universal Research Glassware Corp., Carrboro, N.C. 770,780, can. Cl. 26.  
 Upstairs Closet, Inc., Atlanta, Ga. 895,085, pub. 5-5-70. Cl. 39.  
 Utica Tobacco Co., Inc., Utica, N.Y. 271,273, ren. 7-21-70. Cl. 17.  
 Valspar Corp., The, Rockford, Ill. 894,874, pub. 5-5-70. Cl. 5.  
 Van Dusen Aircraft Supplies, Inc., Minneapolis, Minn. 985-225, pub. 5-5-70. Cl. 102.  
 Vanport Pacific Inc., Burlingame, Calif. 894,955, pub. 5-5-70. Cl. 22.  
 Varian Associates, Palo Alto, Calif. 770,784, can. Cl. 26.  
 Veeder Industries Inc., Hartford, Conn. 895,031, pub. 5-5-70. Cl. 26.  
 Villager Industries, Inc., Philadelphia, Pa. 894,869, pub. 3-17-70. Multiple Class (Classes 3 and 39).  
 Virtanen, John O., d.b.a. Sauna Industries Co., Portland, Oreg. 770,804, can. Cl. 44.  
 Vision Wrap Industries, Inc., Palatine, Ill. 894,867, pub. 5-5-70. Cl. 2.  
 Visser, Henk, d.b.a. Henk Visser Sporting Goods, Santa Barbara, Calif. 894,951, pub. 5-5-70. Cl. 22.  
 Vitabath Inc., New York, N.Y. 895,184, pub. 1-27-70. Cl. 51.  
 Vogeler, Inc., Philadelphia, Pa. 895,137, pub. 5-5-70. Cl. 46.  
 Vohryzek, Francis B., d.b.a. Vohryzek and Co., San Francisco, Calif. 895,145, pub. 5-5-70. Cl. 46.  
 Wacker-Elliott-Wacker Co., McCook, Nebr. 895,147, pub. 5-5-70. Cl. 46.  
 Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 895,190, pub. 5-5-70. Cl. 51.  
 Washington Mfg. Co., Nashville, Tenn. 271,900-1, ren. 7-21-70. Cl. 39.  
 Waste King Corp., Los Angeles, Calif. 524,661, ren. 7-21-70. Cl. 19.  
 Watchaus of Switzerland Corp., Lansing, Mich. 895,256-7. Cl. 101.  
 Water Treatment Corp., City of Industry, Calif. 895,234, pub. 5-5-70. Cl. 106.  
 Weaver Shear Washer, Inc., Costa Mesa, Calif. 770,604, can. Cl. 13.  
 Weingrod, M., Co., Milwaukee, Wis. 895,038, pub. 5-5-70. Cl. 28.  
 Weldon Farm Products, Inc., from Weldon Foods, Inc., New York, N.Y. 895,148, pub. 5-5-70. Cl. 46.  
 Weldon Foods, Inc.: See—  
 Weldon Farm Products, Inc.  
 Weller, E. E., Co., Providence, R.I. 526,617, ren. 7-21-70. Cl. 28.  
 West Virginia Pulp & Paper Co., New York, N.Y. 770,556, can. Cl. 2.  
 Western Commerce Corp., d.b.a. Topaz Honey Co., Los Angeles, Calif. 770,937, can. Cl. 46.  
 Western Co. of North America, d.b.a. The Western Co., Fort Worth, Tex. 894,892, pub. 5-5-70. Cl. 6.  
 Westinghouse Electric Corp., Pittsburgh, Pa. 270,470, ren. 7-21-70. Cl. 21.  
 Westinghouse Electric Corp., Metuchen, N.J. 770,670, can. Cl. 21.  
 Whale Oil Co. Inc., Brooklyn, N.Y. 531,464, ren. 7-21-70. Cl. 15.  
 Whink Products Co., Eldora, Iowa. 525,281, ren. 7-21-70. Cl. 52.  
 Wholesale Pizza Co., Nashville, Tenn. 895,150, pub. 9-9-69. Cl. 46.  
 Wholesale Pizza Co., Nashville, Tenn. 895,227, pub. 9-9-69. Cl. 103.  
 Wickes Corp., The, Saginaw, Mich. 525,435, ren. 7-21-70. Cl. 1.  
 Wik-It Electronics Corp., Fremont, Calif. 895,043, pub. 5-5-70. Cl. 34.  
 Williams, A. R., & Co., Carteret, N.J. 894,921, pub. 5-5-70. Cl. 18.  
 Williams, J. B., Co., The, New York, N.Y. 270,496, ren. 7-21-70. Cl. 51.  
 Williamsburg Soap & Candle Co., Williamsburg, Va. 894,915, pub. 5-5-70. Cl. 15.  
 Winter, J. C., & Co., Inc., Red Lion, Pa. 523,899, ren. 7-21-70. Cl. 17.  
 Wolf, Bob, Associates, Inc., Los Angeles, Calif. 895,115, pub. 5-5-70. Cl. 39.  
 Wolf Appliance Corp., Long Island City, N.Y. 770,559, can. Cl. 2.  
 Wood Industries, Inc., Plainfield, N.J. 530,044, ren. 7-21-70. Cl. 23.  
 Xerox Corp., Rochester, N.Y. 895,067, pub. 5-5-70. Cl. 38.  
 Yankee, Inc., Dublin, N.H. 895,070, pub. 5-5-70. Cl. 38.  
 Yardley of London, Inc., New York, N.Y. 895,201, pub. 5-5-70. Cl. 52.  
 Yorke Scientific Corp., Woodbridge, N.J. 770,707, can. Cl. 23.  
 Yorke Shirt Corp., The, New York, N.Y. 524,325, ren. 7-21-70. Cl. 39.  
 Zelter-Zeltstudien-Geräte G.m.b.H., Mannheim-Gartenstadt, Germany. 770,743, can. Cl. 26.  
 Zevco, Inc., Los Angeles, Calif. 895,154, pub. 3-10-70. Cl. 46.

U.S. GOVERNMENT PRINTING OFFICE: O—1970

A UNITED STATES  
DEPARTMENT OF  
COMMERCE  
PUBLICATION

## U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

July 28, 1970

Volume 876

Number 4

PATENTS  
NOTICESBoard of Appeals Decisions Rendered in the Month of  
June 1970

Examiner affirmed	132
Examiner affirmed in part	16
Examiner reversed	34
Total	182

## Certificates of Correction for the Week of July 28, 1970

Re. 26,725	3,479,346	3,492,246	3,499,409
D. 216,540	3,480,392	3,492,284	3,499,515
D. 216,916	3,480,657	3,492,356	3,499,561
3,249,865	3,480,818	3,492,448	3,499,724
3,285,533	3,481,012	3,492,706	3,499,762
3,291,987	3,482,152	3,493,070	3,499,786
3,375,384	3,482,154	3,493,372	3,499,823
3,422,708	3,483,700	3,493,532	3,500,294
3,433,871	3,484,148	3,493,607	3,500,377
3,437,492	3,484,419	3,494,423	3,500,383
3,442,859	3,486,145	3,494,745	3,500,470
3,446,374	3,486,158	3,494,771	3,500,782
3,450,723	3,486,463	3,494,897	3,500,785
3,455,494	3,487,044	3,495,304	3,500,818
3,457,259	3,487,063	3,495,423	3,501,261
3,457,263	3,487,075	3,495,931	3,501,320
3,459,748	3,487,258	3,496,066	3,501,386
3,461,289	3,487,805	3,496,069	3,501,434
3,464,198	3,487,813	3,496,205	3,501,583
3,466,905	3,487,961	3,496,258	3,501,717
3,468,852	3,487,995	3,496,610	3,501,946
3,469,784	3,488,168	3,497,181	3,502,178
3,470,379	3,488,377	3,497,360	3,502,541
3,471,464	3,488,528	3,497,543	3,502,563
3,471,520	3,488,838	3,497,646	3,503,459
3,471,603	3,489,049	3,497,758	3,503,493
3,472,691	3,489,784	3,497,799	3,503,881
3,473,509	3,489,810	3,498,527	3,503,944
3,473,957	3,489,914	3,498,766	3,504,018
3,475,537	3,490,098	3,498,882	3,504,055
3,477,508	3,490,227	3,498,921	3,504,577
3,477,588	3,491,026	3,498,968	3,504,673
3,478,313	3,491,645	3,499,001	3,506,833
3,479,151			

## Classification Order No. 401

Classification Order No. 401, dated June 26, 1970, incorporates changes in the following classes:

- 16, MISCELLANEOUS HARDWARE
- 123, INTERNAL COMBUSTION ENGINES
- 192, CLUTCHES AND POWER-STOP CONTROL
- 235, REGISTERS
- 242, WINDING AND REELING
- 267, SPRING DEVICES
- 292, CLOSURE FASTENERS
- 318, ELECTRICITY, MOTIVE POWER SYSTEMS
- 324, ELECTRICITY, MEASURING AND TESTING
- 415, ROTARY KINETIC FLUID MOTORS OR PUMPS

All changes will be incorporated in the Manual of Classification replacement pages dated July 1970.

WALTER W. BURNS, JR.,  
 Administrator, Office of Search Systems  
 and Documentation.

## New Applications Received During May 1970

Patents	8198
Designs	462
Plant Patents	9
Reissues	38
	8707

## Issue—July 28, 1970

Patents	800—No. 3,521,601 to No. 3,522,400, incl.
Designs	82—No. 218,137 to No. 218,218, incl.
Plant Patents	4—No. 2,982 to No. 2,985, incl.
Def. Pub.	10—No. T876,001 to No. T876,010, incl.
Total	896



# PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner  
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 14, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
<b>CHEMICAL EXAMINING GROUPS</b>	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	12-03-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	4-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	8-13-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director.... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	1-02-69
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director.... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-27-68
<b>ELECTRICAL EXAMINING GROUPS</b>	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-02-69
SECURITY, GROUP 220—S. BOYD, Director..... Ordnance, Firearms and Ammunition; Radar, Underwater Signaling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	9-09-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	12-09-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	11-27-68
PHYSICS, GROUP 260—R. L. EVANS, Director..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-27-68
DESIGNS, GROUP 290—S. BOYD, Director..... Industrial Arts; Household, Personal and Fine Arts.	10-28-69
<b>MECHANICAL EXAMINING GROUPS</b>	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	5-19-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	1-09-69
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletary; Printing; Typewriters; Stationery; Information Dissemination.	4-01-69
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	7-01-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKRY, Director..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	3-17-69
Total number of pending applications (excluding Designs).....	184,894
Total number of Design applications pending.....	2,981

Expiration of patents: The patents within the range of numbers indicated below expire during July 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 960, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1964 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents..... Numbers 2,644,159 to 2,647,263, inclusive  
Plant Patents..... Numbers 1,201 to 1,207, inclusive

# DECISIONS IN PATENT AND TRADEMARK CASES

## U.S. Court of Customs and Patent Appeals

IN RE JOHN P. MAHONY

No. 8216. Decided February 26, 1970

[57 CCPA —; 421 F.2d 742; 164 USPQ 572]

### 1. CLAIM—CONSTRUCTION OF CLAIMS—STATUTORY SUBJECT MATTER—SECTIONS 101 AND 112, SECOND PARAGRAPH.

"We first consider the rejection under 35 U.S.C. 112. The Board expressed the view \* \* \* that where a claim reads on both statutory and nonstatutory subject matter it could not be in compliance with the second paragraph of section 112. With this view we disagree. That paragraph \* \* \* requires that an applicant distinctly claim what he regards as his invention. To inject any question of statutory subject matter into that paragraph is to depart from its wording and to complicate the law unnecessarily. The proper consideration here is whether the appealed claims cover only what appellant regards as his invention. Appellant, through counsel, has said at several points in this case that he intends the claims to cover only the machine implementation of the process and not the mental implementation thereof. If the appealed claims accomplish that intent, not only will appellant have overcome the § 112 rejection, but he will also have overcome the § 101 rejection, since the machine-implemented process is clearly statutory."

### 2. PATENTABILITY—PROCESS—MENTAL PROCESS—WORDS AND PHRASES—"BIT" AND "BIT STREAM"—COMPUTER ART.

"We agree with appellant that the words 'bit' and 'bit stream,' as used in the claims and understood in the [computer] art, render mental performance of the claimed process impossible."

### 3. SAME—SAME—SAME—SAME—SAME—SAME.

"The \* \* \* definitions lead us to conclude that in computers bits appear in the physical form of pulses or the absence of pulses, and that the presence or absence of a pulse is in turn represented by the characters 1 and 0. We further conclude that if the bits are in a bit stream, as required by the claims here and understood in the data transmission art, the bits must have the form of electrical pulses, so that they can be transmitted 'over the circuit' according to the Sippl definition. \* \* \* once we know that 'bit stream' in the art means a sequence of electrical signals or pulses, it would be absurd to say that the claims reasonably read on a mentally implemented process. We are aware of no way in which the human mind can operate on such signals. Moreover, the Sippl definition states that character separation, i.e., separation of digital words, is accomplished by the terminal equipment, not by the human mind."

### 4. CLAIM—BROADER THAN DISCLOSURE—PROCESS—DISCLOSURE OF MACHINE IMPLEMENTED PROCESS—SECTION 112—In re Prater et al. DISTINGUISHED.

"The present case is distinguishable from *Prater* \* \* \*. In that case the process disclosed involved primarily the manipulation of a series of mathematical equations to facilitate efficient spectral analysis. Machine implementation of the process was contemplated by the disclosure and was particularly desirable due to the large number of manipulations required. The claims, however, had no explicit language indicating that only protection of a machine-implemented process was sought, and the court did not find that any terms used in the claims had such meaning in the art as to implicitly limit the scope of the claims to machine implementation. Thus, giving the *Prater* claims their 'broadest reasonable interpretation consistent with the specification,' as this court feels obliged to do for reasons stated in *Prater*, it was concluded that they did encompass performing the recited manipulations mentally with the possible aid of pencil and paper. Since the appellants in *Prater* regarded as their invention only the machine-implemented process, their claims were held unpatentable under the second paragraph of § 112. In the process here claimed, there is again no express reference to a machine-implemented or nonmental process. However, we have found that the term 'bit' when used in



conjunction with 'bit stream' has a meaning in the art which precludes reading the claims on a mentally performable process."

APPEAL from Patent Office. Serial No. 243,203.

REVERSED.

James W. Falk, Howard R. Popper, for appellant.

Joseph Schimmel (Jere W. Sears, of counsel) for the Commissioner of Patents.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and RAO, Chief Judge, United States Customs Court, sitting by designation

LANE, J., delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals which affirmed the rejection of method claims 19 and 20 in appellant's application Serial No. 243,203, for "Synchronizing Circuit," filed December 5, 1962. Apparatus claims have been allowed.

#### THE DISCLOSURE

Appellant's application relates to data communication systems and more particularly to circuits and methods for automatically synchronizing a receiver of digital information, such as a digital computer. The smallest unit of information in binary form is conceptualized, in information theory, as a binary digit, or bit. Like numbers and letters, bits are pure abstractions. To transmit the information bits, however, they must be represented in some physical form, as we shall later discuss.

The application discloses a method of synchronizing a receiver with a bit stream containing digital information. The bit stream of appellant's disclosure is in the form of a sequence of electrical signals, each signal having one of two possible values. These values are designated 1 and 0 for convenience. A certain predetermined number of bits in sequence constitute a digital "word" corresponding to one printed character. In order for the receiving device to "know" where to divide the stream into words, a system of framing is employed, wherein each word consists of a certain number information bits and a pattern of framing bits. The pattern of framing bits is always of the same value and in the same position relative to the information bits of each word. For example, words might be predetermined to have six bits each, with the first and sixth bits being framing bits of value 1 and 0 respectively, and the second through fifth bits being information bits which may be either 1's or 0's according to the information they contain. Synchronization is the physical state of the receiver wherein it is set to receive the next bit as the first information bit of a digital word if that bit truly is the first information bit of a word. The receiver is "in sync" when the receiver "knows" where the bit stream should be divided to make words. Let us consider another simple example of framing, where each word is predetermined to consist of four bits, the first bit being the framing bit and the other three being information bits, and the framing bit is always of the same value, such as 1, whereas the information bits may be either 1's or 0's. While the human mind cannot perceive bits in the form of electrical signals, we may, for the purpose of understanding the invention and the position of the Patent Office, represent a segment of a typical bit stream in visual character form, as follows: 011000101110. Appellant has disclosed that one way of determining which bits in this stream are framing bits is to perform, by means of digital cir-

cuitry, a logical process of elimination. He disclosed a circuit comprising a shift register and various AND and OR circuits arranged to sample sequences of bits, each sequence having a number of bits equal to the number of bits known to be in a word. Of course, for the process to be carried out as disclosed by appellant, the bit stream must be in the form of electrical signals. In our second example, where there are four bits to a word and the framing bit is represented as a 1 at the beginning of each word, the circuit would be designed to sample various groups of four bits in order to determine which positions in the stream *could not* be framing bits. Appellant's circuit in such an example would have a four-stage shift register, with each stage initially set at 1. The bit stream is fed through the shift register. A gate circuit is connected between the fourth stage and the input to the first stage. The gate is enabled to receive the next incoming bit if the fourth stage contains a 1. With the gate enabled, the shift register is capable of receiving the next bit as a 1 if it is a 1, but once a 0 occurs in any bit position that position will continue to register a 0 in future sequences. A counter circuit is also provided, which in this case would count 0's. When three successive 0's are counted, it logically follows that the next bit will be a 1 and will be the framing bit. When this occurs, a gate to the receiver is enabled and the receiver is set to receive the beginning of a digital word. The disclosure does not show any other means for carrying out the logical process on the bit stream, nor does it suggest that the process could be performed mentally.

#### THE INVENTION

Both claims on appeal are method claims. Claim 19 is illustrative:

19. The method of establishing which bits in a bit stream are data bits and which are framing bits, where the framing bits appear in predetermined positions and have a predetermined sequence of values, comprising the steps of

- (1) comparing to one another the values of bits in respective bit positions in successive equal length groups of bits,
- (2) registering which respective positions in said groups of bits have a sequence of bit values inconsistent with said predetermined framing sequence as ascertained by repetitions of the comparing step, and
- (3) counting the number of successive bit positions in the bit stream wherein the sequence of bit values has been ascertained as inconsistent with the predetermined framing sequence, whereby the framing bit positions are established when the number of successive bit positions counted is equal to the total number between the framing bit positions.

#### THE EXAMINER

The Examiner rejected the appealed claims under 35 U.S.C. 100 and 101 as being drawn to nonstatutory subject matter. He considered purely mental processes to be nonstatutory and regarded the claims as defining a purely mental process. The Examiner demonstrated how the claimed process could be performed mentally based upon his understanding of the terms in the claims. His position may be demonstrated by returning to our above example where a portion of the bit stream was represented as 011000101110, it being known that there are four bits to a word and that the first bit is a framing 1. The Examiner would perform the elimination process by breaking the representation of the stream arbitrarily into groups of four bits each: 0110 0010 1110. In each group the first position is examined; it is seen to be not always a 1 and hence cannot be the framing position. The same can be seen regarding the second and fourth positions. The conclusion is that the third position must be the framing position. It is therefore



known that in the portion of the bit stream represented, a word begins with the third, seventh and eleventh bits. While this knowledge might not be usable to any practical advantage, it was the Examiner's view that the claimed process had been performed.

#### THE BOARD

The Board agreed with the Examiner's reasons and affirmed the rejection of the appealed claim under 35 U.S.C. 100, 101. In addition, the Board mentioned section 112, saying:

We find the Examiner's position convincing that appellant's claims are required to particularly point out and distinctly claim the invention (35 U.S.C. 112) and a claim which embraces within its scope that which cannot be patented is not in conformity with the statute.

The Examiner had not made a rejection under 35 U.S.C. 112 and it is not clear from the above language that the Board did so. However, both parties have treated the case before us as containing a section 112 rejection, and we shall so regard it.

#### APPELLANT

Appellant contends that the claimed process cannot be "purely mental" since nonmental means are disclosed for carrying it out. He cites footnote 22 of this court's opinion in *In re Prater*, 56 CCPA 1381, 415 F.2d 1393, 162 USPQ 541 (1969). Appellant argues that the "bit stream" referred to in the preamble would be known by persons skilled in the art to mean *only* a sequence of bits in electrical signal form. Similarly, he argues, the "bits" referred to in each step would be interpreted in the art to mean only bits in electrical signal form. Since electrical signals cannot be operated upon in the mind, appellant concludes that it would be an unreasonable construction of the claims to view them as covering any process implemented mentally. He further points out that since his disclosure pertains to a bit stream in electrical signal form only, and in no way suggests mental acts, there is no basis for construing the terms of the claim as having other than their normal meaning in the art.

As to the section 112 rejection, appellant argues that his above construction of the claims meets the objection that they fail to point out the invention, since he intends to cover only the machine-implemented process and not any mentally implemented process, and by his construction the claims do exactly that. To further support this view, appellant calls attention to the third paragraph of section 112, which reads:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. [Emphasis ours.]

Appellant concludes that since his specification mentions only machine-implemented acts, the third paragraph of section 112 prevents construction of the claim to cover mental implementation of the process. Our decision makes it unnecessary to pass on this point.

#### OPINION

It should first be noted that there is no dispute in this case regarding the statutory nature of the invention disclosed. The disclosure

shows a process for operating on bits in electrical signal form. Such an operation cannot be done in the mind. Appellant's disclosure is clearly a contribution to the automatic data processing art.

The issue is solely with regard to interpretation of the claims. Both sides in this case have assumed that if a claim reads on both mental and nonmental implementation of a process, the claim is drawn to nonstatutory subject matter. We refrained from deciding that question in *Prater*, supra, and we decline to decide it here. We shall assume, as appellant has, that such a claim would be nonstatutory under 35 U.S.C. 101.

[1] We first consider the rejection under 35 U.S.C. 112. The Board expressed the view, in the language quoted above, that where a claim reads on both statutory and nonstatutory subject matter it could not be in compliance with the second paragraph of section 112. With this view we disagree. That paragraph, as quoted above, requires that an applicant distinctly claim what he regards as his invention. To inject any question of statutory subject matter into that paragraph is to depart from its wording and to complicate the law unnecessarily. The proper consideration here is whether the appealed claims cover only what appellant regards as his invention. Appellant, through counsel, has said at several points in this case that he intends the claims to cover only the machine implementation of the process and not the mental implementation thereof. If the appealed claims accomplish that intent, not only will appellant have overcome the § 112 rejection, but he will also have overcome the § 101 rejection, since the machine-implemented process is clearly statutory. This question of what the claims reasonably cover is therefore dispositive of the case before us.

[2] We agree with appellant that the word "bit" and "bit stream," as used in the claims and understood in the art, render mental performance of the claimed process impossible. To determine what these terms mean in the computer or data processing art, appellant refers us to Computer Dictionary and Handbook (1966), by Charles J. Sippl, wherein the following appears:

*bit stream*—This is a term used regularly in conjunction with transmission methods in which character separation is accomplished by the terminal equipment, and the bits are transmitted over the circuit in a consecutive line of bits.

The Solicitor, at oral argument, urged that this meaning might not be the only meaning known in the art, but the Patent Office, with an enormous technical library available to its personnel, has not asserted any other meaning given to these terms in the art, and has not referred us to any authority indicating any other meaning. We have looked further, since the matter is one of which we are asked to take judicial notice. We found, in Condensed Computer Encyclopedia (1969), edited by Philip B. Jordan and Michael Breslau, the following:

*bit*—A binary digit. The term is an abbreviation for BINARY digit. In computers, a bit is represented by a pulse (1) or the absence of a pulse (0).

[3] The above definitions lead us to conclude that in computers bits appear in the physical form of pulses or the absence of pulses, and that the presence or absence of a pulse is in turn represented by the characters 1 and 0. We further conclude that if the bits are in a bit stream, as required by the claims here and understood in the data transmission art, the bits must have the form of electrical pulses, so that they can be transmitted "over the circuit" according to the Sippl



definition. The Examiner's example, therefore, is a process for operating not on bits in a bit stream as required by the claims, but rather on a character representation of a bit stream, which is no more a bit stream than a drawing of a sinusoid is a sinusoidal electrical signal. Many electrical operations are expressed in terms which have one meaning in the art and quite a different meaning generally. Thus, the art speaks of clipping, clamping, chopping, rectifying, filtering, and so on, with reference to electrical signals.<sup>1</sup> No one in the art would give these terms their general colloquial meaning when discussing technical matters with other persons skilled in the art. To do so would be absurd. Similarly here, once we know that "bit stream" in the art means a sequence of electrical signals or pulses, it would be absurd to say that the claims reasonably read on a mentally implemented process. We are aware of no way in which the human mind can operate on such signals. Moreover, the Sippl definition states that character separation, i.e., separation of digital words, is accomplished by the terminal equipment, not by the human mind. We therefore must conclude that appellant's construction of the claims is a reasonable construction, and that the broad construction urged by the Patent Office is not reasonable.

[4] The present case is distinguishable from *Prater*, supra. In that case the process disclosed involved primarily the manipulation of a series of mathematical equations to facilitate efficient spectral analysis. Machine implementation of the process was contemplated by the disclosure and was particularly desirable due to the large number of manipulations required. The claims, however, had no explicit language indicating that only protection of a machine-implemented process was sought, and the court did not find that any terms used in the claims had such meaning in the art as to implicitly limit the scope of the claims to machine implementation. Thus, giving the *Prater* claims their "broadest reasonable interpretation consistent with the specification," as this court feels obliged to do for reasons stated in *Prater*, it was concluded that they did encompass performing the recited manipulations mentally with the possible aid of pencil and paper. Since the appellants in *Prater* regarded as their invention only the machine-implemented process, their claims were held unpatentable under the second paragraph of § 112. In the process here claimed, there is again no express reference to a machine-implemented or nonmental process. However, we have found that the term "bit" when used in conjunction with "bit stream" has a meaning in the art which precludes reading the claims on a mentally performable process.

The decision of the board is reversed.

REVERSED.

<sup>1</sup> See, e.g., Markus, *Electronics and Nucleonics Dictionary*, 3rd ed. (1966).

### U.S. Court of Customs and Patent Appeals

EDWIN J. SMITH v. MORRIS D. STONE

No. 8209. Decided February 12, 1970.

[57 CCPA —; 420 F.2d —; 164 USPQ 453]

#### 1. INTERFERENCE—PATENT AND APPLICATION—REDUCTION TO PRACTICE—RIGHT TO MAKE—"GIST OF THE INVENTION" TEST—*Hall v. Taylor* DISTINGUISHED.

"We have concluded, as did the Board, that appellant's Reliance on the 'gist of the invention' test is misplaced. In the *Hall* case we held that such test is

the 'key to determining whether a disclosure supports a claim for interference purposes \* \* \* \* \* It was not intended, and the opinion did not imply, that, in determining the adequacy of proof of an actual reduction to practice, recited limitations defining elements of the invention covered by the claim, may be disregarded. Rather it was stated that 'all limitations of a claim must be considered' \* \* \* The fact that a limitation is not critical in practicing the broad invention allegedly disclosed will not be controlling in determining a party's right to make a specific count. \* \* \* Neither will it be considered in evaluating his proofs. We agree with the Board that what Smith is trying to assert as proof of reduction to practice of the invention defined by the count amounts to proof of an equivalent process. This has long been held to be insufficient in interference proceedings."

#### 2. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—RECORD—ASSESSMENT OF COSTS.

"There remains the assessment of costs for printing additions to the record as requested by the appellee. Since we have found it necessary to consider the additional material in coming to our decision, such costs are assessed against appellant."

APPEAL from Patent Office. Interference No. 94,453.

AFFIRMED.

*Shanley and O'Neil* (Paul T. O'Neil, of counsel) for appellant.

*Robert E. Isner, Keith, Johnston, Isner & Eslinger* (Edwin R. Hutchinson, Roger M. Rathbun, of counsel) for appellee.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and MATTHEWS, Senior Judge, United States District Court for the District of Columbia, sitting by designation

BALDWIN, J., delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Patent Interferences, adhered to on reconsideration, involving appellant's application<sup>1</sup> and appellee's patent<sup>2</sup> and awarding priority to the senior party, the patentee Stone.

The subject matter involved in the interference relates to the manufacture of tinplate, i.e., thin strips of steel coated with tin, which are used primarily as a fabrication material for containers (the so-called "tin can"). More specifically, the invention pertains to a method of making "very thin tinplate," in which the steel substrate has a thickness in the order of one-half the thickness of the steel substrate of conventional tinplate. Such "ultra-thin" tinplate, is important, according to the patent disclosure, "In view of the fact that normal gauge tinplate \* \* \* is not economically suitable for all phases of the container market."

Claim 3 of the Stone patent, which forms the single count of the interference, reads as follows:

1. In a method of producing very thin tinplate characterized by the fact that when the strip is in a metallurgically soft condition, it is maintained relatively thick, and when in its very thin condition the strip is metallurgically very hard, whereby in both conditions the strip lends itself to ready handling, transferring and processing with minimum losses due to breakage, bending, tearing and the like, and further characterized by the fact that all of the rolling processes are performed prior to the tinning of the strip, the steps including:

cold reducing the strip to a gauge of at least .006 inch and greater which will be relatively thick as compared with the desired final gauge thereof; continuously annealing the strip while in its relatively thick condition; cold reducing the soft annealed relatively thick strip at least 30% and greater to its final thin gauge to impart a substantial hardness and strength to the strip, and as a final step tinning the strip in its thin hard condition.

<sup>1</sup> Serial No. 115,008, filed June 5, 1961.

<sup>2</sup> No. 3,095,861, issued June 25, 1963, on an application filed February 27, 1961.



The issues in this case center around construction of the language of the count and whether appellant's proofs establish conception and reduction to practice of the invention defined by the count.

The patentee Stone relied upon his filing date in the proceedings below. Appellant took testimony and relied upon evidence relating to certain operations performed on two steel coils as proof of both conception and reduction to practice of the invention before Stone's filing date. A complete understanding of the problems associated with this proof requires a further explanation regarding the technology involved.

The method for producing conventional, or standard gauge tinplate, has apparently remained essential unchanged for over 30 years. It begins with the formation of a steel strip having a thickness roughly ten times the final thickness of standard gauge tinplate, which strip is known as the "hot band" since it is produced on a hot reduction mill. This "hot band" is cleaned and then processed into conventional tinplate by performing the following steps, essentially in the order named: (1) the band is cold reduced in a single step to the final thickness required; (2) the cold reduced steel strip produced is then annealed, a process which relieves internal stresses and makes the steel softer and less frangible; (3) the annealed strip is then tin-plated, e.g., by passing it through an electrolytic tinning solution.

The record shows that the annealing step is accomplished conventionally in two different ways; "box" or "batch" annealing, wherein the steel strip, after it has been cold reduced and cleaned, is rolled into coils and heat treated statically for extended periods of time, and "continuous" annealing, wherein the steel is displaced in web form at relatively high speeds through a furnace. While these two methods both produce essentially the same desired end result, i.e., relieved internal stresses and softer and less brittle steel, because of inherent differences in the techniques, the continuous process produces material which is relatively harder than that produced by the box method.

A comparison of the standard method for producing conventional tinplate and the method of the count, indicates two apparent differences: first, the method of the count specifies an additional reducing step to be performed after annealing and before tinning and, second, the method of the count specifies that the annealing be "continuous." This, then, is appellant's problem. It seems that the only evidence submitted by appellant which would antedate the filing date of Stone's patent related to a method in which box annealing was carried out. The evidence supports all other elements of the count. The issue reduces then to whether the word "continuously" in the count may be disregarded.

The Board awarded priority to Stone after concluding that the word "continuously" has meaning in the count and must be given effect. Accepting appellant's assertion as true "that conventional annealing may be either 'box' or 'continuous,'" the Board nevertheless concluded:

\*\*\* However the record indicates that all of the individual steps of the method of the count were more or less conventional at the time the invention was made. The invention resides in the total method described. It appears that if Stone (whom Smith has acknowledged to be an expert in this field) considered the manner of annealing immaterial he would not have limited his claim to "continuous" annealing.

Appellant strenuously asserts here, as he did below, that the word "continuously" in the count should be ignored in a determination re-

garding reduction to practice of the "common invention disclosed by the parties." He maintains that the evidence produced in his behalf, coupled with certain alleged admissions of the party Stone, confirms the fact that the "gist" of the common invention defined by the count does not require a specific process for effecting the annealing of the strip. Thus, he argues, the "gist of the invention" test, as set forth in this court's opinion in *Hall v. Taylor*, 51 CCPA 1420, 332 F.2d 844, 141 USPQ 821 (1964), should be used in determining whether reduction to practice of the common invention has been proved.

[1] We have concluded, as did the Board, that appellant's reliance on the "gist of the invention" test is misplaced. In the *Hall* case we held that such test is the "key to determining whether a disclosure supports a claim for interference purposes \* \* \*." 51 CCPA at 1424 (emphasis added). It was not intended, and the opinion did not imply, that, in determining the adequacy of proof of an actual reduction to practice, recited limitations defining elements of the invention covered by the claim, may be disregarded. Rather it was stated that "all limitations of a claim must be considered" *ibid*. The fact that a limitation is not critical in practicing the broad invention allegedly disclosed will not be controlling in determining a party's right to make a specific count. *Storchheim v. Daugherty*, 56 CCPA 1147, 410 F.2d 1393, 161 USPQ 679. Neither will it be considered in evaluating his proofs. We agree with the Board that what Smith is trying to assert as proof of reduction to practice of the invention defined by the count amounts to proof of an equivalent process. This has long been held to be insufficient in interference proceedings. *Martin v. Snyder*, 41 CCPA 1010, 214 F.2d 177, 102 USPQ 306 (1954).

[2] There remains the assessment of costs for printing additions to the record as requested by the appellee. Since we have found it necessary to consider the additional material in coming to our decision, such costs are assessed against appellant.

The decision of the Board of Patent Interferences is affirmed.  
AFFIRMED.

## PATENT SUITS

Notices under 35 U.S.C. 290: Patent Act of 1952

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## DEFENSIVE PUBLICATIONS

JULY 28, 1970

Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O.G. 687. The abstracts of Defensive Publication applications are identified by distinctly numbered series and are arranged chronologically. The heading of each abstract indicates the number of pages of specification, including claims and sheets of drawings contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Defensive Publication applications have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T876,001

### HEAT-RESISTANT POLYESTERS

Alan Bell and David W. Abec, both % P.O. Box 511, Kingsport, Tenn. 37662

Filed July 29, 1969, Ser. No. 845,874

Int. Cl. B29c 25/00; C08g 17/00

U.S. Cl. 260-75

No Drawing. 8 Pages Specification

A heat-resistant polyester film and method of making same is disclosed having the ability to withstand temperatures in the order of 250° C. The polyester film is made from a dicarboxylic acid comprising 80-100 mol percent terephthalic acid and 20-0 mol percent isophthalic acid, and 1,4-cyclohexanedimethanol having at least 60 percent trans isomer content. The film made from this polyester is first biaxially stretched such that the orientation is substantially balanced in the draft and tenter directions. The film is next heat treated at a temperature of at least 245° C. while restraining it from shrinkage. The film is then subjected to a second heat treating step while allowing it to relax, thereby allowing shrinkage.

T876,002

### PREPARATION OF LIGHT-COLOR OLEFIN SULFONATES

John Thomas Wilfrid Smith, North Shields, Northumberland, England, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Aug. 6, 1969, Ser. No. 848,096

Int. Cl. C07c 143/16

U.S. Cl. 260-513

No Drawing. 7 Pages Specification

Color development during sulfonation of olefins with sulfur trioxide can be markedly reduced by pretreating the olefins with a low molar proportion of sulfur trioxide diluted with inert gas; contacting the pretreated olefins with an adsorbent to remove color bodies; separating the treated olefins from the adsorbent; and then proceeding with sulfur-trioxide sulfonation in a conventional manner. Bleaching the product olefin sulfonate with chlorine or peroxygen bleach is optional to improve color still further. Preferred conditions are a falling film reactor, pretreatment sulfur trioxide usage below ten mol percent based on the olefins, and silica gel or fuller's earth as adsorbent. Contact with the adsorbent can be accomplished by mixing the adsorbent with the pretreated olefin followed by filtration, or more conveniently by passing the pretreated olefin through a column of the adsorbent. The process is especially applicable to straight chain alpha olefins containing ten to twenty carbon atoms; particularly those derived from cracked petroleum waxes but also including those prepared by buildup of short chain olefins.

T876,003

### ENERGY CONVERSION DEVICE

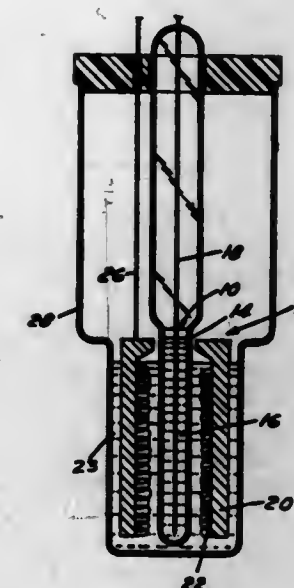
Keith O. Hever, Loughborough, England, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Nov. 14, 1969, Ser. No. 876,819

Int. Cl. H01m 35/00

U.S. Cl. 136-6

1 Sheet Drawing. 4 Pages Specification

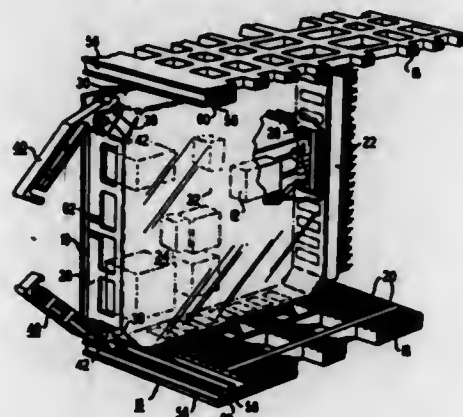


A secondary battery is made by using a cationically conductive ceramic separator to separate a molten alkali metal anode from a cathode compartment containing a metallic material in a non-aqueous solvent. Useful alkali metals include sodium, potassium, etc., and compositions useful in the cathode compartment include copper chloride, copper sulfide, nickel fluoride, etc., dissolved in solvents such as dimethylsulphoxide N-dimethyl formamide, propylene carbonate, etc. Other salts can be added to the electrolyte to increase its conductivity. Cations of the alkali metal pass through the separator easily but the separator blocks passage of the materials and anions in the cathode compartment. Graphite felt can be used in the cathode compartment as an energy collector. Useful separator materials include those disclosed in U.S. Pat. 3,404,036. The battery has an extremely high theoretical energy density and exhibits excellent charge and recharge capability.



**T876,004**  
**CIRCUIT BOARD ATTACHMENT**

John Andreini, Irvington, N.J., Edwin H. Borchard and Karl-Heinz Pohl, Boulder, Colo., and Joseph A. Puccio, East Brunswick, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York  
Filed Dec. 29, 1969, Ser. No. 888,333  
Int. Cl. H05k 7/14; H01r 13/54, 13/62  
U.S. Cl. 339—45  
2 Sheets Drawing, 9 Pages Specification



A protective cover that snaps onto a printed circuit board intended for mounting in a carrier. The cover includes a pair of levers that interact with the carrier to move the circuit board into and out of engagement with a connector mounted on the carrier.

**T876,005**  
**FIRE RETARDATION COMPOSITION FOR USE IN LATEX FORMULATIONS FOR JUTE CARPET BACKING**

Lewis C. Trent, Rte. 11, Lochridge, Kingsport, Tenn. 37663  
Filed Jan. 19, 1970, Ser. No. 4,029  
Int. Cl. C09k 3/28  
U.S. Cl. 252—8.1

No Drawing, 9 Pages Specification

Compositions for fire-retardant treatment of woven jute carpet primary backing materials comprising a carpet latex formulation having therein a fire-retardant composition comprising a mixture of an alkali metal borate and an alkali metal salt of phosphoric acid. A particularly effective fire-retardant composition in a carpet latex formulation is a mixture of 38% sodium tetraborate; 11% monosodium phosphate; 14% boric acid; 25% ammonium tetraborate; and 12% water; the mixture being present in the amount of 5–15% of the weight of solids in the latex formulation.

**T876,006**  
**MEDICAMENT**  
Barry M. Brown, 1669 Lake Ave., Rochester, N.Y. 14650  
Filed Jan. 22, 1970, Ser. No. 5,118  
Int. Cl. A01n 17/00; A61k 9/00; B44d 1/02  
U.S. Cl. 424—35

No Drawing, 5 Pages Specification

An aldehyde-liberating pharmaceutical core such as hexamethylene-tetramine, or its derivatives such as hexamethylene tetramine mandelate (also known as methanamine mandelate), is coated with cellulose acetate phthalate (CAP) containing acetic acid or tartaric acid to preserve its enteric solubility properties. Acetic acid may be applied as a dilute 2% aqueous solution to the CAP followed by filtering and drying. Tartaric acid may be added

to a solution of CAP in an organic solvent such as acetone, in an amount between 0.25 and 5% by weight of the CAP.

**T876,007**  
**DIAZONIUM COMPOUNDS AND PHOTOGRAPHIC COMPOSITIONS**

Frederick J. Rauner, Kodak Park Works, Rochester, N.Y. 14650  
Filed Jan. 28, 1970, Ser. No. 6,444  
Int. Cl. G03c 1/54  
U.S. Cl. 96—91

1 Sheet Drawing, 14 Pages Specification

A light sensitive composition comprising a dye, e.g. a pyrylium dye, and an aromatic diazonium salt can be coated on a support material to prepare a photographic element. After an imagewise exposure, development can be accomplished by washing the exposed element with a solvent, such as water, to remove dye from the unexposed areas, leaving a monochrome image in the exposed areas.

**T876,008**  
**LIGHT-SENSITIVE PRINTOUT SYSTEM**

Frederick J. Rauner, Kodak Park Works, Rochester, N.Y. 14650  
Filed Jan. 28, 1970, Ser. No. 6,543  
Int. Cl. G03c 1/52  
U.S. Cl. 96—91

No Drawing, 8 Pages Specification

Diazonium salts of N-methyl-N-phenyl-N'-(4-diazo-benzylidene)hydrazine and a 4-(4'-diazophenyl)-2,6-diphenyl pyrylium salt are decomposed by visible light up to 600 mμ. They can be incorporated light-sensitive diazotype compositions and photographic elements which are sensitive to visible light rays up to 600 mμ.

**T876,009**  
**PHOTOGRAPHIC ELEMENT AND PROCESS UTILIZING A DYE AND AN AROMATIC DIAZONIUM SALT**

Frederick J. Rauner, Kodak Park Works, Rochester, N.Y. 14650  
Filed Jan. 28, 1970, Ser. No. 6,544  
Int. Cl. G03c 1/52  
U.S. Cl. 96—91

No Drawing, 12 Pages Specification

α-Methylpyrylium salts, e.g., 2,4,6-trimethylpyrylium perchlorate, can be employed as diazo couplers in light-sensitive diazosulfonate printout systems.

**T876,010**  
**PHOTOGRAPHIC ELEMENT FOR PRINTING PLATES HAVING A DIAZO RESIN AND A LOW CONCENTRATION OF POLYVINYL ACETAL OF 2,4-DISULFOBENZALDEHYDE**

Frederick J. Rauner and Donald A. Smith, both % Kodak Park Works, Rochester, N.Y. 14650  
Filed Feb. 2, 1970, Ser. No. 8,061  
Int. Cl. E03c 1/52, 1/58, 5/22  
U.S. Cl. 96—49

No Drawing, 10 Pages Specification

Photographic elements useful as positive-working planographic printing plates and having a hydrophobic, ink-receptive support coated with a light-sensitive hydrophilic layer including a diazo resin and a hydrophilic polymer can be prepared with low polymer concentrations by employing a polyvinylacetal of 2,4-disulfo-benzaldehyde as the hydrophilic polymer.

## PLANT PATENTS

GRANTED JULY 28, 1970

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing

2,982

**APPLE TREE**

Mervyn Greenlade, Summerland, British Columbia, Canada, assignor to Hill Top Orchards and Nurseries, Inc., Hartford, Mich., a corporation of Michigan

Filed Sept. 5, 1968, Ser. No. 757,804  
Int. Cl. A01h 5/03

U.S. Cl. Plt.—34

1 Claim

1. A new and distinct variety of apple tree, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous and more upright tree habit than that of the variety "Summerland Red Mac," with only a slightly spreading tendency, thereby resulting in a better ability to sustain heavy fruit loads without damaging the tree, large, darker green leaves, a consistency heavy, annual fruit bearing habit, a habit of bearing the fruit on shorter and heavier fruiting spurs which are more closely spaced and more numerous than those of "Summerland Red Mac" which tend to grow on into secondary vegetative branches and are less numerous and consequently less productive, a more intense red color of the fruit, while the fruit otherwise being similar to the fruit of "Summerland Red Mac," a superior resistance to apple powdery mildew, while otherwise having disease and insect resistance comparable to "Summerland Red Mac," and superior adaptability to growing on many different rootstocks which can be grown under a wide range of cultural conditions and situations.

2,983

**FLOWERING CRABAPPLE TREE**

Henry A. Ross, Strongsville, Ohio, assignor to The Cole Nursery Company, Painesville, Ohio, a corporation of Ohio

Filed July 5, 1968, Ser. No. 742,985  
Int. Cl. A01h 5/03

U.S. Cl. Plt.—34

1 Claim

1. A new and distinct variety of flowering crabapple tree, *Malus cultivar*, having a very dwarf and slow compact habit of growth contrasted to common flowering crabapple trees and most other dwarf flowering crabapple trees, and producing abundant tight crimson buds

opening to semi-double to double flowers of soft pink color with substantially no purple undertone.

2,984

**ROSE PLANT**

John W. Patterson, 6518 Kernel, Houston, Tex. 77017  
Filed July 29, 1968, Ser. No. 748,570  
Int. Cl. A01h 5/00

U.S. Cl. Plt.—15

1 Claim

1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the combination of good growing and flower producing habits, glossy, green foliage, large flowers which are borne on strong stems, good flower form, especially in newly opened flowers, moderate flower fragrance; better than average disease resistance, particularly with respect to mildew, an attractive general color tonality of the flowers corresponding to Indian Yellow in the newly opened flowers, and to near Lemon Yellow in the three days open flowers, and good keeping qualities of flowers as show blooms.

2,985

**PEAR TREE AND FRUIT**

Thomas F. Wells, 841 E. 48th, Tacoma, Wash. 98404  
Filed Aug. 26, 1968, Ser. No. 755,472  
Int. Cl. A01g 5/03

U.S. Cl. Plt.—36

1 Claim

1. The new and distinct pear variety to be characterized particularly by:

- An unusual blossoming habit, in that flowers frequently produce double and sometimes triple rows of petals.
- An apparent resistance to late spring frosts.
- A tendency to annual and prolific bearing.
- Production of fruits larger than those of other varieties of approximately the same season, namely Bartlett.
- A shape with distinctively different features for varieties of the same season, particularly as to appearance of the calyx and stem ends.
- Flesh characters adaptable to processing that may be favorable for persons on low sugar diets.



# PATENTS

GRANTED JULY 28, 1970

## GENERAL AND MECHANICAL

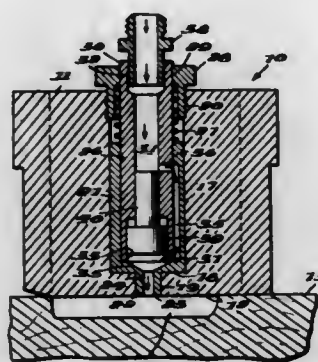
3,521,601

### CONTROL VALVE

Arthur Jewell Knudson, 1880 Pacific Highway S.,  
Junction City, Oreg. 97448  
Filed Oct. 28, 1968, Ser. No. 771,229  
Int. Cl. B05c 11/00

U.S. Cl. 118—8

4 Claims



A depressed area filling device has a valve disposed in the dispensing outlet. The valve is directly acted upon by the filling medium in both the feed line and at the dispensing outlet and the pressure differential thereof actuates the valve for both the filling and closing functions.

3,521,602

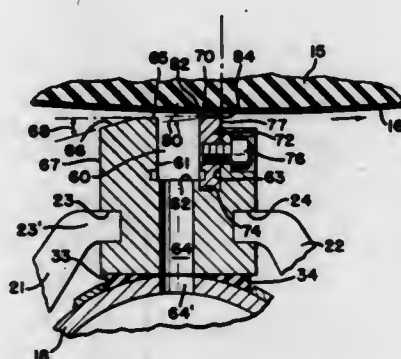
### FOUNTAIN COATER

James T. Coghill, Fulton, N.Y., assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio

Filed Dec. 18, 1967, Ser. No. 691,297  
Int. Cl. B05c 3/02, 3/18

U.S. Cl. 118—14

12 Claims



A fountain coater bar with a removable nose bar member defining an off-running coating land tapered toward the backing roll and being formed of relatively short dimension as compared to the width and depth of the coating trough, and an on-running land which forms a tapered wedge with the web providing a region of lowering pressure for the removal of entrained gasses within the coating material and for the separation of air entrained with the web prior to entering the trough.

3,521,603

### SUPPORT MEANS FOR POULTRY CAGES

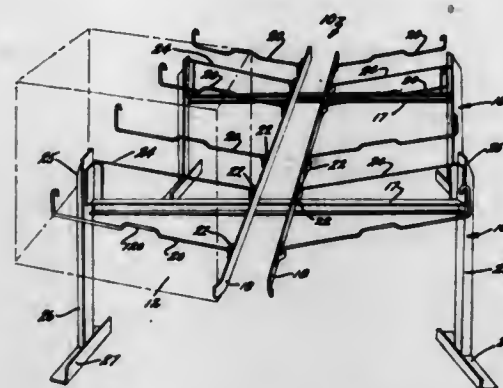
Jewel Graves, Holland, Mich., and Harvey Z. Burkholder, Ephrata, Pa., assignors, by mesne assignments, to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 28, 1968, Ser. No. 709,128

Int. Cl. A01k 31/00

U.S. Cl. 119—17

17 Claims



Apparatus for vertically supporting poultry confinement cages of the type having open-mesh floors, including upright standard elements which support a rod-like beam member disposed beneath the floor of each individual cage unit, with each such beam member extending completely across the underside of such cage, generally centrally thereof, but spaced beneath the cage floor except at a central point with respect thereto, where a cage floor-engagement part of the beam support extends upwardly and engages a single strand of the open-mesh floor, to support such floor at that point only, whereby the floor is adequately supported in a manner providing minimum restriction to and inhibition of the natural flexibility thereof.

3,521,604

### VESSEL HAVING A FOAM POLYURETHANE OUTER LAYER

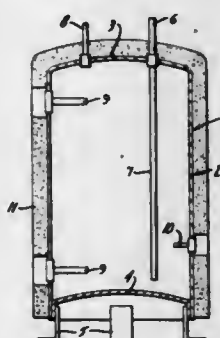
Herbert W. Nickel, Germantown, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Jan. 29, 1968, Ser. No. 701,405

Int. Cl. F22b 7/00

U.S. Cl. 122—13

10 Claims



The invention relates to a vessel, such as a hot water heater, adapted to contain a heated material, and including a steel tank having a layer of polyurethane foam bonded to the outer surface of the tank. The foam is an open cell type having a composite density of 4 to 15 pounds per cubic foot, and having a hard, yet ductile, outer skin.

JULY 28, 1970

## GENERAL AND MECHANICAL

819

The foam layer provides a decorative appearance for the water heater, as well as serving as a heat insulating medium and protecting the tank from damage during shipment.

3,521,605

### FORCED RECIRCULATION EVAPORATOR

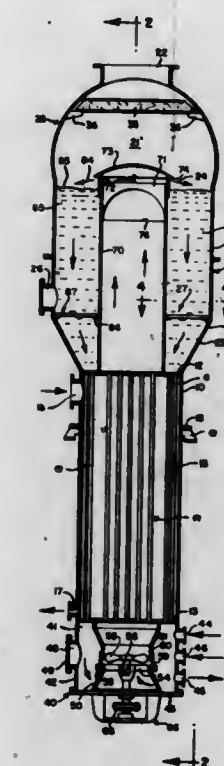
Albert W. Eckstrom, Snyder, N.Y., Edward S. Wright, Mount Lebanon, Pa., William G. Dedert, Crete, Ill., and Reynard W. Gingrich, Fort Erie, Ontario, Canada, assignors to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware

Filed July 5, 1968, Ser. No. 742,726

Int. Cl. F22b 1/02

U.S. Cl. 122—34

13 Claims



The purpose is to avoid important disadvantages in field fabrication of high capacity evaporators, which include not only heated evaporators but also crystallizers in which crystallization is effected by vacuum cooling. This purpose is accomplished by providing shop assembled units of a size capable of normal handling by common carriers, so that the field work is merely that of joining the units together. In particular the shell providing vapor disengagement is a horizontal drum of a normal shippable diameter and the liquor is discharged under pump pressure into the vapor space therein at different places horizontally along the drum. Preferably such discharge is in the form of a rapid horizontally moving film or films immediately above the liquor level maintained in the drum (1) to permit of minimum but adequate vapor and liquor space depth and hence the use of such small diameter drum (2) to rapidly disengage or flash vapor from the film or films, (3) to rapidly bring the film to equilibrium with, however, insufficient time for the liquor in the film to come to supersaturation with consequent excessive nascent minute crystal propagation and (4) in a volume sufficient to recirculate the crystals and promote growth thereof. The liquor so forcefully discharged into the vapor space can be from a horizontal tube or tubes arranged lengthwise in the drum at least partly submerged in the liquor therein and the discharge can be in the form of a plurality of films at spaced intervals along said tube or as a film or films discharged from a slot extending lengthwise of the tube. In a modified form the film or films so discharged into the vapor space can be supplied from a plurality of shell and tube steam chest heaters or crystallizer shells. The steam chest heater or crystal-

3,521,606

### FUEL INJECTION CONTROL ARRANGEMENT FOR INTERNAL COMBUSTION ENGINES

Peter Schmidt, Stuttgart-Botnang, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany

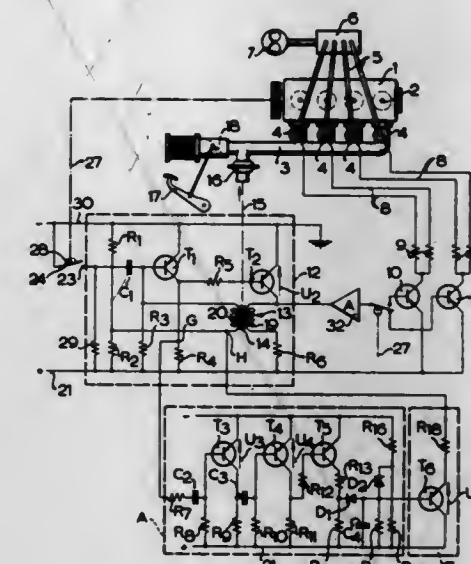
Filed Oct. 18, 1968, Ser. No. 768,793

Claims priority, application Germany, Oct. 21, 1967, 1,576,289

Int. Cl. F02d 5/02

U.S. Cl. 123—32

10 Claims



A control arrangement for controlling the injection duration of internal combustion engines. A monostable multivibrator circuit provides rectangular-shaped pulses which determine the duration of the injection period. A control circuit generates a control voltage varying the duration of these pulses emitted by the monostable multivibrator, as a function of the speed of the engine. The control circuit has a first and second transistor and a resistance-capacitance network connected to the collector of the second transistor. An emitter-follower transistor is connected to the resistance-capacitance network through its base-emitter path. A voltage divider is connected to the emitter of the emitter-follower transistor. The monostable multivibrator is provided with a transformer which determines the timing of the multivibrator, and which has its secondary winding connected to the voltage divider and to the base of the input transistor of the monostable multivibrator.

3,521,607

### ENGINE CYLINDER AND HEAD CONSTRUCTION

William A. Wiseman and Raymond J. Green, Muskegon, Mich., assignors to Continental Motors Corporation, Detroit, Mich., a corporation of Virginia

Continuation-in-part of application Ser. No. 655,416,

July 24, 1967. This application July 24, 1969, Ser. No. 844,466

Int. Cl. F02f 1/06; F01b 31/28; F16j 15/02

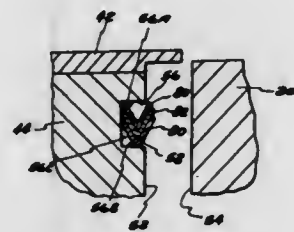
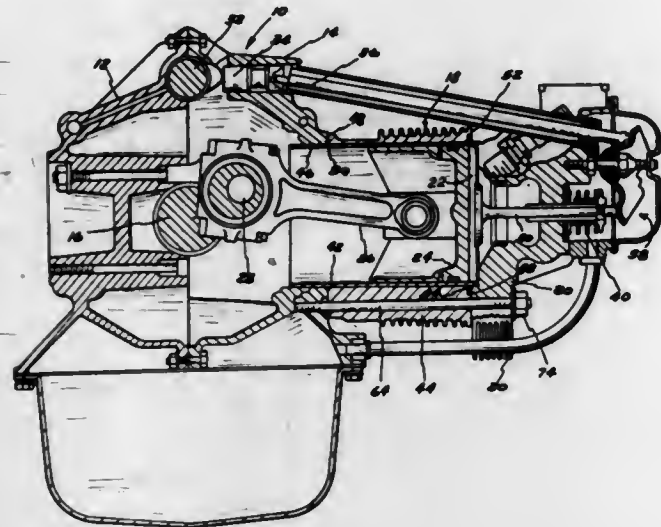
U.S. Cl. 123—41.69

9 Claims

A cylinder and head arrangement for an internal combustion engine with the cylinder barrel and the head being separably mounted to the crankcase by through bolts which clamp the cylinder barrel between the head and the crankcase. The mating surfaces between the cylinder head and the barrel are sealed by a compressible annular gasket seated in an annular recess formed in the cylinder barrel to eliminate the conventional gasket retaining ring while permitting a predetermined amount of gasket compression to achieve an adequate seal between the barrel and the head. The gasket is V-shaped

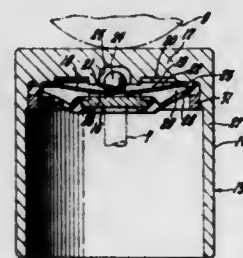
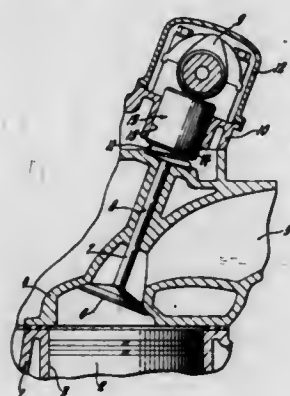


in section is disposed in said recess with one of the legs engaging the bottom of the recess and the other engaging the cylinder head surface. The legs also have portions



engaging the opposite surfaces of the recess so that when assembled the gasket is engaged with each surface of the recess as well as with the cylinder head.

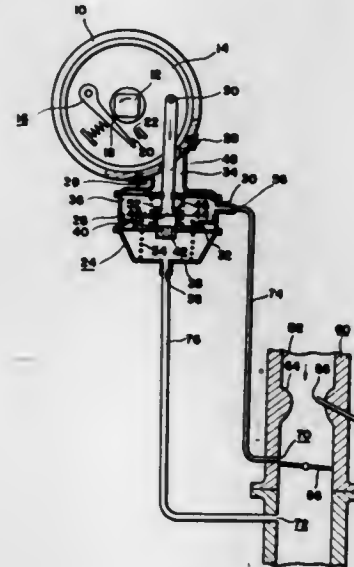
**3,521,608**  
**SELF-CONTAINED HYDRAULIC VALVE LIFTER**  
Elias W. Scheibe, Grand Rapids, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Oct. 16, 1968, Ser. No. 768,008  
Int. Cl. F011 1/24  
U.S. Cl. 123—90.57



An overhead cam and valve engine with a self-contained hydraulic valve lifter directly interposed between the cam and valve stem, the lifter including an inverted

cup slidably guided in a bore surrounding the valve spring, a valve stem abutting member suspended for telescopic movement within the cup by a fluid impervious diaphragm, and a dished spring plate interposed between said member and the closed end of the cup, the spring plate serving both to take up lash between the cam and valve stem and to form the hydraulic pressure chamber of the lifter.

**3,521,609**  
**APPARATUS FOR CONTROLLING IGNITION TIME OF AUTOMOBILE ENGINE**  
Yoshitami Kashiwagi and Yasuo Tada, Himeji, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan  
Filed Aug. 29, 1967, Ser. No. 664,036  
Claims priority, application Japan, Aug. 31, 1966, 41/82,093  
Int. Cl. F02p 5/04; F02d 31/00  
U.S. Cl. 123—117



A carburetor for an automobile engine is provided with two apertures adjacent a throttle valve, one on each side of the valve when it is in its idle position. A pressure responsive device is divided into an atmospheric chamber and a first and a second pressure chamber by first and a second flexible diaphragms with each of the pressure chambers communicating with a respective one of the apertures. A movable control rod extending through the first diaphragm and connected to the second diaphragm for limited relative movement is connected to a support plate for a contact breaker. When the engine accelerates the first diaphragm is arranged to respond to a fuel pressure in one of the apertures to rotate the support plate through the control rod so as to advance the ignition timing of the engine, however, when the engine decelerates the second diaphragm is arranged to respond to a fuel pressure in the other aperture similarly to advance the ignition timing of the engine.

**3,521,610**  
**ENGINE TEMPERATURE CONTROL VALVE**  
Raymond T. Coudriet, Grosse Pointe Park, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware  
Filed June 11, 1968, Ser. No. 736,133  
Int. Cl. F01p 7/16; F02p 5/12, 5/14  
U.S. Cl. 123—117

A reciprocable temperature and pressure actuated valve for controlling the flow of coolant between a water cooled

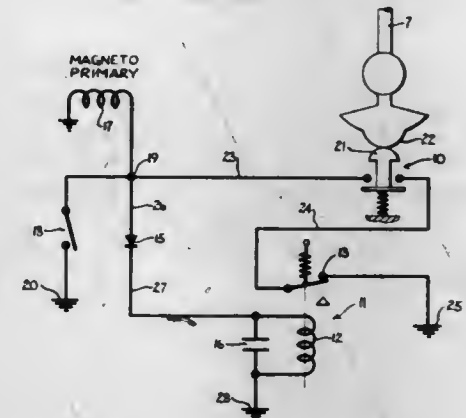
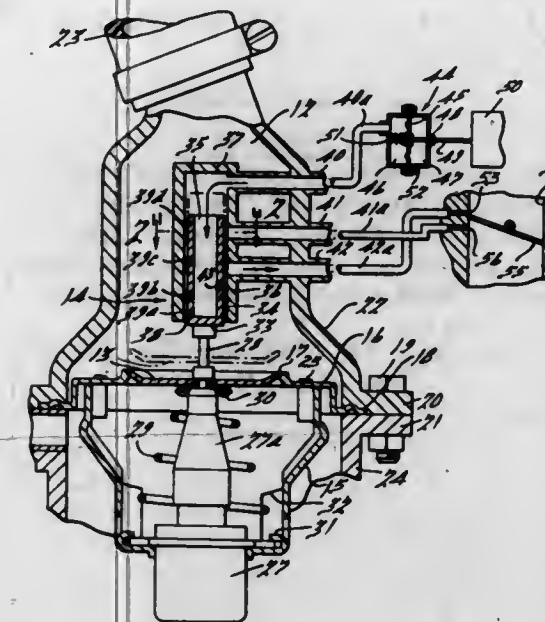
automobile engine and its radiator is connected with a manifold vacuum control valve to actuated the customary

**3,521,612**  
**SAFETY INTERLOCK FOR MACHINE POWERED BY MAGNETO IGNITION ENGINE**

John D. Santi, West Allis, and Joseph R. Harkness, Germantown, Wis., assignors to Briggs & Stratton Corporation, Wauwatosa, Wis., a corporation of Delaware

Filed Feb. 17, 1969, Ser. No. 799,814  
Int. Cl. F02n 11/08, 11/10  
U.S. Cl. 123—179

4 Claims



ignition timing mechanism to advance the ignition in the event of engine overheating during idling.

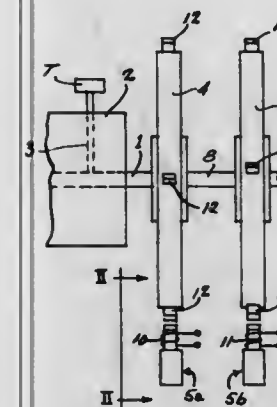
In a machine having a manually shiftable control that should be in neutral for safe engine starting, a switch is so associated with the control as to be open only in neutral and is connected in a magneto grounding circuit in series with normally closed contacts of a relay. When the engine runs, the relay winding is energized with unused current pulses from the magneto primary, delivered through a rectifier-capacitor circuit.

**3,521,611**  
**IGNITION TIMING SYSTEM FOR AN INTERNAL COMBUSTION ENGINE**

Stanley Russell Finch, 10903 56th St., Edmonton 80, Alberta, Canada  
Filed Jan. 27, 1969, Ser. No. 794,128  
Int. Cl. F02p 5/00

U.S. Cl. 123—146.5

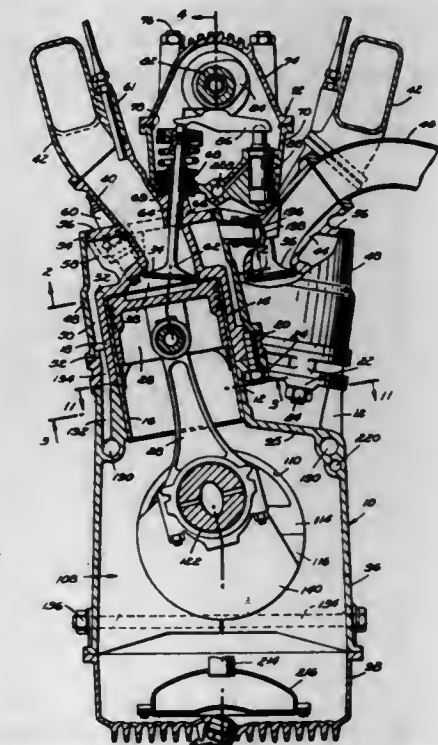
7 Claims



The system employs two flywheels joined by a shaft flexible in torsion and transmitting the engine torque. Pins on these flywheels cooperate with stationary magnetic elements to generate electrical pulses to control the timing of the ignition coil. The frequency of the pulses is used to generate a speed-dependent signal. The spacing between the pulses received from the respective flywheels is used to generate a torque-dependent signal. These signals control the time of discharge and charge of a capacitor to provide an output to the ignition coil which is timed to be advanced in response to increased speed and to be retarded in response to increased torque.

**3,521,613**  
**ENGINE WITH DIE-CAST STATIC PARTS**  
Aldo Celli, 601 Fisher Bldg., Detroit, Mich. 48202  
Filed Sept. 17, 1968, Ser. No. 760,160  
Int. Cl. F02f 7/00; F011 1/00  
U.S. Cl. 123—195

20 Claims



An internal combustion engine of the liquid-cooled type wherein the static parts of the engine are designed



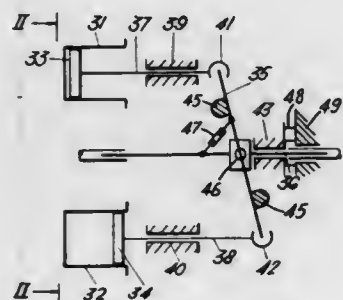
to be made as die castings. The engine includes a crankcase with water jacketed cylinder castings individually mounted thereon. The valve timing mechanism is enclosed in a cast housing supported above the cylinders on a pair of brackets extending upwardly from the opposite ends of the crankcase. The interior of the crankcase is formed with a plurality of partition walls centrally apertured to receive bearing discs in which the crankshaft is journaled. The bearing discs are clamped in position in the partition walls by bolts extending transversely through the crankcase to impart rigidity to the entire crankcase assembly.

3,521,614

**RECIPROCATING MACHINES**

John Carnegie Orkney, The Coach House, Drummond Place Lane, Stirling, Stirlingshire, Scotland  
Filed Sept. 29, 1967, Ser. No. 671,683  
Claims priority, application Great Britain, Oct. 6, 1966, 44,788/66

Int. Cl. F01m 1/00; F02b 75/26; G05g 1/00  
U.S. Cl. 123—196 15 Claims



A reciprocating heat engine including a swashplate or cam for converting the reciprocating motion of the piston or pistons into rotational movement and a slipper pad assembly connecting the piston rods with the swashplate or cam, the assembly including single or multiple pool hydrostatic bearings supplied with high pressure lubricant.

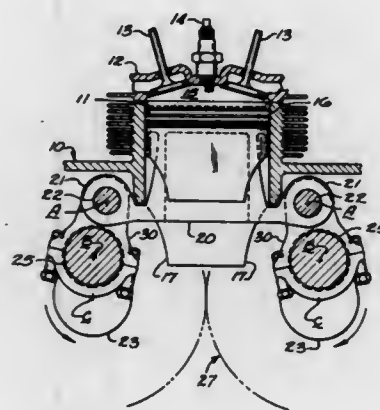
3,521,615

**INTERNAL COMBUSTION ENGINE**

Earl M. Trammell, Jr., 39 Salem Estates Drive, Ladue, Mo. 63124

Continuation-in-part of applications Ser. No. 734,162 and Ser. No. 734,163, both filed June 3, 1968. This application Dec. 3, 1968, Ser. No. 780,697

Int. Cl. F02b 75/32; F16h 21/22  
U.S. Cl. 123—197 14 Claims



A dual crankshaft assembly in an internal combustion engine that permits a substantial reduction in conventional connecting rod lengths for piston-operating engines. The assembly has a pair of crankshafts disposed on opposite sides of a piston. A piston-connecting means extends

laterally outward from the piston base to opposite sides of the cylinder for operative attachment to a pair of connecting rods, one rod being operatively attached to one crankshaft and the other rod being operatively attached to the other crankshaft. The connecting rods have a length that is less than the stroke and greater than one-half of the stroke.

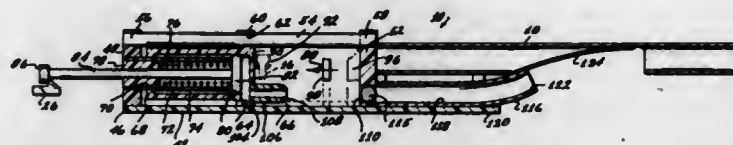
3,521,616

**TOY GUN WITH MEANS FOR CONTROLLING THE TRAJECTORY OF ITS PROJECTILE**

Richard Shih-Teng Chang, Gardena, Daniel H. Meggs, Redondo Beach, and John W. Ryan, Los Angeles, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of Delaware

Filed June 28, 1968, Ser. No. 740,947  
Int. Cl. F41b 11/02

U.S. Cl. 124—15 7 Claims



A low-density projectile is given an improved trajectory by providing means in a gun toy for spinning the projectile about an axis forming an angle with the initial direction of flight of said projectile.

3,521,617

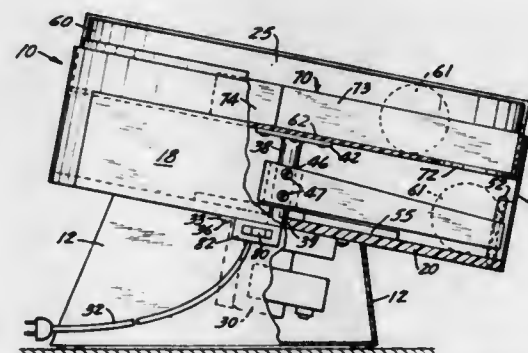
**BALL PITCHING MACHINE**

Donald D. Heinz, 2403 Lincoln St. NE., Minneapolis, Minn. 55418

Filed Oct. 23, 1968, Ser. No. 769,845

Int. Cl. F41b 7/00; F41d 9/00

U.S. Cl. 124—16 10 Claims



A ball pitching machine particularly adapted for use as a child's toy for the pitching or propelling of light, plastic baseballs. The machine includes a ball discharge section into which balls are dropped to be propelled, dispensed or pitched therefrom through the use of a flexible paddle which imparts a pitching force to the ball. The paddle is motor driven for cyclic operation and a ball holding and dispensing structure carried by the motor and positioned above the paddle will dispense balls in a timed sequence to be propelled from the machine.

3,521,618

**DOOR LOCKING ASSEMBLY**

David Gibbons Smith, Toronto, Ontario, and Helmut Ludwig Hagenbuch, Downsview, Ontario, Canada, assignors to Moffats, Limited, Weston, Ontario, Canada, a company

Filed Feb. 3, 1969, Ser. No. 795,968

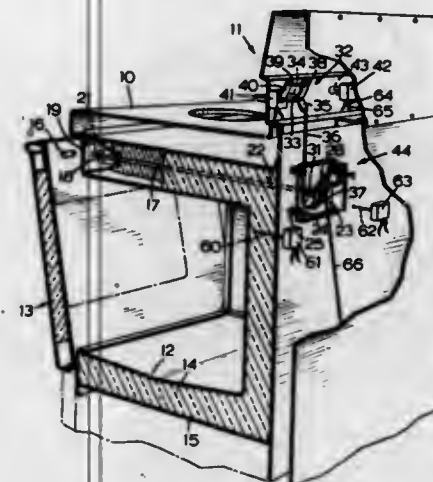
Claims priority, application Great Britain, Feb. 8, 1968, 6,030/68

Int. Cl. F24c 15/04

U.S. Cl. 126—197 3 Claims

A door locking device for an oven having a high temperature cleaning cycle in which the door cannot

be locked unless the stove is connected to a source of the water supporting the specimens, while also providing power, and when locked, can be unlocked when the temperature control means.



3,521,620

**VASCULAR COIL SPRING GUIDE WITH BENDABLE TIP**

William A. Cook, 925 S. Curry Pike, Bloomington, Ind. 47401

Filed Oct. 30, 1967, Ser. No. 678,979

Int. Cl. A61b 17/00; A61m 23/00

U.S. Cl. 128—2.05 4 Claims



oven is below a certain temperature but cannot be unlocked so long as the oven is above that certain temperature.

3,521,619

**CAPSULE FOR ORBITING OTOLITH SPECIMENS**

Charles M. Blackburn, Silver Spring, Frederick A. Oyhus, Union Bridge, and Richard S. Brashears, Silver Spring, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 6, 1968, Ser. No. 726,797

Int. Cl. A61b 5/00

U.S. Cl. 128—2 7 Claims

A coil spring guide having a pair of wires secured to the distal end of the coil spring and extending through the coil spring. One of the wires is fixed to the coil spring at a location spaced from the distal end and holds the coils of the coil spring apart so that the coil spring bends when the other wire is made taut.

3,521,621

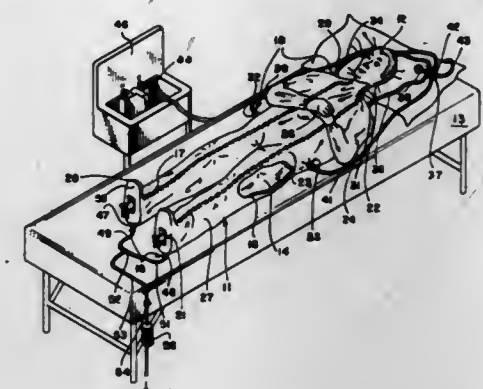
**SUIT FOR CIRCULATION OF FLUID AROUND BODY**

Mary G. Smith, 905 W. 13th, Wichita, Kans. 67203

Filed Dec. 11, 1967, Ser. No. 689,626

Int. Cl. A61h 1/00

U.S. Cl. 128—24.1 3 Claims



In order to study accelerative effects induced upon amphibious specimens living in a low gravitational environment, a suitable life support system for such specimens has been provided. The present invention envisions an internally pressurized capsule which provides a water-filled, specimen-containing compartment which can be rotated by a centrifuge motor, thereby applying an 0.5 g acceleration to the otolith nerves of the specimens. The otolith nerve pulses are recorded and transmitted to a ground receiving station for analysis. The invention provides means for filtering, purifying, and reoxygenating

A suit for circulation of fluid around the body for use in conjunction with a physical therapy apparatus is provided having a pliable enclosure means which maintains the circulating fluid therein. A fluid-tight fastening means is positioned within the enclosure means and extends a substantial portion of the length of the enclosure means so that the enclosure means can be positioned around the body. Connecting means are mounted on the exterior portion of the enclosure means so that the enclosure means and thus various parts of the body can be

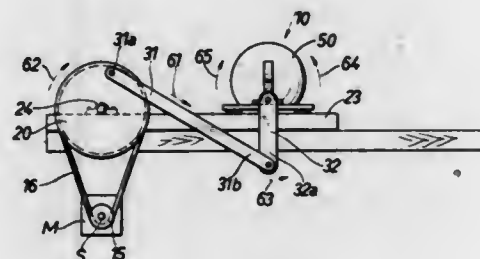


secured to the physical therapy apparatus so that the body can be exercised while fluid is circulating through the enclosure means and thus around the body.

**3,521,622**  
**HEAD TURNING APPARATUS**  
Henry R. Collins, Jr., 4507 Hemlock,  
Baytown, Tex. 77520  
Filed Nov. 8, 1967, Ser. No. 681,420  
Int. Cl. A61h 1/00

U.S. Cl. 128—25

2 Claims



A motor driven member actuates a pair of arms to rotate a shaft and headpiece back and forth along a fixed path such that a person's head positioned in the headpiece is similarly rotated as such person's hands and feet are moved to simulate crawling by the person.

**3,521,623**  
**BACK BRACE**  
Wayne Nichols, Rte. 1, West Liberty, Ohio 44505, and  
Kenneth G. Markley, 446 E. Church St., Urbana, Ohio 43078

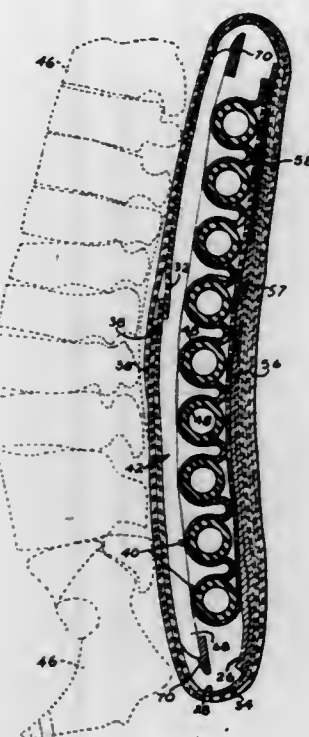
Filed Feb. 12, 1965, Ser. No. 432,210

The portion of the term of the patent subsequent to  
Oct. 7, 1985, has been disclaimed

Int. Cl. A61f 5/02

U.S. Cl. 128—78

5 Claims



A spinal brace to be worn around the torso of a human as one would wear a belt. The brace includes two rigid parallel bars which are positioned on opposite sides of the spine of the wearer and which bars are forced against the wearer's spine by a plurality of tubular air bladders which are positioned between the bars and the back portion of the brace. The air bladders are selectively inflatable and are maintained in spaced, parallel relationship

along the encircling length of the brace. A modified form of the brace is also shown for those situations in which the area of the back from the base of the spine to the neck of the wearer must be supported.

**3,521,624**  
**MICROORGANISM GROWTH INHIBITING  
FIBER PRODUCTS**

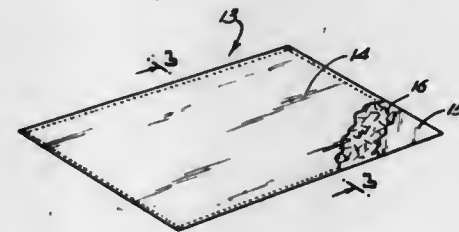
Robert J. Gander, Whitehouse, and David T. Rovee, Hope-  
well, N.J., assignors to Johnson & Johnson, a corpora-  
tion of New Jersey

Filed July 3, 1967, Ser. No. 650,807

Int. Cl. A61f 5/36

U.S. Cl. 128—132

18 Claims

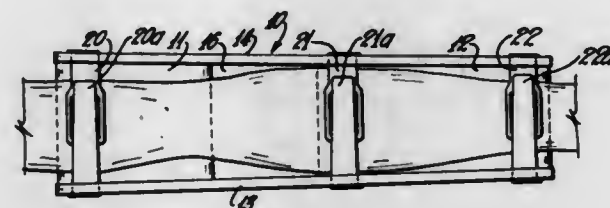


Fibers which inhibit growth of microorganisms under damp or humid conditions are prepared by fully or partially coating or impregnating the fibers with a polymeric resin base containing dispersed therethrough a small amount of composition which on reaction with water, generates a compound or compounds which inhibit growth of microorganisms. The preferred compositions are those that react with water to form formaldehyde. The invention is particularly useful in the preparation of dressings and the like where a fiber sheet of woven or nonwoven fabric is to come in contact with the human skin and in fiber absorbent in sheet or batting form used in dressings or other constructions wherein it is desirable to inhibit bacteria growth.

**3,521,625**  
**MEDICAL RESTRAINT**  
John A. Mackey, 313 S. Brush St.,  
Fremont, Ohio 43420  
Filed July 17, 1968, Ser. No. 745,493  
Int. Cl. A61f 13/00

U.S. Cl. 128—133

10 Claims



Apparatus for restraining movement of a patient's arm including a rigid assembly and means for releasably securing the upper arm portion and the forearm portion of a patient's arm to the assembly to prevent relative movement between the arm portions. The assembly has an opening formed therein at an elbow section to prevent the elbow portion of the patient's arm from contacting the assembly. Means are provided for supporting the elbow section of the assembly above a surface whereby the elbow portion of a patient's arm is held in non-contacting relationship above the surface.

**3,521,626**  
**SUBMARINE MASK FOR A DIVER**  
Tomiju Hashimoto and Fukusaburo Tokoroyama, Tokyo,  
Japan, assignors to Shimada Rika Kogyo Kabushiki  
Kaisha, Tokyo, Japan

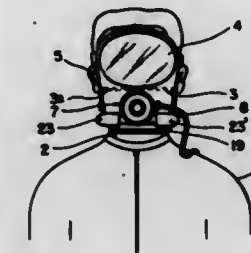
Filed Feb. 13, 1968, Ser. No. 705,051

Claims priority, application Japan, Feb. 23, 1967,  
42/14,517; Oct. 9, 1967, 42/85,701, 42/85,702

Int. Cl. A62b 7/02

U.S. Cl. 128—142

8 Claims



A submarine mask for a diver comprising a mask proper covering the nose and/or mouth of the diver, in which inhalant air is supplied from an air bomb through a pressure regulator and exhalant air is discharged through an exhalant device in the mask. The exhalant device comprises an exhalant tube, a non-return valve normally adapted to be closed by restorative character of an elastic plate, and an exhalant valve connected to the open end of said exhalant tube and consisting of a normally closed flat bag made of rubber and provided with a plurality of small perforations in the vicinity of its closed end portion. Discharge into water of the exhalant air is effected through the plurality of small perforations upon inflation of the flat bag valve.

**3,521,627**  
**AUTOMATIC EMERGENCY BREATHING OXYGEN  
SYSTEM FOR AIRCRAFT**

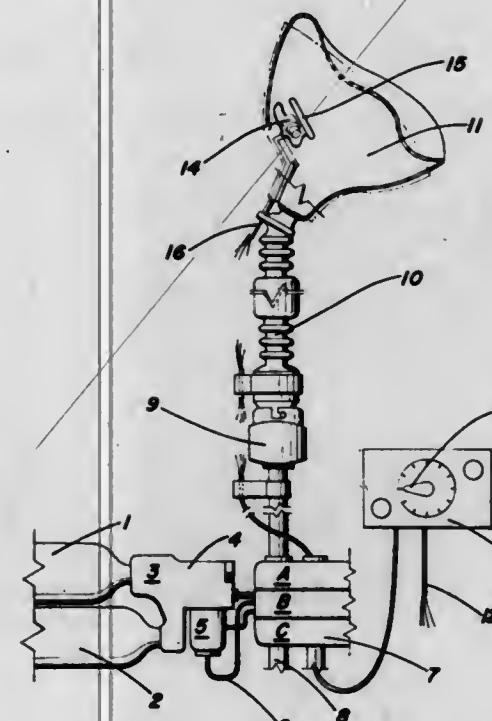
Norris N. Murray, San Bruno, Calif., assignor to H. Koch  
& Sons, Inc., Corte Madera, Calif., a corporation of  
California

Filed Jan. 23, 1968, Ser. No. 699,895

Int. Cl. A62b 7/14

U.S. Cl. 128—142

4 Claims



Emergency oxygen supply cylinders are connected through a pressure reducer, solenoid valve, oxygen personal leads connector, oxygen hoses, oxygen regulator, to the oxygen mask and the hypoxia warning system in the

oxygen mask for opening said solenoid valve below a predetermined partial pressure of oxygen in said mask.

**3,521,628**  
**MATERIAL FOR THE MANUFACTURE OF FITTED  
DIVING SUITS AND SUITS MADE THEREOF**  
Michel F. Piel, 68 Avenue Ledru Rollin,  
Paris 12, France

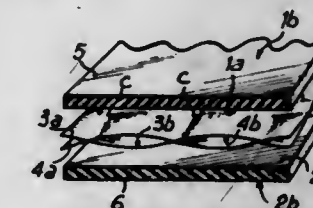
Filed Jan. 31, 1967, Ser. No. 612,935

Claims priority, application France, Jan. 31, 1966,  
47,852

Int. Cl. A62b 7/00

U.S. Cl. 128—142.5

9 Claims



A material for the manufacture of heat-insulating diving suits comprising, between two impermeable and elastic sheets, an insertion space containing an interposed material attached to the opposite faces of the sheets and permitting the admission of a fluid into said space, the interposed material keeping the sheets parallel when the fluid pressure tends to force them apart against the action of the external pressure. Also a suit or a part of a diving suit made from the said material.

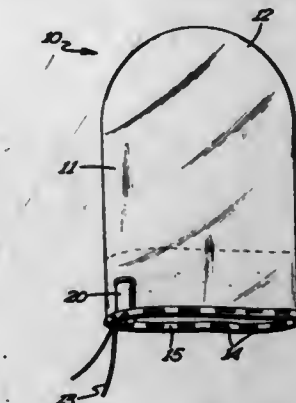
**3,521,629**  
**HEAT AND SMOKE PROTECTIVE HOODS**  
Harold I. Reynolds, Mercer Island, Wash., assignor to  
G. T. Schjeldahl Company, Northfield, Minn., a corpo-  
ration of Minnesota

Continuation-in-part of application Ser. No. 624,448,  
Mar. 20, 1967. This application Sept. 18, 1967, Ser.  
No. 668,738

Int. Cl. A62b 17/04

U.S. Cl. 128—142.7

13 Claims



A protective hood enclosure adapted to be worn by an individual within a flame or smoke-laden environment, the enclosure being fabricated from a gas impermeable flexible film of transparent heat resistant material, the film being provided with an infra-red reflective metal along the outer surface thereof.

**3,521,630**  
**RESPIRATOR FACE MASK WITH REPLACEABLE  
FILTER**

Walter M. Westberg, St. Paul, and Patrick H. Carey, Jr.,  
Bloomington, Minn., assignors to Minnesota Mining  
and Manufacturing Company, St. Paul, Minn., a cor-  
poration of Delaware

Filed Apr. 7, 1967, Ser. No. 629,227

Int. Cl. A62b 7/10

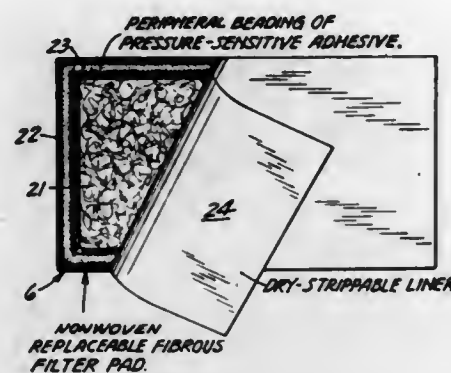
U.S. Cl. 128—146.6

1 Claim

A lightweight filter-type respirator face mask for toxic  
dusts and mists, having a replaceable adhesively-held filter



pad through which the wearer can readily speak. The nonwoven fibrous filter pad is bordered by a tacky pres-

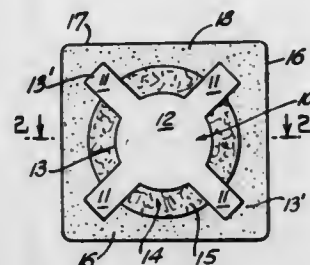


sure-sensitive adhesive beading which tightly but removably adheres the pad to the apertured front of the plastic shell facepiece as the sole fastening means.

### 3,521,631 DRESSING

Jack H. Gardner, Highland Park, and David T. Rovee, Hopewell, N.J., assignors to Johnson & Johnson, a corporation of New Jersey  
Filed Nov. 8, 1967, Ser. No. 681,463  
Int. Cl. A61f 13/00  
U.S. Cl. 128-156

16 Claims



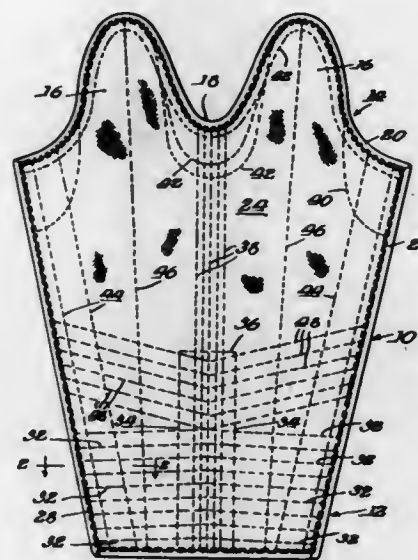
An occlusive dressing for wounds, the dressing comprising an impervious flexible film adapted to contact and cover the area of the wound, an absorbent pad backing the wound-contacting film and extending beyond a substantial portion of the periphery of the impervious film and a flexible imperforate film backing extending beyond the edges of both the wound-contacting film and the absorbent pad. At least the portion of the film backing which extends beyond the outside edges of the wound-contacting film and absorbent pad contains a pressure-sensitive adhesive coating for securing the same to the skin of a patient around the edges of the absorbent pad and wound-contacting film so as to completely enclose the same when the dressing is applied. The absorbent pad extending beyond the edges of the wound-contacting film removes wound exudate from the proximate area of the wound without the pad coming in contact with the open wound itself.

### 3,521,632 SURGICAL DRESSING

James F. Graham, 10039 St. Louis, Evergreen Park, Ill. 60642  
Filed Nov. 18, 1968, Ser. No. 776,340  
Int. Cl. A61l 15/00

U.S. Cl. 128-156  
A surgical dressing which is adjustable for size and shape. An inner lining of non-adhering fluid-permeable

fabric is roughly shaped to conform to the human trunk. A congruent mass of fluid-absorbent material is superimposed on the inner lining, and covered with an outer lining of moisture-resistant fabric. All three layers are fastened together about their contiguous edges with a fabric tape. A plurality of spaced lines of stitching are provided through the outer lining and the mass of absorb-



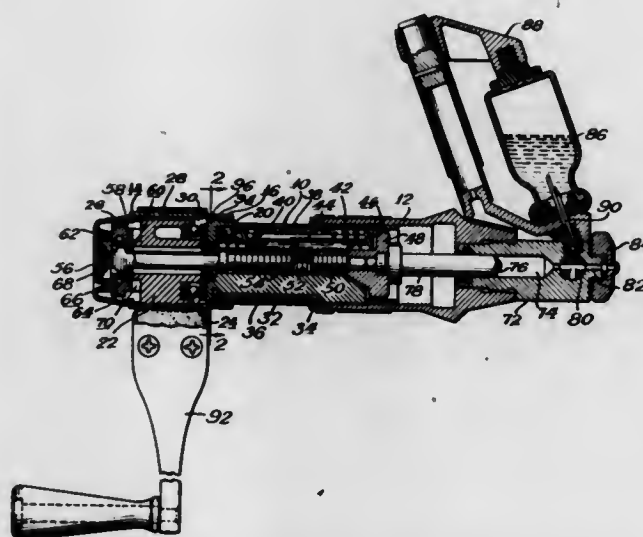
ent material. The stitching lines permit cutting of the dressing to size and shape without disturbing the structural integrity of the absorbent mass.

### 3,521,633 BRAKE DEVICE FOR HYPODERMIC JET INJECTOR

Gilbert L. Yahner, East Detroit, Mich., assignor to R. P. Scherer Corporation, a corporation of Michigan  
Filed Nov. 13, 1967, Ser. No. 681,990  
Int. Cl. A61m 11/06

U.S. Cl. 128-173

4 Claims



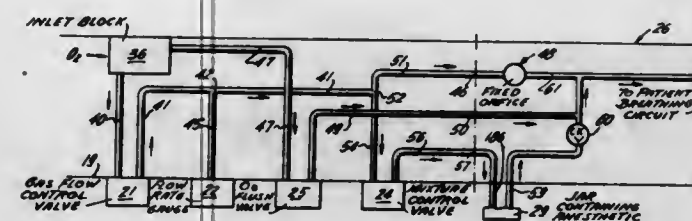
A drag brake for a hypodermic jet injector of the type having a nonrotatable cylindrical housing with a discharge nozzle attached to one end of the housing and a rotatable "cocking" barrel attached to the other end of the housing. The brake is an arcuately shaped and biased wire fixed in a slot at the barrel end of the housing. The wire is biased outwardly against the sides of the barrel which rotates around the outer surface of the housing. The friction of the biased wire against the rotatable barrel provides a braking effect sufficient to prevent the rotatable barrel from unintentionally rotating.

### 3,521,634 ANESTHETIZING APPARATUS

Chalmers M. Goodyear, Huntington, and Charles R. Tobin, Port Washington, N.Y., assignors to The Foregger Company, Inc., Roslyn Heights, N.Y., a corporation of New York  
Filed Oct. 23, 1965, Ser. No. 503,708  
Int. Cl. A61m 17/00

U.S. Cl. 128-188

13 Claims



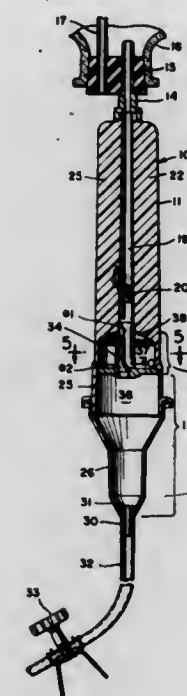
Anesthesia apparatus where settable gas flow is shown on a dial and where a relatively constant percentage of anesthetic gas in an oxygen flow is provided at a given temperature regardless of the volume of flow. A pair of orifices, one adjustable, provides means for maintaining such constant percentage at different temperatures. A mere dial adjustment in response to a showing of temperature change in the vaporizer is all that is necessary.

### 3,521,635 FLOWMETER DE-AERATOR FOR PARENTERAL FLUID ADMINISTRATION SET

Wilbur R. Koehn, 20 Shorewood Drive, Port Washington, N.Y. 11050  
Filed May 22, 1968, Ser. No. 731,033  
Int. Cl. A61m 5/16

U.S. Cl. 128-214

13 Claims



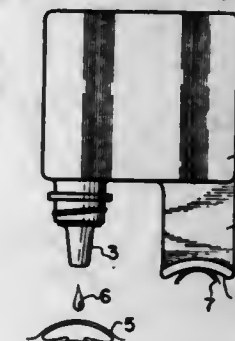
A flowmeter and drip housing assembly for use in the administration of parenteral fluids wherein a fluid trap is disposed between the flowmeter and drip housing. Manipulation of the flexible wall of the drip housing alternately forces liquid in opposite directions through the flowmeter to flush the float chamber and to propel the float in reversing directions between spaced stops and thereby de-aerate the float and float chamber without at the same time introducing further air into the flowmeter from the drip chamber.

### 3,521,636 EYE DROP DISPENSER

James J. Mahoney and Charles L. Weckesser, Chenango County, N.Y., assignors to The Norwich Pharmacal Company, a corporation of Delaware  
Filed July 17, 1967, Ser. No. 653,967  
Int. Cl. A61m 3/00

U.S. Cl. 128-233

5 Claims



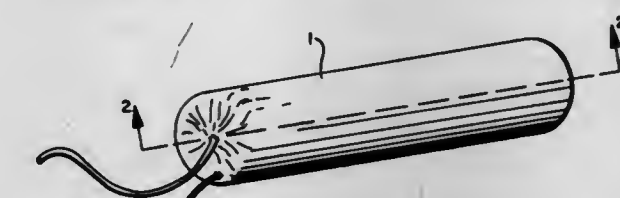
A squeeze-type eye drop dispenser including a stabilizer bumper which is at the approximate height of the dispensing tip and spaced therefrom a distance which permits the bumper to rest on the bridge of the nose, the eyebrow or cheek as drops are being dispensed.

### 3,521,637 TAMPON OR SIMILAR SANITARY NAPKIN CONTAINING VITAMIN A

Nelson J. Waterbury, Palm Beach, Fla., assignor, by direct and mesne assignments, of thirty percent to Nicholas R. Dupont, Wilmington, Del., ten percent to John J. Matonis, Philadelphia, Pa., twenty percent to Barry F. Haskett, Ocean City, N.J., and ten percent to Joan Hixon Martin, Washington, D.C.  
Continuation-in-part of application Ser. No. 637,270, May 9, 1967. This application Nov. 28, 1967, Ser. No. 686,021

Int. Cl. A61f 13/20  
U.S. Cl. 128-270

2 Claims



A tampon or similar sanitary napkin containing vitamin A either microencapsulated within the fibrous matrix of the tampon or enclosed within one or more rupturable membranes or capsules within the tampon matrix, such rupturable membranes or capsules being broken by the exertion of slight finger pressure or mechanical opening before insertion of the tampon or similar article. The microencapsulated vitamin A is also released by slight finger pressure, or by the heat of the body adjacent the vaginal tampon, sanitary napkin, etc.

### 3,521,638 FABRICS HAVING WATER SOLUBLE DISCRETE AREAS AND METHODS OF MAKING

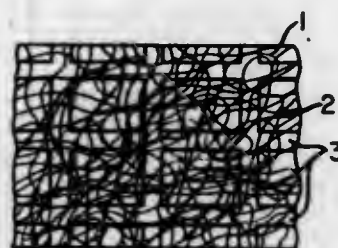
Robert Guy Parrish, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Continuation-in-part of application Ser. No. 594,134, Nov. 14, 1966. This application Feb. 10, 1969, Ser. No. 801,922

Int. Cl. A61f 13/16; D06c 1/04; D04h 17/00  
U.S. Cl. 128-284  
Cellulosic fabric is treated with a chemical modifying agent in a pattern to convert cellulose fibers to water-sensitive cellulose derivative fibers dividing the fabric

14 Claims



into areas of water-resistant cellulosic fibers. Fabric is provided which has substantial strength when dry or wet with body fluids but which disintegrates into flushable

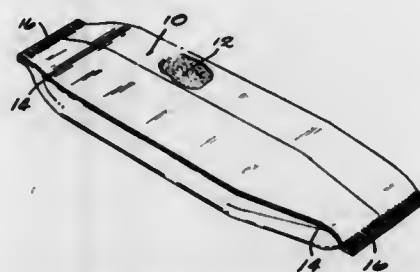


pieces when wet with water in a home flush toilet. The fabric is useful in single-use products such as diapers, catenical devices, bandages and undergarments.

**3,521,639**  
**SANITARY NAPKIN WITH COMPLETELY WRAPPED FILLER PAD**  
Curt G. Joa, Ocean Ridge, Fla. 33435  
(Box 1121, Boynton Beach, Fla. 33435)  
Filed Dec. 7, 1966, Ser. No. 599,858  
Int. Cl. A61f 13/16

U.S. Cl. 128-290

3 Claims

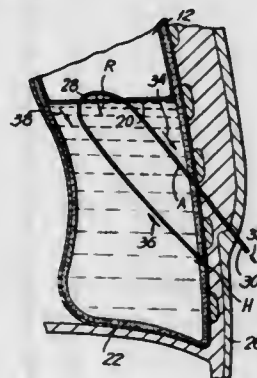


A sanitary napkin comprising a filler pad made up of short fibers which tend to break away from the pad, a reticular overwrap ensleeving said pad and through the reticular spaces of which the fibers are siftable, and a non-reticular inner wrapper about said filler pad to contain said fibers against sifting. The inner wrapper completely encloses the pad about its sides and ends. The narrow sides of the filler pad have tapered portions adjacent the ends. The inner wrapper is tucked into folds adjacent the tapered portions.

**3,521,640**  
**SURGICAL APPARATUS FOR USE WITH A DISEASED LUNG OR THE LIKE AND RELATED METHOD**  
Jane T. Carey, 450 E. 63rd St., New York, N.Y. 10021, and Alfred A. Fracchia, Plandome, N.Y. (440 E. 63rd St., New York, N.Y. 10021)  
Filed Dec. 7, 1967, Ser. No. 688,861  
Int. Cl. A61b 17/00

U.S. Cl. 128-334

9 Claims



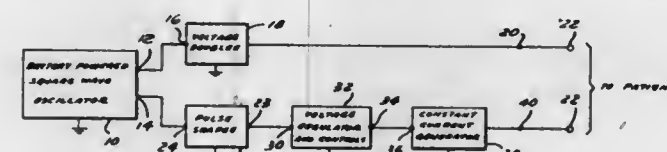
A surgical appliance capable of being inserted through the parietal pleura and through the visceral pleura of a

lung and looped back and attached to the parietal pleura by means of a barb, and acting as a retractable loop to draw the viscera pleura against the parietal pleura to minimize a space developed therebetween as the result of an accumulation of fluid, and such that adhesions may develop between the pleurae to prevent the further accumulation of fluid. The appliance is, moreover, provided with features such that the barb can be concealed for withdrawal of the appliance.

**3,521,641**  
**ELECTRONIC APPARATUS FOR INDUCING SLEEP**  
Harry B. Farensbach, 420 Riverside Drive, New York, N.Y. 10025  
Filed Sept. 14, 1967, Ser. No. 667,747  
Int. Cl. A61n 1/34

U.S. Cl. 128-422

4 Claims



Apparatus for generating an electrical pulse train of selected characteristics and for subsequently applying this train between the eyes and neck of a human subject to ease nerve tensions, reduce insomnia and even induce sleep.

**3,521,642**  
**BRASSIERE CONSTRUCTION**  
Jules L. Jordan, 59 Alta Drive, LaSella Beach, Calif. 95076  
Filed Mar. 14, 1968, Ser. No. 713,116  
Int. Cl. A41c 3/10

U.S. Cl. 128-479

5 Claims



A brassiere construction having a laterally extending tunnel forming attachment extending from the breast cup seam or the lateral border of the pectoralis major muscle toward the axilla so as to relieve pressure over the lateral thoracic artery therefore allowing free flow of blood through the underlying blood vessels which form the external supply of blood to the mammary gland.

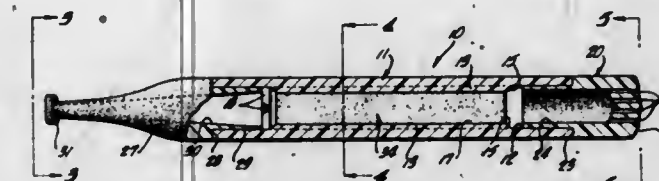
**3,521,643**  
**CIGARETTE-SIMULATING INHALER**  
Ernest Toth, 230 Fair Oaks Ave., No. 3, South Pasadena, Calif. 91030  
Filed Feb. 26, 1968, Ser. No. 708,241  
Int. Cl. A61m 15/06

U.S. Cl. 128-201

4 Claims

A cigarette-simulating inhaler having a hollow tube with an inner surface defining a set of integrally formed, inwardly extending and longitudinally elongated rigid

ribs. The inner ends of the ribs are relatively sharp, and a resilient insert is positioned within the tube and gripped by the ribs to be held in place. The insert is charged with a flavoring agent which imparts a flavor to air drawn

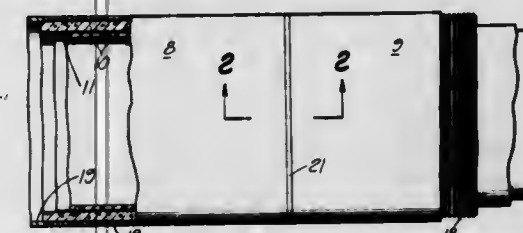


through the tube. A mouthpiece and an ash-simulating plug are secured at opposite ends of the tube. A stop member is integrally formed within the tube between the mouthpiece and insert.

**3,521,644**  
**ANCHOR BLOCK ASSEMBLY**  
Homer C. Lamborn, Glendora, Calif., assignor to United Concrete Pipe Corp., Baldwin Park, Calif., a corporation of California  
Filed Aug. 27, 1968, Ser. No. 755,530  
Int. Cl. F16I 9/00

U.S. Cl. 138-176

10 Claims



An anchor block assembly for use in retaining the ends of high tensile wire wrap in prestressed concrete pipe. The block assembly includes an embedment plate which is embedded within the concrete core of the pipe, and an anchor block which mates with and is retained by the embedment plate. Wire grips or jaws are fitted into an opening in the anchor block and grip the ends of the wire wrap. The construction of the block and jaws enables the same to be flush with, or only slightly higher than the periphery of the wire wrap. Several embodiments of the block assembly are disclosed.

**3,521,645**  
**PROCESS FOR SETTING AND RETAINING STYLE IN WIGS**  
Daniel Frishman, Andover, and Timothy J. Horan, Framingham Center, Mass., assignors to Reld-Meredith, Inc., Lawrence, Mass., a corporation of Massachusetts  
No Drawing. Filed May 17, 1966, Ser. No. 550,630  
Int. Cl. A41g 3/00, 5/00

U.S. Cl. 132-5

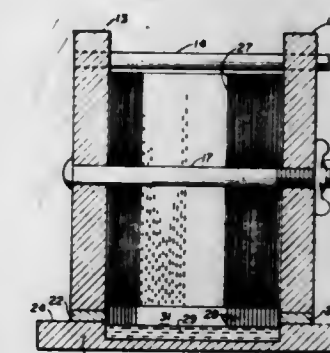
5 Claims

The present invention is directed to the use of a pressurized low molecular weight organic activating solvent which is substantially water free for application to a previously styled wig the filaments of which have been coated with a polymeric material. The solvent under pressure is caused to be sprayed upon the styled coated filaments to cause the polymeric material to soften and form bonds at contact points among and between the coated filaments to preserve the imparted style.

**3,521,646**  
**METHOD OF ROOTING HAIR IN SYNTHETIC SCALP BY SECURING HAIR AND DIPPING INTO LIQUID PLASTIC**  
Glen H. Taylor, 1641 El Camino Real, Millbrae, Calif. 94030  
Continuation of application Ser. No. 766,332, Oct. 9, 1968. This application Dec. 23, 1968, Ser. No. 786,124  
Int. Cl. A41g 5/00

U.S. Cl. 132-5

2 Claims

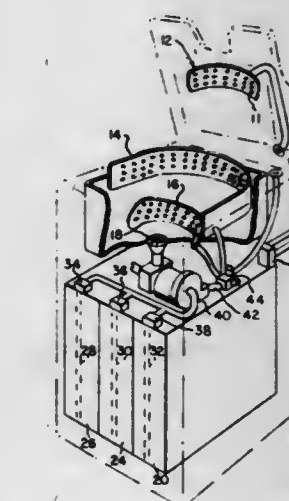


A method is presented for rooting hair in a synthetic scalp material to produce a product useful in manufacturing hairpieces. The hair to be rooted is laid between thin rigid dividers and after being suitably secured therebetween, the hair ends are dipped into a shallow trough filled with liquid plastic. The plastic thereupon cures to a pliant flexible solid and the hair ends are fixedly retained therein. The dividers are thereafter removed from between the hair rows and the cured plastic base is removed from the trough.

**3,521,647**  
**HAIR TREATING APPARATUS**  
Verna S. Mercer, 3331 Heather Lane, Louisville, Ky. 40218  
Filed Oct. 11, 1968, Ser. No. 766,778  
Int. Cl. A45d 1/00

U.S. Cl. 132-9

6 Claims



Devices which are described in the prior art for automatically performing various types of work on a person's hair generally include solution applicators within a hood which in some way surrounds the head. Designs of prior art hair washing apparatus have been based on the belief that it is necessary to include variously formed projections or flexible fingers which vibrate to produce a massaging effect during the hair treating operation. It has been found that such an arrangement not only renders the devices complex but also less efficient. By the apparatus provided



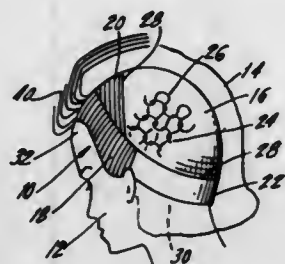
herein the hair and scalp are effectively shampooed by a mounted oscillatory jet washing action can be as effectively shampooed with the massaging apparatus eliminated.

### 3,521,648 STRETCH WIG AND CAP CONSTRUCTION THEREFOR

Luigi L. Capparelli, Jackson Heights, and Ernest Langella Capparelli, New York, N.Y., assignors to Italhair, Inc., New York, N.Y., a corporation of New York  
Filed Nov. 3, 1967, Ser. No. 680,457  
Int. Cl. A41g 5/00

U.S. Cl. 132—53

6 Claims



A wig including a cap therefor which includes a plurality of sections interwoven from strands of elastic material so knit as to provide various degrees of tightness in accordance with the functions that the various sections will perform when the cap is eventually worn on the head.

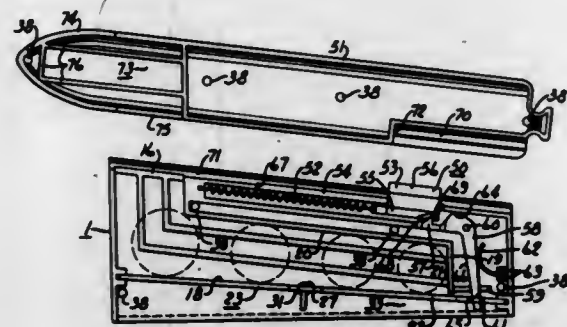
### 3,521,649 COIN BANK AND METHOD OF CLASSIFYING COINS

John T. Warrix, Columbus, Ohio, assignor to Wolverine Toy Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 13, 1967, Ser. No. 622,659  
Int. Cl. G07d 3/12, 3/04; A63h 33/30

U.S. Cl. 133—3

8 Claims



A coin bank having a coin classification unit with an inclined coin rolling track whether the coin stands on edge or is tilted, provided with stop means in the form of converging surfaces to arrest the rolling motion of the coin adjacent the corresponding coin bank compartment with a valve requiring an additional act by the operator to deposit the coin.

### 3,521,650 BARREL-TYPE PROCESSING APPARATUS

James Barton, Grosse Pointe Woods, and Patrick H. Norton, Birmingham, Mich., assignors to Ionic International Inc., Lansing, Mich., a corporation of Michigan  
Filed July 27, 1966, Ser. No. 568,287

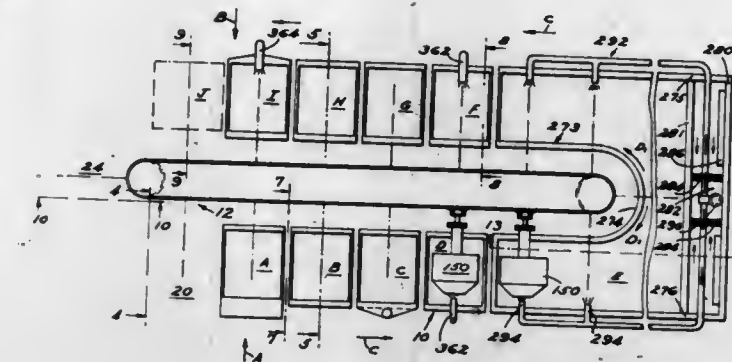
Int. Cl. B05c 5/00

U.S. Cl. 134—70

12 Claims

Automatic barrel-type plating and processing equipment is shown in which a plurality of traveling tumbling

barrels have entrance openings facing outwardly of a frame supporting them. Each barrel is hollow, perforated and polygonal shaped, being closed at its bottom, and the barrels are mounted on the frame by lift arms having rotatable and non-rotatable housing portions through which a cathodic conductor extends. Thus the lift arm and barrel assembly may have a generally horizontal attitude when at a treating station and a loading station, the entrance opening of the barrel facing upwardly when the barrel moves from station to station. The opening



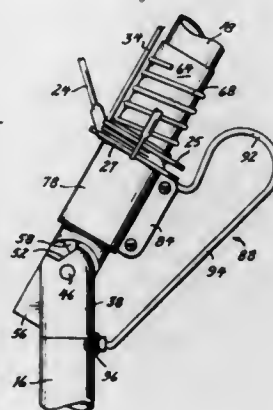
faces downwardly when at the unloading station. Treating liquids enter the barrels through their openings at the treating stations. A trough directs expended treating solutions to an overflow tank provided with a sump and a pump connected to the sump for delivering the expended treating solution, after filtering and the temperature control, to the entrance opening of the barrel at the treating station. Reciprocatory snorkel type means are provided at one of the stations to direct a supply of heated air through the barrel opening directly onto the tumbling workpieces.

3,521,651  
TILTABLE BEACH UMBRELLA  
Morton Pearlstine, 1419 Old Welsh Road,  
Huntingdon Valley, Pa. 19006  
Continuation-in-part of application Ser. No. 732,445,  
May 27, 1968. This application July 9, 1968, Ser.  
No. 743,380

U.S. Cl. 135—20

Int. Cl. A45b 17/00

7 Claims



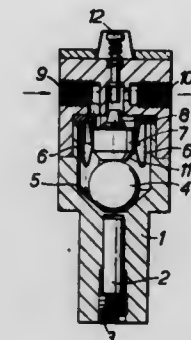
A tiltable beach umbrella is disclosed wherein a main tubular support includes upper and lower portions hinged together. A sleeve is telescoped over the hinged joint to maintain the portions in alignment. A collar surrounding the support is connected to the ribs for supporting the fabric. A cord has one end anchored to a rotatable member on the lower end of the support, the cord extends through the support and out of the upper end of the

support, and then downwardly to the collar. As the cord is wound up, it raises the collar so as to expose the hinged joint whereby the umbrella may tilt. As the umbrella tilts, it tensions or deflects a spring which will return the umbrella to an upright position as the cord is unwound.

3,521,652  
INERTIA-OPERATED VALVE  
Frank Reeks, Ewshot, England, assignor to  
C. B. Associates Limited  
Filed Mar. 8, 1968, Ser. No. 711,743  
Claims priority, application Great Britain, Apr. 7, 1967,  
16,116/67  
Int. Cl. F16k 17/36

U.S. Cl. 137—38

11 Claims

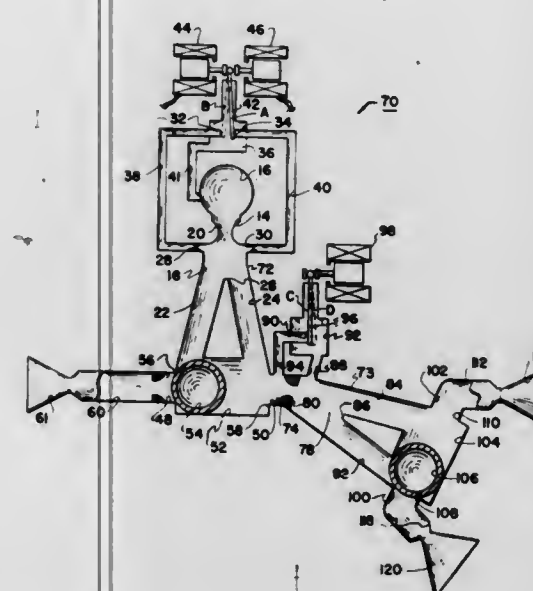


A valve operated by an inertia mechanism in which operation of the valve to control a flow of fluid is effected when a force of determined magnitude is applied to the inertia mechanism.

3,521,653  
POWER TRANSMISSION  
Kenneth F. Becker, Clarkston, Le Roy D. Taylor,  
Rochester, and Walter J. Zoya, Troy, Mich., as-  
signors to Sperry Rand Corporation, Troy, Mich.,  
a corporation of Delaware  
Filed Dec. 13, 1967, Ser. No. 690,176  
Int. Cl. F15c 1/04, 3/06

U.S. Cl. 137—81.5

2 Claims



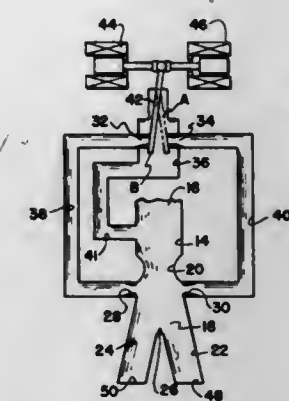
A fluid directional control device having in combination a fluid amplifier for directing fluid flow to one of a plurality of fluid outlets and a movable ball element which

is responsive to pressure acting thereon to prevent fluid flow from exhausting from the other of said plurality of fluid outlets when said fluid flow is exhausted from said one outlet.

3,521,654  
FLUIDIC DEVICE  
Knut Brautaset, Royal Oak, and Arthur H. Delmege,  
Grosse Pointe Woods, Mich., assignors to Sperry Rand  
Corporation, Troy, Mich., a corporation of Delaware  
Filed Jan. 11, 1968, Ser. No. 697,082  
Int. Cl. F15c 1/04, 3/00

U.S. Cl. 137—81.5

2 Claims



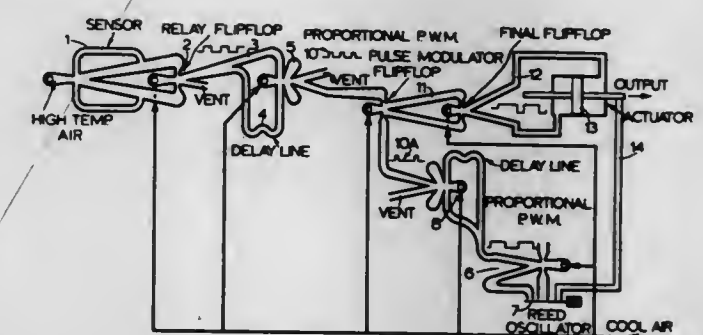
A fluid amplifier having an interaction chamber therein and a plurality of fluid outputs extending therefrom and a plurality of control nozzles for directing fluid to said interaction chamber with means for selectively connecting the working pressure to one nozzle while restricting said pressure to the other nozzle for controlling the fluid output of the amplifier.

3,521,655  
FLUIDIC TEMPERATURE SENSORS  
Stanley George Glaze, Brierley Hill, England, assignor  
to H. M. Hobson Limited, London, England, a com-  
pany of Great Britain  
Filed June 7, 1968, Ser. No. 735,281

Claims priority, application Great Britain, July 5, 1967,  
30,985/67  
Int. Cl. F15c 3/08, 4/00

U.S. Cl. 137—81.5

4 Claims



A fluidic sensor for measuring temperature and other variables including a fluidic oscillator which generates a train of pulses as a frequency representing the value of the variable, a variable frequency oscillator for generat-



ing another train of pulses and mechanism for comparing the frequencies of the two pulses in the two trains and adjusting the variable frequency oscillator to the frequencies in harmony.

3,521,656

## FLUIDIC METERING MEANS

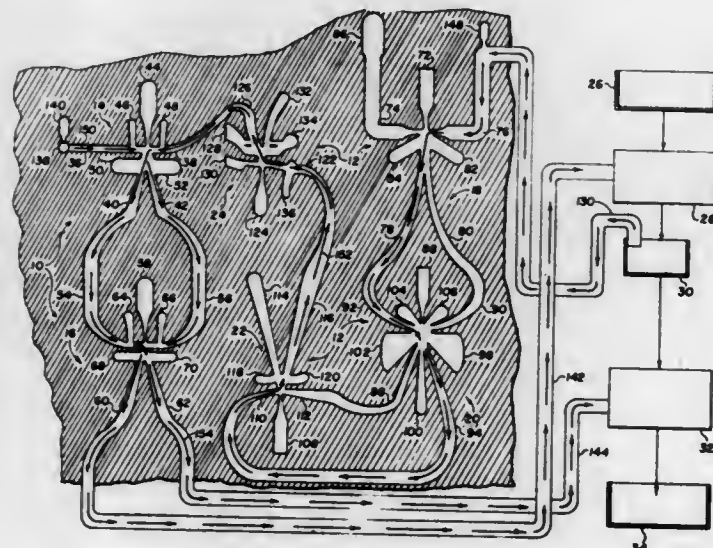
Gerald John Sukel, Albion, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Sept. 20, 1968, Ser. No. 761,141

Int. Cl. F15c 1/12

U.S. Cl. 137—81.5

4 Claims



A fluidic metering device is disclosed for accurately metering and delivering fluids, utilizing fluidic circuitry and fluidic computer components in cooperating array.

3,521,657

## VARIABLE IMPEDANCE VORTEX DIODE

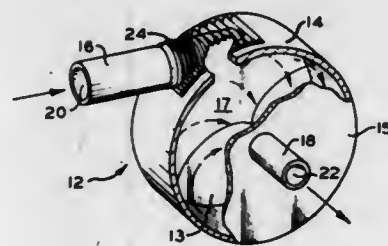
Buell O. Ayers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693,304

Int. Cl. F15c 1/16

U.S. Cl. 137—81.5

10 Claims



In a vortex diode the impedance to a flow can be varied by adjusting the angle of the flow into the diode. The angle of the inlet conduit can be physically changed, or effectively changed by selecting one or more of a plurality of inlet conduits having different inlet angles. Two such diodes can be connected in a back-to-back manner to produce a bidirectional variable restrictor wherein the impedance to the flow may be adjusted in both directions. The bidirectional variable restrictor can be used in any system where flow is in a bidirectional or alternating manner, particularly where there is a need for an impedance matching.

3,521,658

## FLUID PRESSURE REGULATOR

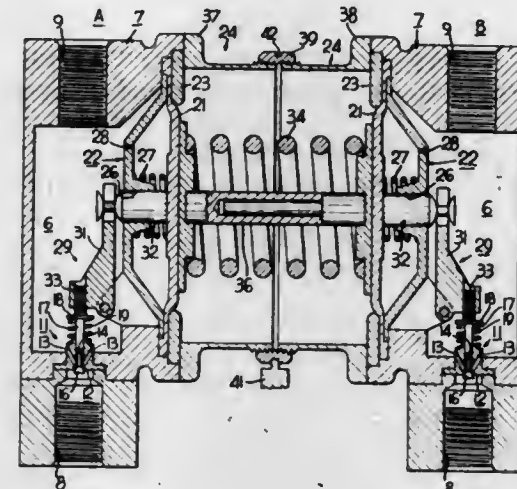
Louis W. Sandow, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Jan. 16, 1968, Ser. No. 698,207

Int. Cl. G05d 11/03

U.S. Cl. 137—100

1 Claim



A fluid pressure regulator for regulating the pressure of two separate fluids. The regulator compensates for changes in the pressure of either fluid to maintain the pressure differential constant.

3,521,659

## HIGH TEMPERATURE VALVE FOR THROTTLING OR THREE-WAY APPLICATION

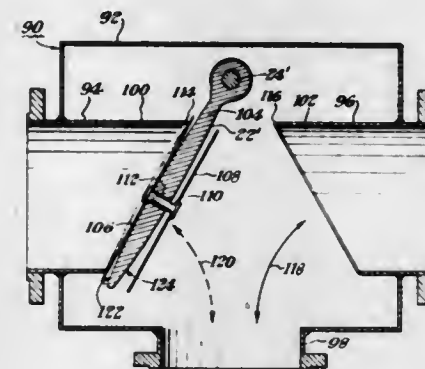
Fritz O. Seger, Fairview, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware

Filed May 18, 1967, Ser. No. 639,357

Int. Cl. G05d 11/03; F16k 15/14

U.S. Cl. 137—112

7 Claims



The valve includes a valve member movable toward and away from a seat within the valve. A sealing member is pivotally mounted on the valve member or support. The pivot mounting is relatively loose so that the sealing member can be canted relative to the support. The sealing member thus is self-alignable relative to the valve seat as the support moves the sealing member into engagement with the valve seat. The valve can be adapted for three-way operation by providing a sealing member on opposite faces of the support. In one arrangement the sealing members are joined adjacent opposite ends of a pin passing loosely through an aperture in the support. In either case the support can be provided with a convex back-up surface adjacent the sealing member or members, which are desirably provided in the form of a discoidal spring. In those applications where the valve is opened against a positive  $\Delta P$ , i.e., a pressure tending to force the sealing member toward

its closed position, a relatively rigid, auxiliary back-up member is mounted on the downstream side of the sealing disc to strip the sealing disc from the valve seat to avoid rupturing the sealing disc at its pivotal support.

3,521,660

## APPARATUS FOR FEEDING WIRES TO LOOMS FOR PRODUCING METALLIC FABRICS

Adolf Rieker, Reutlingen, and Rudolf Böken, Stuttgart, Germany, assignors to Hermann Finckh Metalltuch- und Maschinenfabrik, Reutlingen, Germany

Filed Nov. 27, 1967, Ser. No. 685,822

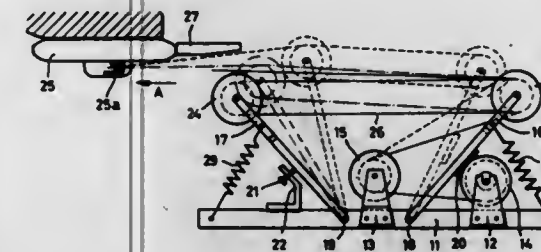
Claims priority, application Germany, Nov. 29, 1966,

F 50,795

Int. Cl. D03d 47/24, 47/34

U.S. Cl. 139—125

6 Claims



A wire feeding device for looms for the production of metallic fabrics, metallic screens, and metallic cloths, according to which a wire withdrawn from a supply spool is passed over and looped around two roller means having their axes arranged in substantially parallel spaced relationship to each other while said two roller means are respectively subjected to the pre-loading force of two differently strong spring means urging said two roller means away from each other, that one of said two roller means which is subjected to the pre-loading force of the stronger spring means having a brake associated therewith for exerting a braking action upon said wire supply spool when said stronger spring means overcomes the force exerted by the wire from said supply spool upon the roller means associated with said stronger means.

3,521,661

## HOT GAS VALVE

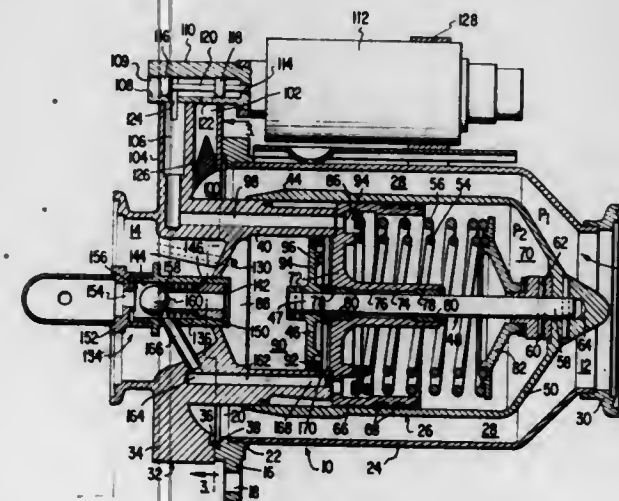
Donald A. Hollcroft, Raymond D. Palino, and Kurt Staiger, Indianapolis, Ind., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed July 28, 1967, Ser. No. 656,916

Int. Cl. F16k 31/363

U.S. Cl. 137—220

7 Claims



A self-regulating, fluid pressure operated sleeve valve for controlling hot gas flow between an inlet passage and an outlet passage, including spring means for biasing the sleeve valve in an open direction, the fluid pressure of the gas flow in the inlet passage tending to close the sleeve

valve, a secondary piston carried by the sleeve valve, means for subjecting one side of the secondary piston to atmospheric pressure for moving the sleeve valve toward open position and means for fluid coupling the other side of the auxiliary piston to the gas flow outlet passage.

3,521,662

## THROTTLE VALVE

Hermann Bache, Eutingen, Germany, assignor to Stahlwerke Bruninghaus G.m.b.H., Westhofen, Westphalia, Germany

Filed Aug. 8, 1967, Ser. No. 659,204

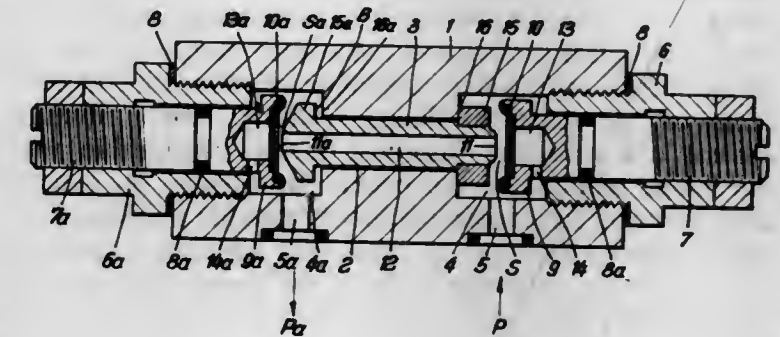
Claims priority, application Germany, Aug. 17, 1966,

St 25,767

Int. Cl. F16k 15/14, 17/18

U.S. Cl. 137—269

10 Claims



The body of a reversible throttle valve accommodates an axially reciprocable tubular piston and two adjustable diaphragms each adjacent to one axial end of the piston to define therewith an annular orifice. The piston is displaced by inflowing liquid to reduce the size of one orifice and the diaphragm which is located in the path of fluid issuing from the piston yields in response to increasing fluid pressure to increase the size of the respective orifice. The piston consists of a material whose thermal expansion coefficient is higher than that of the material of the valve body so that the size of that orifice which throttles the flow of fluid decreases in response to a rise in fluid temperature.

3,521,663

## ORIFICE FOR MOLTEN MINERALS

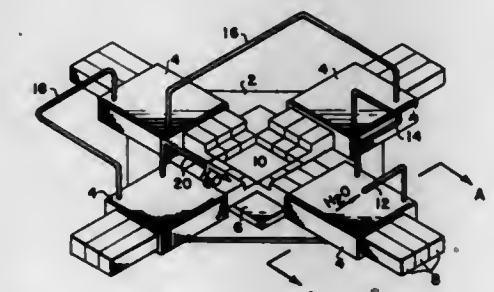
Jack L. Brinkerhoff, Lawrence B. Horton, and Chao Hsiao, Pocatello, Idaho, assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 27, 1966, Ser. No. 605,028

Int. Cl. F16k 49/00

U.S. Cl. 137—340

4 Claims

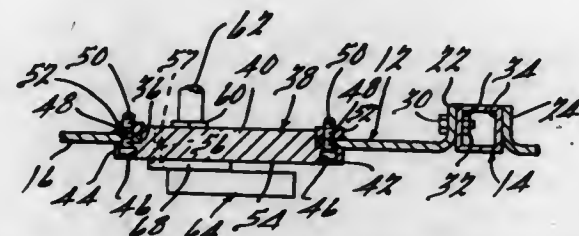


An adjustable orifice means is used to control the flow of molten slag during its conversion to mineral wool fibers. The orifice means is made up of radial elements, one end of each of said elements defining the size and shape of the orifice; the elements can slide radially in supports to maintain the size of the orifice constant by renewing the ends of the elements as they are eroded away.



**3,521,664**  
**VALVE SUPPORTING PANEL BOARD ASSEMBLY**  
 Edward J. Medici, 2808 Donegal, Troy, Mich.  
 Filed Apr. 23, 1968, Ser. No. 723,499  
 Int. Cl. F16l 5/00  
 U.S. Cl. 137—343

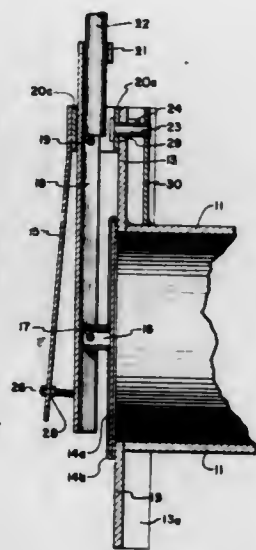
3 Claims



A panel board assembly adapted for operative association with a hydraulic valve system and comprising a plurality of standardized panels, each of the panels having a main plate section and a marginal flange section, the panels being arranged in coplanar relation with at least some of the marginal flange sections thereof abutting against one another; fastening means engageable with the flange sections of the panels for rigidly, yet detachably, securing the panels together to provide a rigid unitary panel board structure; at least one opening formed in the main plate section of each of the panels; a valve supporting sub-plate operatively associated with each of the openings, the sub-plates having a central portion of substantially complementary shape to the openings and adapted to be received therein; the sub-plates also comprising mounting portions projecting outwardly from the central portions thereof and adapted to be fixedly secured to the associated panels directly adjacent the periphery of the openings therein; fluid inlet port means providing a fluid inlet conduit and fluid outlet port means providing a fluid outlet conduit on each of the sub-plates, the fluid inlet and outlet port means being threaded to provide fluid pressure coupling means; the central portions of the sub-plates having a front face which is ground flat for sealably receiving a valve thereon, and valve mounting means for fixedly securing a valve to the front face of each of the sub-plates at a position in registry with the fluid inlet and outlet port means.

**3,521,665**  
**GATE VALVE**  
 Ronald D. Poulsen, Rigby, Idaho, assignor to Alden Poulsen, Idaho Falls, Idaho  
 Filed May 9, 1968, Ser. No. 727,936  
 Int. Cl. E03b 7/07; F16k 25/00, 35/10  
 U.S. Cl. 137—383

12 Claims

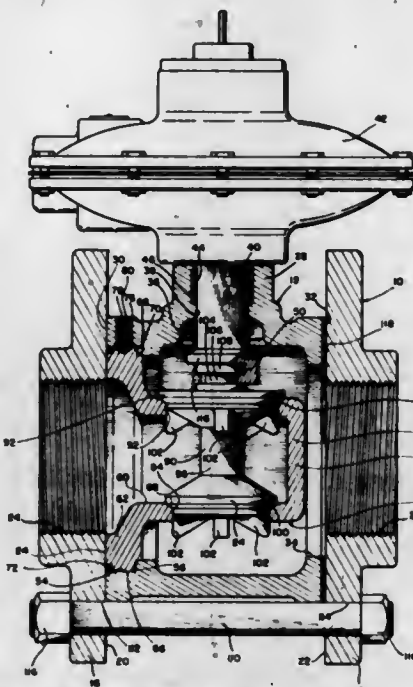


A gate valve comprising an adapter for fitting on the end of a pipe section and a valve head arranged to be

carried by the adapter and to be spring biased to positively completely, or partially, close the end of the pipe.

**3,521,666**  
**RECIPROCATING VALVE ASSEMBLY**  
 Domet Scaramucci, 3245 S. Hattie, Oklahoma City, Okla. 73129  
 Filed Apr. 18, 1969, Ser. No. 817,497  
 Int. Cl. F16k 27/00, 51/00  
 U.S. Cl. 137—454.2

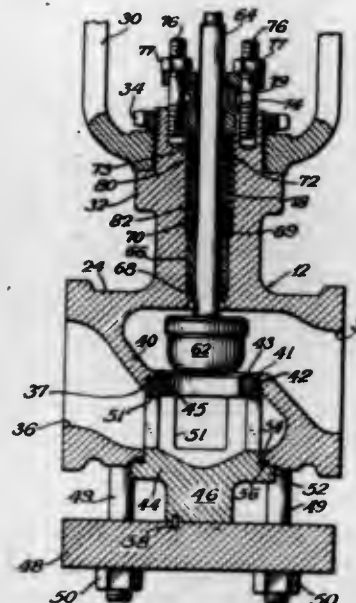
17 Claims



A valve assembly, particularly useful between flanges, which utilizes a housing unit and a separate valve unit. The housing unit provides a support housing adapted to be supported between the flanges and includes a valve operator and a valve stem. The valve unit includes the valve member, valve body, and valve seats, and is sized to be inserted in the housing unit, and is supported therein. The valve member has a portion thereof adapted to interconnect with the valve stem so that the position of the valve member with respect to the valve seats may be controlled.

**3,521,667**  
**CONTROL VALVE**  
 M. Kenneth Johnson, Marshalltown, Iowa, assignor to Fisher Governor Company, a corporation of Iowa  
 Filed Jan. 22, 1968, Ser. No. 699,635  
 Int. Cl. F16k 29/00, 43/00  
 U.S. Cl. 137—454.6

2 Claims



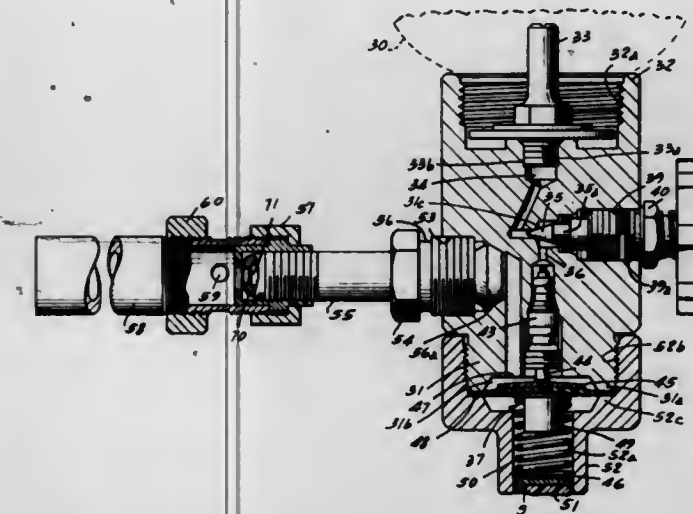
A control valve comprising a unitary cast valve body and bonnet. The valve seat and valve cage are detachably

secured within the valve body by a means of detachable retaining means. Cooperating shoulders on the valve cage and valve body provide a stop to provide the correct compressive loading on gaskets between the valve cage and valve body and between the valve seat and valve body.

**3,521,668**  
**WITHDRAWN**

**3,521,669**  
**FUEL REGULATOR FOR A PROPANE APPLIANCE**  
 Walter T. Suchowolec, Belvidere, and Carl E. Finley, Sycamore, Ill., assignors to Turner Corporation, Sycamore, Ill., a corporation of Illinois  
 Filed Mar. 8, 1968, Ser. No. 711,631  
 Int. Cl. F16k 31/365  
 U.S. Cl. 137—505.43

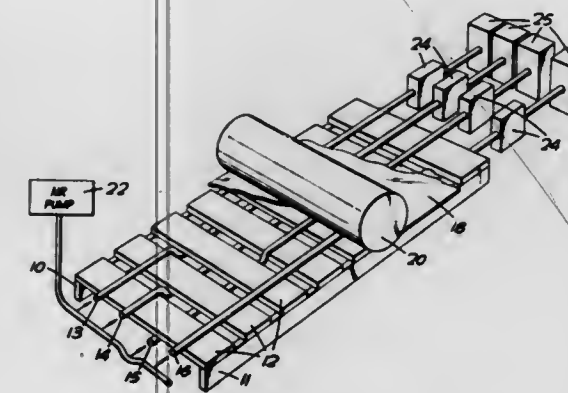
3 Claims



A fuel regulator for a propane appliance wherein a preset spring biased valve member such as a conventional "tire valve" is disposed in series with a manual on-off valve and is controlled by a diaphragm regulator so that gaseous fuel will be supplied to the appliance at constant pressure.

**3,521,670**  
**DIGITIZERS FOR FLUID LOGIC SYSTEMS**  
 James Stewart Johnston, Bognor Regis, England, assignor to Rosemount Engineering Company Limited, Sussex, England, a British company  
 Filed Oct. 21, 1968, Ser. No. 769,181  
 Claims priority, application Great Britain, Oct. 25, 1967, 48,569/67  
 Int. Cl. F16k 11/10; G06m 1/12  
 U.S. Cl. 137—552

17 Claims

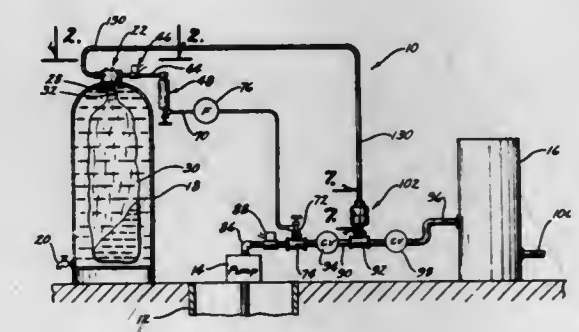


A digitizer for a fluid logic system comprises a number of tubes of resilient material, a fluid source or sources connected to the tubes at one end thereof for providing

a fluid flow through the tubes and a flow detector for detecting flow through each tube, in combination with means for applying pressure, at a location along the length of the tubes, to selected tubes so that the selected tubes are compressed to restrict or inhibit fluid flow therethrough and thereby give distinctive indications in the flow detectors for those tubes. It is thus possible at the ends of the tubes of information for example of the location at which pressure is applied by arranging the tubes so that they are compressed against abutments in a distinctive manner which varies along the lengths of a set of tubes.

**3,521,671**  
**METERING APPARATUS**  
 George A. Handeland, Ringsted, Iowa 50578  
 Filed June 16, 1967, Ser. No. 646,601  
 Int. Cl. E03b 7/07  
 U.S. Cl. 137—564.5

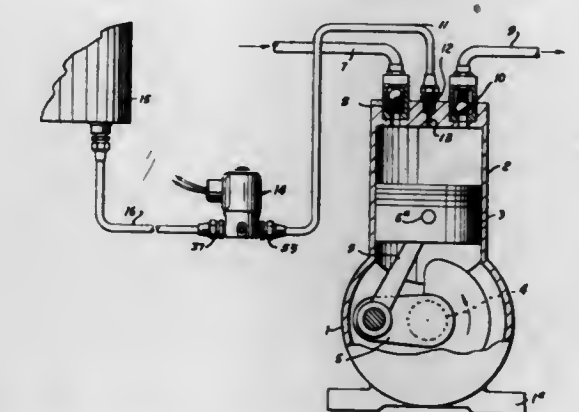
2 Claims



A metering apparatus for selectively metering a predetermined amount of an additive into a liquid. The additive is contained in a flexible bag positioned within a cylinder and the additive is proportionately metered therefrom upon the entry of a predetermined amount of the liquid into the area between the flexible bag and the cylinder.

**3,521,672**  
**INJECTOR FLUID METERING DEVICE**  
 Lant I. Barnes, 116 Commercial St., Garland, Tex. 75040  
 Filed June 19, 1967, Ser. No. 647,104  
 Int. Cl. E03b 7/07  
 U.S. Cl. 137—565

9 Claims



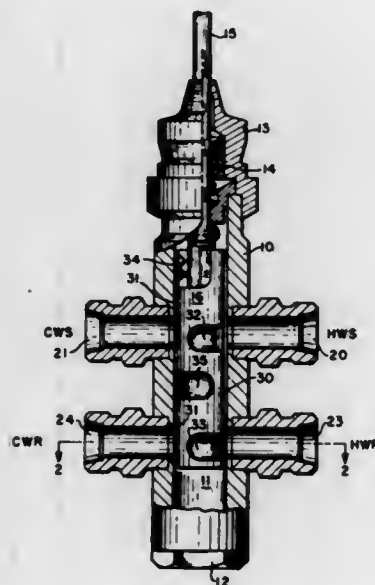
A device for injecting a first fluid and a second fluid in metered increments into the cylinder of a reciprocating pump comprising an inlet check valve in a line leading from a source of first fluid to the cylinder; an outlet check valve in a line leading from the cylinder; and a supply of second fluid under atmospheric pressure connected through



a control valve to the inside of the chamber whereby the first fluid is drawn through the inlet check valve and the second fluid is drawn through the control valve in controlled quantities into the chamber on the suction stroke of the pump to mix the first fluid with the second fluid so that the mixture of first and second fluids is discharged through the outlet check valve on the compression stroke of the pump.

**3,521,673**  
**CONSTANT FLOW FLUID DIVERTING VALVE**  
 Karl F. Gruner, Offenbach am Main, and Gunter P. Scholz, Dornigheim (Main), Germany, assignors to Honeywell G.m.b.H., Frankfurt am Main, Germany  
 Filed Apr. 29, 1968, Ser. No. 725,048  
 Claims priority, application Germany, Aug. 18, 1967, H 63,633  
 Int. Cl. F16k 11/06  
 U.S. Cl. 137—625.29

8 Claims



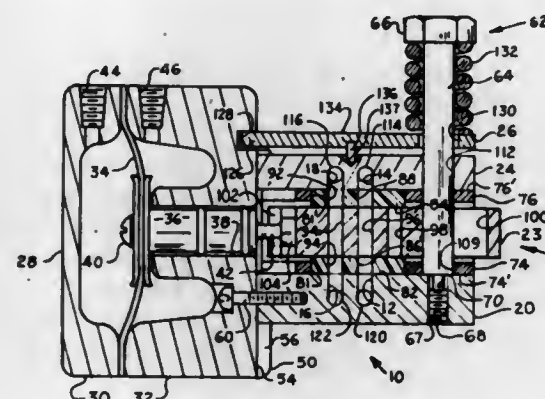
A six-port fluid diverting valve especially for use in four-pipe temperature conditioning systems and having a cylindrical plunger longitudinally movable in a valve body to selectively connect appropriate ports. The plunger has fluid passages formed on its surface including two longitudinal passages each continuously in communication with one of the fluid supply ports and adapted to communicate with a corresponding return port, and a plurality of transversely extending passages positioned to cooperate with appropriate load ports depending upon the longitudinal position of the plunger. The passages are disposed to connect one set of supply and return ports across the load port while connecting the other supply directly to its return port, or to completely interrupt flow to the load ports while connecting both inlet ports directly to their respective outlet ports, to provide a constant flow through the valve at all times and in all positions of the plunger.

**3,521,674**  
**SAMPLING VALVE**  
 Michael Dodson and Gordon E. Mehaffy, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California  
 Filed June 24, 1968, Ser. No. 739,568  
 Int. Cl. F16k 11/06  
 U.S. Cl. 137—625.48

13 Claims

A sampling valve useful for injecting accurately metered samples to gas chromatography apparatus or the like including a slidable valve element positioned between a fixed lower member and a movable upper member. The upper and lower members contain vertically aligned passages which are brought into communication by a pas-

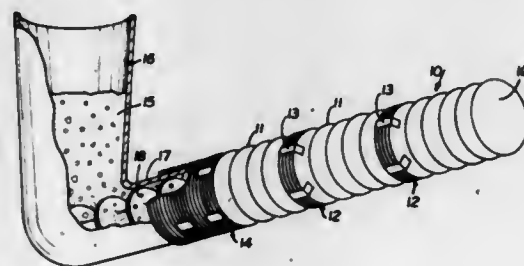
sage in the valve element when the valve element is in a predetermined position. A single stud fixed to the lower member properly aligns one end of the valve element and the upper member, and also constitutes the sole means



for controlling the limit of movement of the valve element, while the other ends of the upper member and valve element are slidably received in a vertical slot formed in a housing.

**3,521,675**  
**CONTAINER CONSTRUCTION AND USE**  
 Joseph A. Dussich, 221—47 Horace Harding Expressway, Bayside, N.Y. 11364  
 Filed Nov. 8, 1968, Ser. No. 774,368  
 Int. Cl. F16l 55/00; B65d 85/00  
 U.S. Cl. 138—103

11 Claims



A unique elongated container construction is disclosed wherein a pleated or folded tube is clamped at spaced intervals in order to permit filling of the container and yet leave sufficient material for subsequent enclosure. This construction is coupled to novel apparatus and processes for packaging predetermined quantities of material.

**ERRATUM**  
 For Class 138—176 see:  
 Patent No. 3,521,644

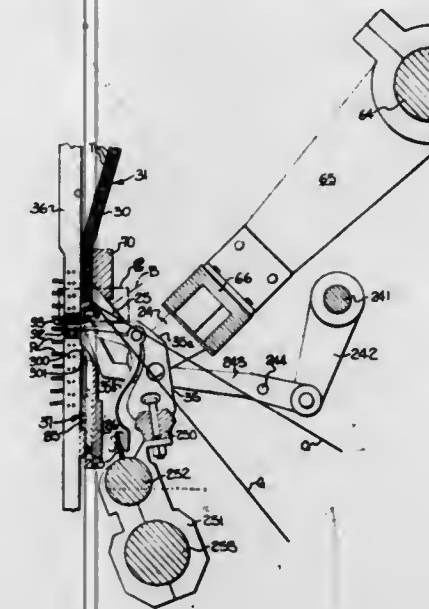
**3,521,676**  
**GRIPPER LOOM FOR WEAVING PILE FABRICS AND METHOD**  
 John T. MacIsaac, Spray, and Charles B. Sumpter, Jr., Leaksville, N.C., assignors to Fieldcrest Mills, Inc., Spray, N.C., a corporation of Delaware  
 Filed Feb. 15, 1968, Ser. No. 705,817  
 Int. Cl. D03d 39/08  
 U.S. Cl. 139—6

47 Claims

A loom and method of weaving in which selected pile yarns are grasped by oscillating grippers which partially remain in the warp shed and the reed at all times and which pull the pile yarns from selector guides to a position in front of the reed. Thereafter the pile yarns are cut into respective lengths, beat-up occurs, and then the grippers move the leading ends of the pile yarns back to-

ward the guides while pulling the cut lengths past the beaten up filling and release the pile yarns at a predeter-

but independently aligning the individual coils by deforming the turns thereof to predetermined inductance values and ejecting the aligned tuning coil units from the apparatus.

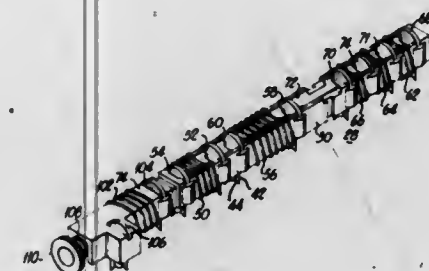


mined instant to form each successive weftwise row of U-shaped tufts in the fabric base being woven.

**ERRATUM**  
 For Class 139—125 see:  
 Patent No. 3,521,660

**3,521,677**  
**METHOD AND APPARATUS FOR AUTOMATICALLY ALIGNING TUNING COIL UNITS**  
 Morton L. Weigel, Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana  
 Continuation of application Ser. No. 660,983, Aug. 16, 1967. This application July 7, 1969, Ser. No. 845,630  
 Int. Cl. B21f 45/00  
 U.S. Cl. 140—92.1

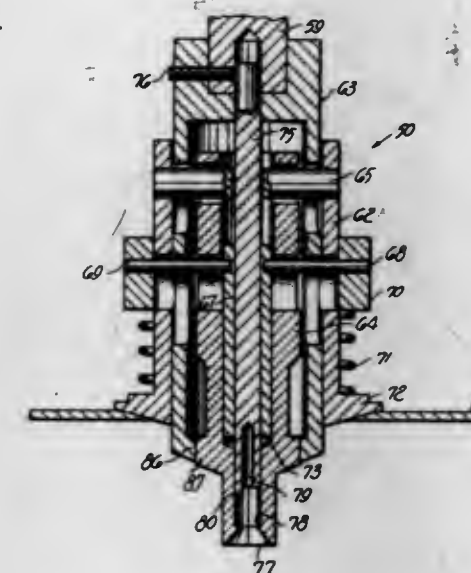
18 Claims



Tuning coil units for use in television tuners are automatically aligned to the desired channel frequency by deforming the turns of the respective tuning coils in such manner as to cause them to take a permanent set at the proper inductance value to receive a desired television channel. An individual tuning coil is connected into an oscillator circuit while the coil is being deformed so that the frequency of this oscillator circuit changes as the tuning coil is deformed. Deformation is terminated when this oscillator circuit has reached a predetermined frequency. The individual coils of a multi-coil tuning unit may all be aligned simultaneously by using different oscillator frequencies for the individual coils even though these coils are all tuned to the same channel frequency when the tuning coil unit is used in a television tuner. Apparatus is provided for automatically moving unaligned tuning coil units to an alignment position, simultaneously

**3,521,678**  
**WIRE UNWRAP TOOL**  
 Edwyn H. Petree, Burlington, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York  
 Filed June 28, 1968, Ser. No. 740,898  
 Int. Cl. B21f 45/00  
 U.S. Cl. 140—123

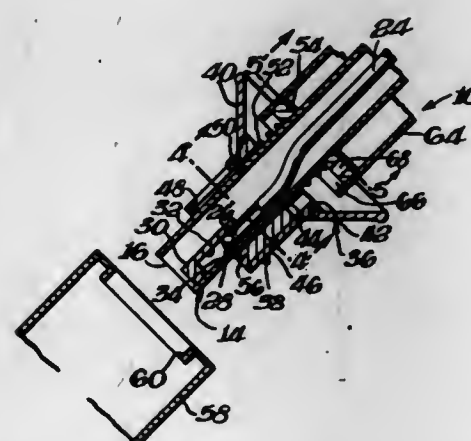
5 Claims



A rotatable wire unwrapping tool includes a bit having a longitudinal bore for receiving the extremity of a terminal and a projection for engaging the extremity of a wrapped wire on the terminal to loosen the wrapped wire. A split sleeve encompasses the wrapped wire and has an inwardly extending lip for engaging the loosened wrapped wire to remove the loosened wrapped wire from the terminal. Facilities open the split sleeve to release the removed wrapped wire.

**3,521,679**  
**DISPENSING NOZZLE**  
 Edward L. Copony, Salisbury, Md., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware  
 Filed Apr. 18, 1968, Ser. No. 722,309  
 Int. Cl. B67d 5/37  
 U.S. Cl. 141—208

9 Claims



A dispensing nozzle comprising a valve, a pressure responsive mechanism arranged to prevent continued opening of the nozzle valve when the pressure in a chamber



is below a predetermined level, and an air duct connected to the chamber having an open end next to the discharge end of the nozzle. A ferromagnetic member is mounted at the discharge end of the nozzle to block and unblock the air duct. A carrier slidably mounted at the discharge end of the nozzle moves between forward and rearward positions, and a magnet on the carrier positions the ferromagnetic member to block the air duct when the carrier is in its forward position and unblock the air duct when the carrier is in its rearward position. Pressure in the chamber is maintained below the predetermined level when the air duct is blocked by the ferromagnetic member whereby continued opening of the nozzle valve is prevented.

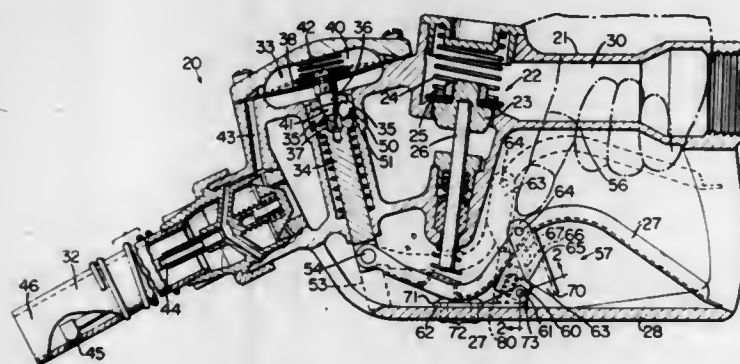
3,521,680

## FLUID DISPENSING NOZZLE

Chester W. Wood, Cincinnati, Ohio, and Fred A. Wilson, Erlanger, Ky., assignors to Dover Corporation, Cincinnati, Ohio, a corporation of Delaware  
Filed Mar. 11, 1968, Ser. No. 712,266  
Int. Cl. B65b 1/30; B67d 5/37

U.S. Cl. 141-209

10 Claims



This disclosure relates to a fluid dispensing nozzle of the type used to dispense liquids such as gasoline, or the like, wherein such nozzle has improved latch means for holding an actuating lever comprising such nozzle in an open position to enable leaving the nozzle unattended.

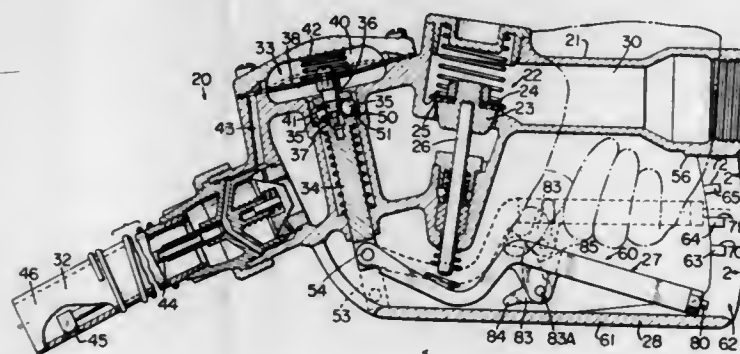
3,521,681

## FLUID DISPENSING NOZZLE

Fred A. Wilson, Erlanger, Ky., assignor to Dover Corporation, Cincinnati, Ohio, a corporation of Delaware  
Filed Mar. 11, 1968, Ser. No. 712,107  
Int. Cl. B65b 1/30; B67d 5/37

U.S. Cl. 141-209

10 Claims



This disclosure relates to a fluid dispensing nozzle of the type used to dispense liquids such as gasoline, or the like, wherein such nozzle has improved latch means for holding an actuating level comprising such nozzle in an open position to enable leaving the nozzle unattended.

3,521,682

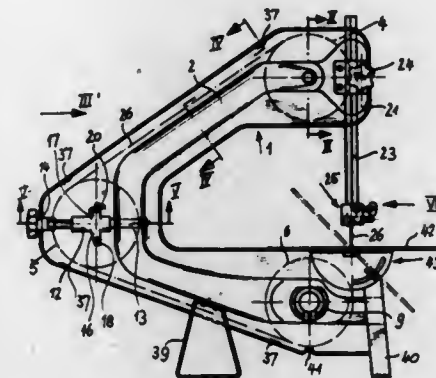
## BAND SAW

Karl Albrecht Schnizler, Jr., Nürtingen Württemberg, Germany, assignor to Metabowerke KG. Closs, Rauch & Schnizler, Nürtingen, Württemberg, Germany  
Filed Sept. 20, 1967, Ser. No. 669,195  
Claims priority, application Germany, Sept. 22, 1966, M. 56,355

Int. Cl. B27b 13/00

U.S. Cl. 143-21

17 Claims



The frame of a band saw consists of sheet metal and is provided with integral stiffening portions which also serve as bearings for the wheels and as a carrier for the device which tensions and aligns the toothed band. The major portion of the band is concealed in the frame which is provided with a detachable cover to afford convenient access to the band. The stiffening portions of the frame carry a guide for the exposed straight portion of the band.

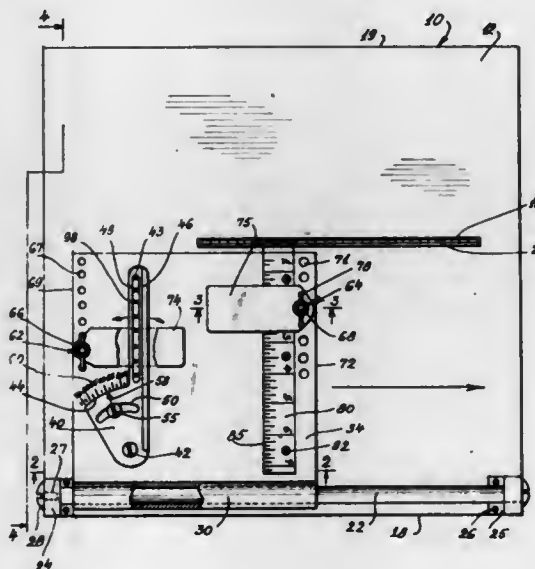
3,521,683

## SAW TABLE WITH COMBINATION INDEX PLATE AND WORK GUIDE

Thomas Kirkpatrick, 305 E. Houston St., Karnes City, Tex. 78118  
Filed Jan. 12, 1968, Ser. No. 697,353  
Int. Cl. B27b 27/08

U.S. Cl. 143-51

7 Claims



A rectangular index plate is slidably hinged to a saw table. A protractor arm which serves as a guide for work to be cut is pivotally mounted on the plate. Hold-down clamps for the work are removably mounted on the plate so that the work can be cut at any desired angle to the saw blade. A removable bracket arm and guide for circular workpieces is slidably and adjustably mounted on the protractor arm. The circular guide can be turned for sanding the edges of circular workpieces.

3,521,684

## EDGER SAW

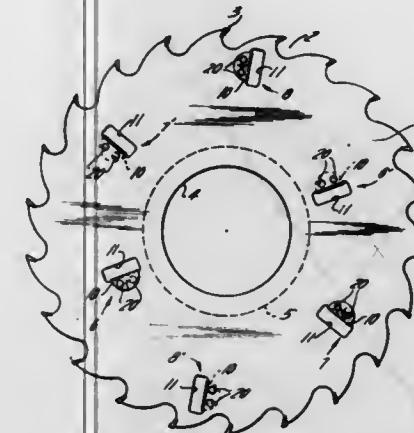
William J. McRobert, Beaverton, and Douglas W. Hensler, Milwaukee, Oreg., assignors to R. Hoe & Co., Inc., New York, N.Y., a corporation of New York

Filed Mar. 3, 1969, Ser. No. 803,597

Int. Cl. B27b 33/08

U.S. Cl. 143-140

9 Claims



A circular saw having a notched periphery fitted with carbide or other teeth mounted or otherwise secured on the back walls of the notches, having a central opening for shaft mounting the saw body. The body of the saw is provided with a plurality of angularly and radially distributed face cutters for cleaning the cut made by the saw teeth and for relieving friction between the saw body and the cut wood, so as to relieve the saw blade of bind as it engages the wood. The cutter elements are arranged about the surface of the blade so that their cutting edges cover the area from the notched periphery to within reason of the hub on both faces of the saw blade body.

3,521,685

## FLOOR BOARD INSTALLATION TOOL

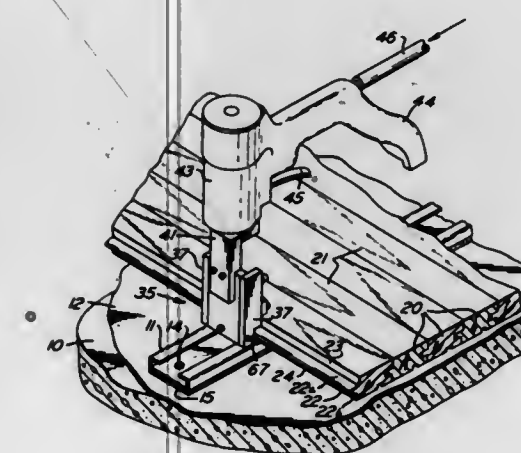
Ray E. Omholt, Berwyn, Pa. (% Powerlock Floors, Inc., 2028 Chancellor St., Philadelphia, Pa. 19103)

Filed Jan. 31, 1968, Ser. No. 702,044

Int. Cl. B27f 5/10

U.S. Cl. 144-76

3 Claims



A floor board installation tool for severing a strip from the tongue of a tongued and grooved floor board to make room for emplacement of a hold down clip. The tool has a tool head with a cutter head slidably therealong, the cutter head having a longitudinal cutting edge end transverse cutting edges, the transverse cutting edges preferably moving in advance of and cutting the strip prior to cutting by the longitudinal cutting edge.

3,521,686

## ADJUSTABLE SAW BLADE HOLDER

Gordon H. Weinmann, 15531 Victory Blvd., Van Nuys, Calif. 91406

Filed July 17, 1967, Ser. No. 659,273

Int. Cl. B25g 1/06; B27b 21/00

U.S. Cl. 145-108

2 Claims



A device having a hollow tube containing two halves that screw together and force a set of internal collets to close which grips and holds firm a blade that has been inserted in one end.

3,521,687

## CHOPPER FOR RESIDUE FROM COMBINES

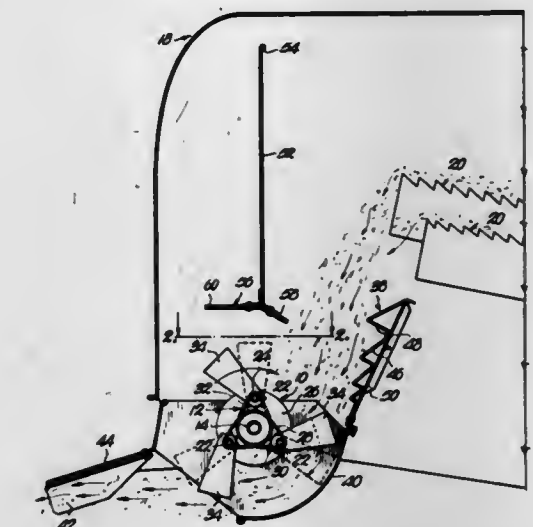
Melvin V. Gaeddert, Newton, Kans., assignor to Hesston Corporation, Inc., Hesston, Kans., a corporation of Kansas

Filed July 6, 1967, Ser. No. 651,405

Int. Cl. A01d 55/00

U.S. Cl. 146-117

10 Claims



A rotatable chopper in a combine residue outlet including radial hammers freely swingable on shafts spaced around the axis of rotation. An elongated tube surrounds the shafts and the hammers extend through slots in the tube. A baffle overlies the chopper to guide the residue and angled deflector structure directs rebounding material into the chopper.

3,521,688

## ROTATABLE KNIFE ASSEMBLY

Gerald W. Urschel, 1614 Napoleon, and Joe R. Urschel, 202 Michigan Ave., both of Valparaiso, Ind. 46383

Original application Mar. 6, 1967, Ser. No. 620,914, now Patent No. 3,472,297. Divided and this application Dec. 13, 1968, Ser. No. 783,577

Int. Cl. A23n 15/00; A47j 43/00

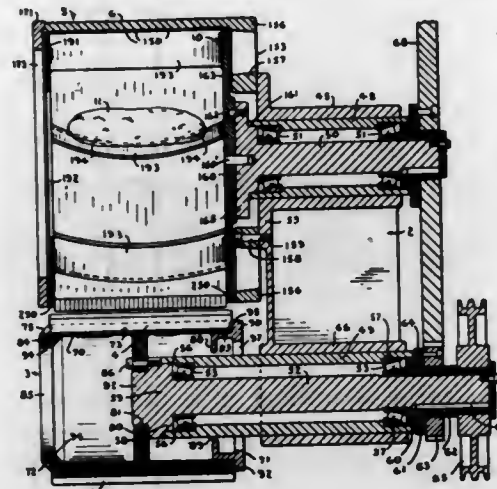
U.S. Cl. 146-117

13 Claims

The subject invention is directed to a rotatable knife assembly which comprises a cylinder provided with a



plurality of circumferentially spaced longitudinally extending slots, and knives which are respectively secured in



the slots by means which serves to force or cam the knives into firm fixed positions in the slots.

3,521,689

## COMBINATION LUGGAGE BAG AND GOLF BAG COVER

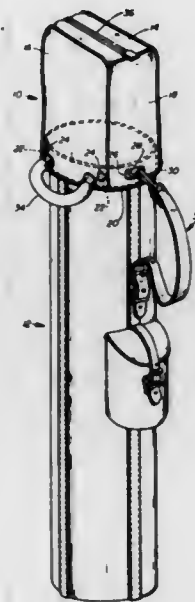
Robert J. Woods, Jr., 1802 NBT Bldg.,  
Tulsa, Okla. 74103

Filed Oct. 7, 1968, Ser. No. 765,500

Int. Cl. A45c 9/00; A63b 55/00; B65d 33/08

U.S. Cl. 150—1.5

12 Claims



A luggage bag which is adaptable to serve as a cover for a golf bag to protect golf clubs. The bag is provided with means to secure it in position atop the golf bag by cooperation of snaps on the luggage bag with snaps on the golf bag, and is provided with means to hold it lockably on the golf bag when either in position to cover the golf bag or when removed from atop the golf bag.

3,521,690

## BOWLING BALL BAG

David E. Davis, 2674 Merrimac Blvd.,  
Toledo, Ohio 43606

Filed Apr. 18, 1968, Ser. No. 722,272

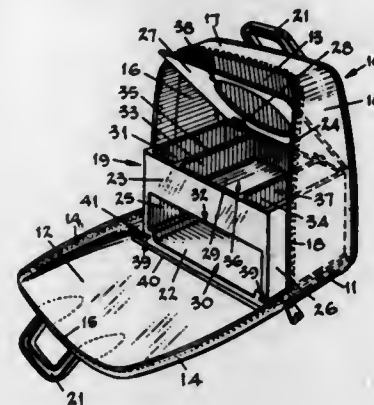
Int. Cl. B65d 85/54; A45c 11/00

U.S. Cl. 150—52

6 Claims

A bowling ball and accessories bag including a flexible bag of substantially greater height than a bowling ball

and a container having length and width dimensions substantially equal to those of the bag removably secured therein. The container is partitioned to provide a shoe compartment accessible from the front of the bag and a plurality of accessory compartments. The container is also



3,521,691

## MULTISTAGED MOVING FILM AND WIPED FILM EVAPORATORS

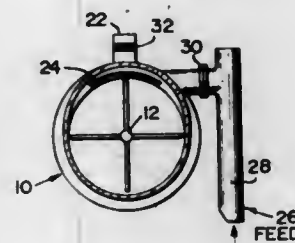
James Donovan, Cambridge, Mass., assignor to Artisan Industries Inc., Waltham, Mass., a corporation of Massachusetts

Continuation-in-part of application Ser. No. 628,592,  
Apr. 5, 1967. This application Jan. 6, 1969, Ser.  
No. 798,851

Int. Cl. B01d 1/10, 1/22

U.S. Cl. 159—6

19 Claims



An evaporation apparatus which includes a horizontal thin-film evaporator having a vapor chamber with the vapor flowing counter-current to the feed material in combination with a single pass evaporator to introduce a preheated feed stream into the vapor chamber. The chamber is maintained under conditions such that separation of the volatile components of the feed stream occurs in the vapor chamber. The non-volatilized feed stream or liquid is then processed through the thin-film evaporator with the process vapor removed through the vapor chamber, with the said volatile components to a common condensing system.

3,521,692

## FIRE DAMPER OR THE LIKE

Edward H. Johnson, Maumee, and Raymond L. Alley,  
Toledo, Ohio, assignors to The American Warming &  
Ventilating, Inc., Toledo, Ohio, a corporation of Ohio

Filed Aug. 14, 1967, Ser. No. 660,449

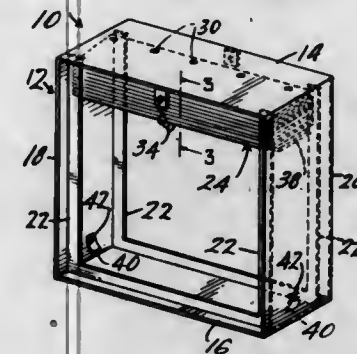
Int. Cl. E05f 1/08

U.S. Cl. 160—1

6 Claims

A fire damper or other closure device includes an imperforate sheet folded back and forth to form blade sections. The sheet is mounted within a frame and normally held in a retracted position, adjacent one of the frame

members when the device is open. The sheet extends across and completely blocks the opening of the frame when the device is closed. The blade sections formed by the folded sheet are substantially parallel when the sheet is in the retracted position. When the sheet is extended, the blade sections form a zigzag pattern across the frame.



The closure device is particularly effective for fire dampers because there are no joints or hinges between adjacent blades which are subject to leaking and subject to possible binding and thus being inoperative. The construction also minimizes the number of parts required and thereby reduces labor costs in fabricating the device.

3,521,693

## DRIVE APPARATUS FOR OVERHEAD DOORS

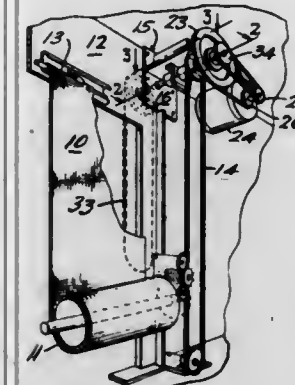
Ralph L. Kuss, Findlay, Ohio, assignor to R. L. Kuss & Co., Inc., Findlay, Ohio, a corporation of Ohio

Filed Jan. 16, 1969, Ser. No. 791,651

Int. Cl. A47g 5/02

U.S. Cl. 160—243

3 Claims



An apparatus for raising and lowering flexible doors on a roller by means of an endless chain which imparts torque upon the roller to wind or unwind it in the flexible sheet which comprises the door. The apparatus includes a tubular drive sleeve secured to the drive chain sprocket, which sleeve is driven by a primary source of motive power, such as an electric motor. An auxiliary source of motive power, such as a manual chain fall, includes a chain fall sprocket secured to an axle extending through the tubular drive sleeve and engaged to the shaft of the primary source of motive power. Movement of the flexible door may be effected, when the source of primary power is disabled, by rotation of the chain fall sprocket to rotate the axle which engages and turns the shaft of the primary source which in turn drives the tubular sleeve and the drive chain sprocket to thus move the flexible door.

3,521,694

## LENGTHWISE-ADJUSTABLE SHADE ROLLER

James A. Anderson, Muskegon, Mich., assignor to Breneman, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Apr. 16, 1968, Ser. No. 721,721

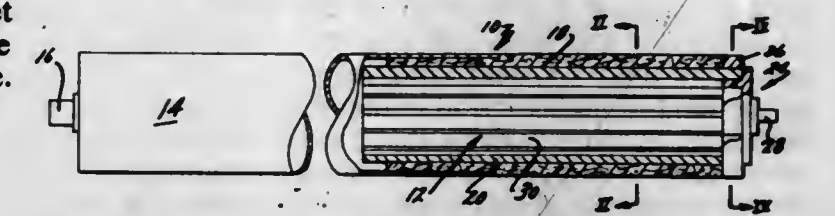
Int. Cl. A47h 1/13

U.S. Cl. 160—323

19 Claims

A shade roller comprised of tubular parts telescopically engaged with each other to be longitudinally extendable, in which the innermost such part is a sheet metal tube

with a splined surface configuration consisting of a series of alternating raised portions or lands and recessed portions or grooves, each extending longitudinally of the tube.



3,521,695

## METHOD OF PRODUCING A STEEL INGOT

Arnulf Diener and Karl Rüttiger, Dortmund, Germany, assignors to Dortmund-Hörder Huttenunion Aktiengesellschaft, Dortmund, Germany

Filed Apr. 26, 1967, Ser. No. 633,707

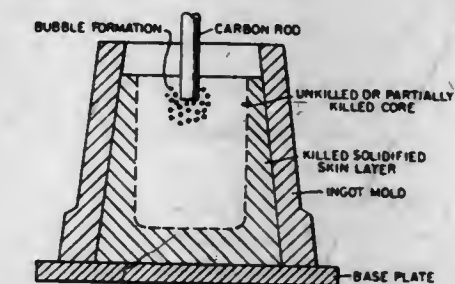
Claims priority, application Germany, Apr. 27, 1966,

D 49,959

Int. Cl. B22d 27/18

U.S. Cl. 164—55

7 Claims



A method of producing a steel ingot free of subcutaneous blowholes and voids, characterized in that after the formation of a skin layer which has solidified in the killed condition, there is added to the still liquid core of an ingot of killed steel an amount of carbon to produce semikilled or unkill solidification.

3,521,696

## CONTINUOUS CASTING LINE SPEED CONTROL

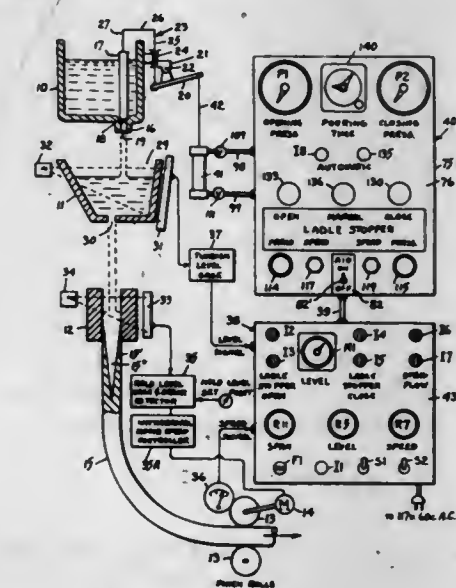
Walker B. Lowman, Victor H. Fischer, and John M. Richter, Columbus, Ohio, assignors to Brun Sensor Systems, Inc., Columbus, Ohio, a corporation of Ohio

Filed Apr. 19, 1967, Ser. No. 632,021

Int. Cl. B22c 19/04

U.S. Cl. 164—154

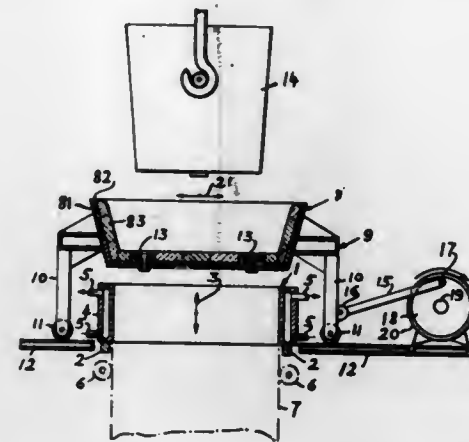
30 Claims



In a continuous metal casting system having a continuous metal casting mold, a feed vessel feeding molten metal into the mold, a ladle supplying molten metal to the feed vessel, pinch rolls for withdrawing the casting from the mold, and a variable speed motor system for driving the pinch rolls at a controlled rate of speed, a control system



for maintaining the casting withdrawal speed constant within close tolerance, and for controlling the supply of molten metal to the vessel feeding molten metal into the mold to maintain a controlled molten metal delivery to the mold at a rate interrelated to the casting withdrawal speed. The control system comprising a gage for measuring the level of molten metal in the mold and producing a mold level signal, a variable speed motor and motor control responsive to the mold level signal for controlling the casting withdrawal speed, a gage for measuring the level of molten metal in the feed vessel and producing a feed vessel level signal and a gage for measuring the casting withdrawal speed and producing a casting withdrawal speed signal, an adjustable reference speed signal source for producing a preselected reference speed signal, a first computer section which electrically compares the casting withdrawal speed signal with the preselected reference speed signal to obtain a speed error signal, a second computer section responsive to the feed vessel level signal and the speed error signal for computing the operating level for molten metal in the feed vessel necessary to reduce the speed error signal to zero, and flow control means responsive to the second computer section for controlling the flow of metal from the ladle to the feed vessel in such a way as to maintain the level of molten metal in said feed vessel at the aforesaid operating level.



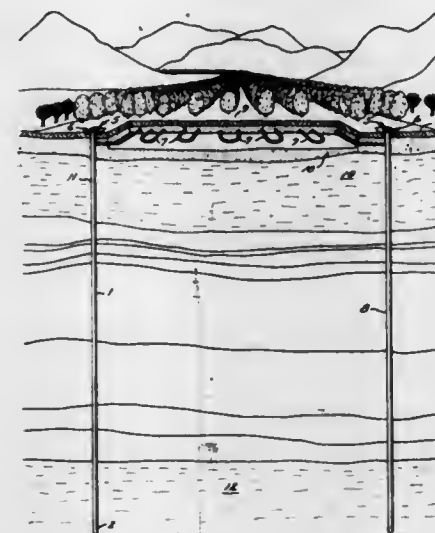
the tundish during the casting of the molten metal into the mold.

### 3,521,699 EARTH ENERGY CONSERVATION PROCESS AND SYSTEM

Allen T. Van Huisen, Los Alamitos, Calif., assignor of twenty-five percent to Joseph Drnovich, Redondo Beach, Calif.  
Continuation-in-part of application Ser. No. 632,782, Apr. 21, 1967. This application Apr. 16, 1969, Ser. No. 816,484

U.S. Cl. 165—1 Int. Cl. E01c 19/45

11 Claims

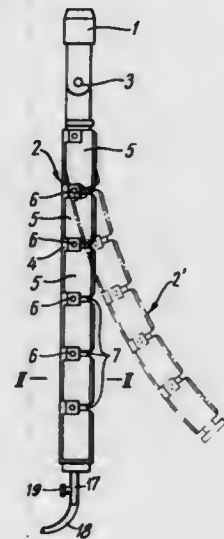


The following disclosure relates to a novel process and system designed to capture and transport heat energy from the depth of the earth to distribution systems designed to put such heat energy to work for mankind. It is well known among geologists that the earth contains a vast store of heat energy which is constantly percolating up from the depths of the earth and into the crustal area from whence it is emitted as heat flows into the atmosphere and out into space where its conversion into man's energy needs is forever lost. This vast store of earth's heat energy has long been noted by earth scientists in the forms of volcanoes, geysers, of which Old Faithful is a prime example, and hot mineral waters or boiling mud pots. Up to the present time little use has been made by man of this vast store of heat energy. It is the object of this invention to utilize this heat energy in a process and system designed to solve some of mankind's most perplexing problems.

3,521,697  
CONTINUOUS CASTING STARTER BAR  
Vitaly Maximovich Niskovskikh, Ul. Festivalnaya 21, kv. 60, Sverdlovsk, U.S.S.R.; Alexei Ivanovich Varaxin, Ul. Dydenko 22, korp. 5, kv. 374, Moscow, U.S.S.R.; and Anatoly Ivanovich Litvinov, Ul. Kirovogradskaya 11, kv. 18; and Evgeny Jukhimovich Gelfenbein, Ul. 40 let Oktyabrya 28, kv. 51, both of Sverdlovsk, U.S.S.R.  
Filed Mar. 6, 1967, Ser. No. 620,958

U.S. Cl. 164—274 Int. Cl. B22d 11/08

7 Claims



A flexible starter bar for a continuous casting machine formed of articulated links and having means to adjust the thickness of the links to provide for passing the starter bar downwardly through the casting machine.

### 3,521,698 APPARATUS FOR THE CONTINUOUS CASTING OF FLAT BLOOMS

Piero Colombo, 27 Via Leopardi, Udine, Italy

Filed Jan. 26, 1968, Ser. No. 700,982  
Claims priority, application Italy, Feb. 6, 1967, 6,776/67

U.S. Cl. 164—281 Int. Cl. B22d 11/10

3 Claims

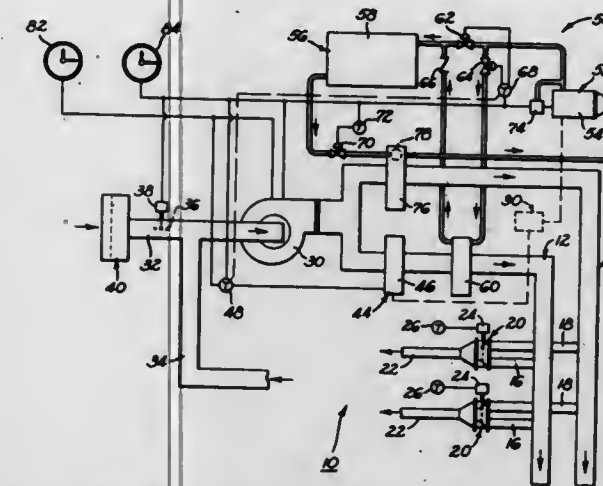
In a flat blooms continuous casting plant, the tundish is mounted so as to be reciprocated with respect to the

### 3,521,700 ELECTRIC HEAT CONSERVING AIR CONDITIONING SYSTEM

James A. Knowles, Arcadia, and Brian H. Matosian, North Hollywood, Calif., assignors, by mesne assignments, to James A. Knowles, Arcadia, Calif.  
Filed June 28, 1968, Ser. No. 741,034

U.S. Cl. 165—22 Int. Cl. F24f 3/00

3 Claims



An all electric air conditioning system which utilizes an electric heater or heaters to heat air delivered to a building and an electric refrigeration system to cool air delivered thereto. The air conditioning system conserves heat by utilizing a least part of the heat in the refrigerant discharged by the compressor or compressors of the refrigeration system to heat air delivered to the building. The maximum electric power requirements of the compressor or compressors and the maximum electric power requirements of the heater or heaters are substantially equal. A control system limits the combined electric power consumption of the compressor or compressors and the heater or heaters to the foregoing maximum. Thus, the electrical service for the heating and refrigeration systems needs be adequate only to accommodate the maximum electric power demands of one of them.

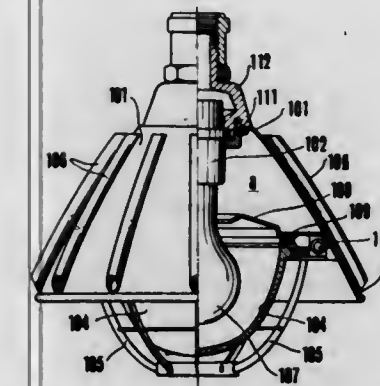
### 3,521,701 RADIATOR UNIT FOR INDUSTRIAL SAFETY ILLUMINATING APPARATUS

Shinjiro Mori, Tokyo, Japan, assignor to Mori Denki Manufacturing Co., Ltd., Tokyo, Japan, a Japanese corporation

Continuation of application Ser. No. 691,574, Dec. 18, 1967. This application Sept. 10, 1969, Ser. No. 861,216  
Claims priority, application Japan, Aug. 3, 1967 (utility model), 42/67,047

U.S. Cl. 165—47 Int. Cl. F24h 3/00

5 Claims



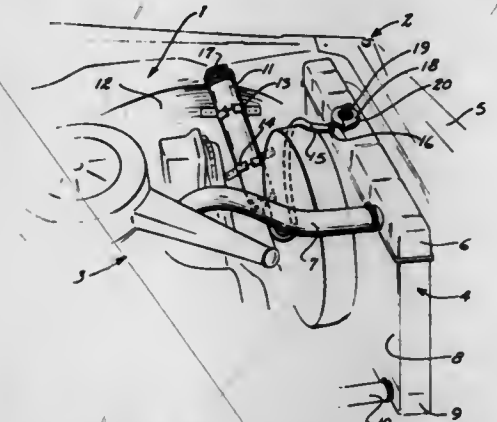
A radiator unit for industrial safety illuminating apparatus, comprising an enclosure-type body having, on the external peripheral wall face thereof, a plurality of radiator pipes each extending in the direction of the radius of said wall.

### 3,521,702 VACUUM COMPENSATING DEVICE FOR ENGINE COOLING SYSTEM AND METHOD OF INSTALL- ING SAME

Allie B. Holmes, Corpus Christi, Tex., assignor to Opti-Cap Inc., Corpus Christi, Tex., a corporation of Texas  
Filed Sept. 16, 1968, Ser. No. 762,254

U.S. Cl. 165—51 Int. Cl. F28b 3/00

14 Claims



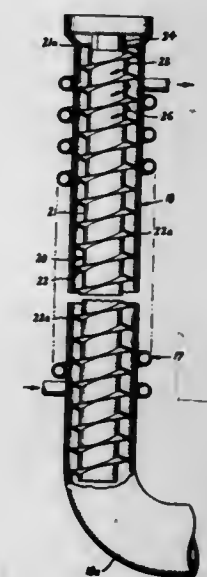
An engine cooling system including a vacuum compensating device in fluid communication with the system. The compensating device maintains the cooling system full at all times and reduces stress on the system. A viewing device is substituted for the usual cap on the radiator filling neck to allow visual determination of the coolant level, and the viewing device seals the radiator. The invention also includes a unique vacuum compensating device including a flexible liner, a method of installing a fitting on the radiator to connect the compensating device to the radiator, and unique brackets to mount the compensating device on the wall of the engine compartment adjacent the radiator.

### 3,521,703 SPIRAL CORE PRECOOLER FOR WATER COOLERS

Mitchell Joseph Koziara, Chicago, Ill., assignor to General Electric Company, a corporation of New York  
Filed Oct. 1, 1968, Ser. No. 764,278

U.S. Cl. 165—66 Int. Cl. F25b 29/00

6 Claims



A spiral core precooler for water coolers including a drain tube having a water tube wound about its external surface through which the incoming water is conducted, and having a one piece non-metallic core removably positioned within the drain tube, the core comprising an elongated hollow central portion of circular cross-sectional configuration surrounded by a spiral fin which directs the cooled waste water in a spiral path downwardly through the drain tube and against the internal surface thereof.



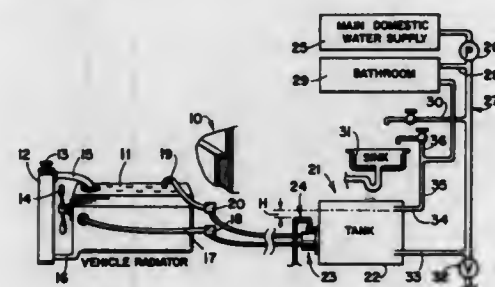
### 3,521,704 HEAT EXCHANGER FOR RECREATIONAL VEHICLE

James Earl Bridegum, Granada Hills, Calif., assignor of fifty percent to Andrew Morris Anderson, Ventura, Calif.

Filed July 22, 1968, Ser. No. 746,448  
Int. Cl. F28f 11/00

U.S. Cl. 165—70

4 Claims



A heat exchanger is arranged to interconnect the radiator water circuit of a recreational vehicle and the domestic water circuit of the vehicle's plumbing system. The heat exchanger extracts thermal energy from the radiator water to heat the domestic water and simultaneously allows the radiator water to become cooled. Radiator water leaks likely to contaminate the domestic water are detected so that potential harm to the consumers is eliminated.

### 3,521,705 HEAT EXCHANGE STRUCTURE AND ELECTRON TUBE INCLUDING SUCH HEAT EXCHANGE STRUCTURE

Charles Alphonse Beurtheret, Saint-Germain-en-Laye, and Eugene Jean Douguet, Villepreux, France, assignors to Compagnie Francaise Thomson-Houston-Hotchkiss Brandt, Paris, France, a corporation of France

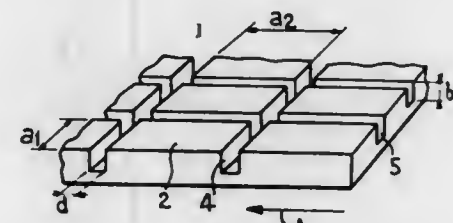
Filed June 12, 1968, Ser. No. 736,499

Claims priority, application France, June 13, 1967, 110,185

Int. Cl. F28d 1/00; H01j 7/24

U.S. Cl. 165—74

9 Claims



A heat exchanging separating wall, one surface of which is heated, has the other surface formed with projections (2) separated from each other by channels (3), the dimensions of the channels and the projections being defined by the following relationship: depth (b) of the channels from the heat exchange surface is in the order of one quarter of the thermal conductivity (c) of the material forming the structure, and the smallest dimension (a) between channels—that is the width of the projections—is greater than the depth (b) of the channels; all lengths being measured in centimeters and the thermal conductivity being measured in watts/centimeter-degree C. For thermal conductivities greater than 1 w./cm.-degree C., (b) should be between c/4 and c/8, and the width (d) of the channels (3) less than b/2; for c less than 5 w./cm.-degree C., b should be between c/4 and c/2, and d between d/2 and b; efficient transfer of heat by boiling off of liquid, to obtain maximum cooling due to heat vaporization, is thus obtained.

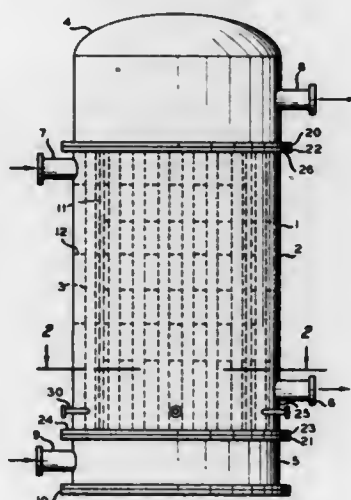
### 3,521,706 HEAT EXCHANGER WITH CLEANING MEANS

Harold D. Schaefer and John W. Durham, Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 22, 1968, Ser. No. 715,420  
Int. Cl. F28g 15/08

U.S. Cl. 165—95

1 Claim



A heat exchanger of the shell and tube type having a plurality of conduits providing passageway from the surface of the tube sheet to the external of the exchanger, the conduits being of sufficient size to allow passage there-through of extraneous matter accumulated on the tube sheet.

### 3,521,707 HEAT EXCHANGERS

Dennis Cockburn Brown, Leamington Spa, England, assignor to Associated Engineering Limited, Leamington Spa, Warwickshire, England, a British company

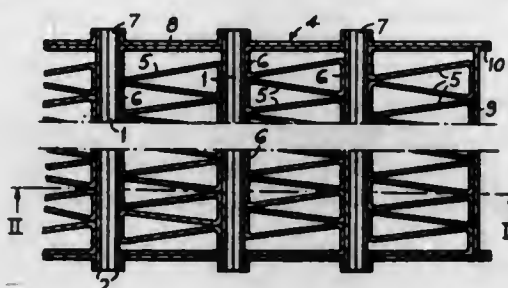
Filed Aug. 26, 1968, Ser. No. 755,077

Claims priority, application Great Britain, Sept. 13, 1967, 41,849/67; Apr. 19, 1968, 18,741/68

Int. Cl. F28f 1/14

U.S. Cl. 165—152

10 Claims



A heat exchanger, particularly intended as a radiator core for a liquid cooled internal combustion engine, has heat exchange surfaces formed as fins from metal foil. The fins are formed by areas of a strip of metal foil which is bonded to members of the heat exchanger at regions between said areas and the fins are inclined with respect to each other such that adjacent fins extending from either side of a region converge towards each other.

### 3,521,708 HEAT TRANSFER SURFACE WHICH PROMOTES NUCLEATE EBULLITION

Ralph L. Webb, Minneapolis, Minn., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin

Filed Oct. 30, 1968, Ser. No. 771,873

Int. Cl. F28f 13/00

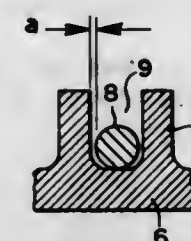
U.S. Cl. 165—186

15 Claims

A heat transfer surface composed of a base member, fins and an insert between the fins improves heat transfer. A gap is provided between the insert and the fins sufficient

to initiate and sustain nucleate boiling of a given liquid contacting said fins. The surface is easily adaptable from

superposed conveyor belts. The belts have flexible undulations that are urged together by springs.



### 3,521,711 SCRAPER APPARATUS HAVING MULTIPLE POSITION BUCKET SUPPORT

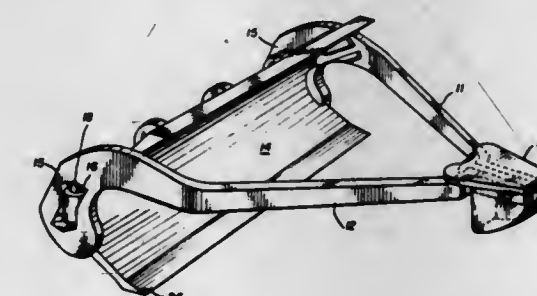
Andrew C. Bluemel, 5900 El Camino Drive, Englewood, Colo. 80110

Filed Feb. 1, 1968, Ser. No. 702,256

Int. Cl. E02f 3/60

U.S. Cl. 172—26.5

15 Claims



conventional structures. Materials, variations in structure, and alternatives are disclosed.

### 3,521,709 PRODUCING OIL FROM OIL SHALE BY HEATING WITH HOT GASES

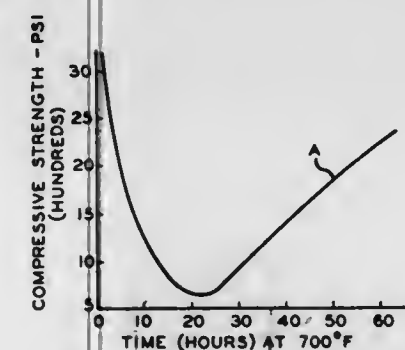
Riley B. Needham, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 628,141

Int. Cl. E21b 43/24, 43/26

U.S. Cl. 166—247

6 Claims



Oil is produced from fractured or broken oil shale by preheating the shale at temperatures in the range of 500–700° F., and below which rapid pyrolysis occurs or compressive strength of the shale fails, for a sufficient period to reach and pass the minimum compressive strength of the shale; and thereafter, rapidly pyrolyzing the shale at temperature above 750° F. to produce oil therefrom.

Scraper apparatus inclusive of left and right side harness arms and bucket supported from rearward portion of harness arms. Support for bucket formed on harness arms and bucket to position bucket at selected angle of blade inclination for different scraping operations such as digging and facing including cooperative hook and pin housing means on adjacent portions of bucket and harness arms with removable pin disposed at selected angles in each pin housing to engage hook to prevent spreading of arms transverse of bucket movement and means for holding bucket against forward and rearward movement at selected blade angle of inclination. Symmetrical bucket having similar opposing blade portions making it also suitable for use in inverted position.

### 3,521,710 VINE CROP HARVESTER

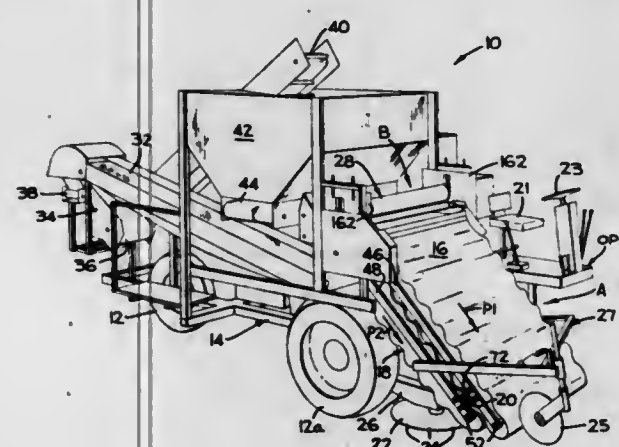
Glen R. Tillotson, Minnetonka, Minn., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Original application Apr. 4, 1966, Ser. No. 540,002, now Patent No. 3,387,612, dated June 11, 1968. Divided and this application Apr. 22, 1968, Ser. No. 723,175

Int. Cl. A01d 31/00

U.S. Cl. 171—61

2 Claims



Severed cucumber vines and attached cucumbers are picked up from the ground by downwardly slanting,

### 3,521,712 SOIL CULTIVATING IMPLEMENT

Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland, and Ary van der Lely, 10 Weverskade, Maasland, Netherlands

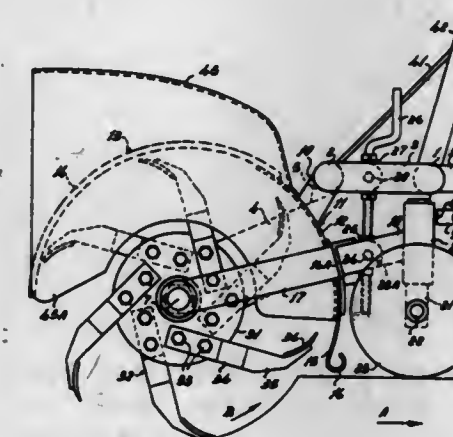
Filed Feb. 23, 1966, Ser. No. 529,486

Claims priority, application Netherlands, Mar. 6, 1965, 6502899; June 28, 1965, 6508260

Int. Cl. A01b 33/02, 33/16

U.S. Cl. 172—112

16 Claims



A soil cultivating implement with a frame in which is mounted a rotatable shaft with soil working members. An apertured hood screens the soil dug up by the soil working members during operation so that the larger pieces of soil fall to the rear as the implement is traveled.



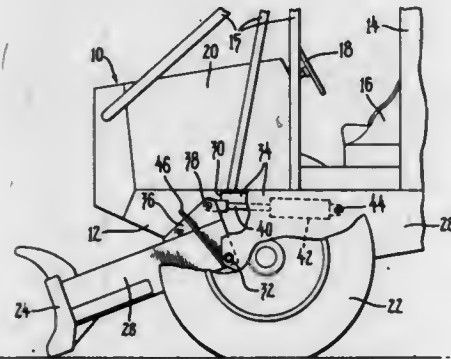
A further hood can be mounted above the apertured hood.

**3,521,713**  
**VEHICLE WITH IMPROVED BLADE MOUNTING ARRANGEMENT**

David L. Spanjer, Willowdale, Ontario, and Allan J. Wildey, Markham, Ontario, Canada, assignors, by mesne assignments, to Massey-Ferguson Inc., Des Moines, Iowa, a corporation of Maryland  
Filed Aug. 27, 1968, Ser. No. 755,606  
Int. Cl. A01b 15/14

U.S. Cl. 172-776

5 Claims



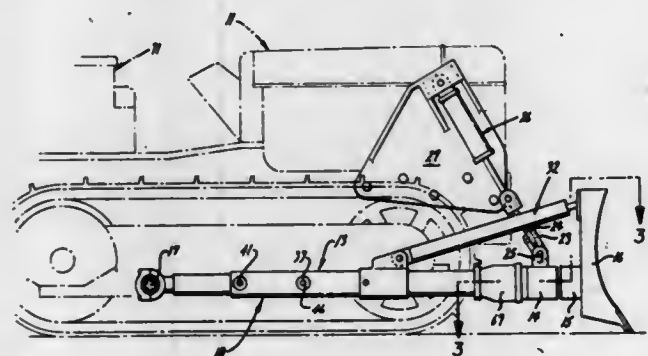
A log skidder is provided with a transversely disposed forward blade supported by a pair of rearwardly extending arms that are pivoted to the side walls of open ended hollow housings mounted on either side of the skidder frame. A hydraulic jack is mounted within each housing and is pivotally attached to each arm. A plate is mounted on each arm forwardly of the jack pivot so as to close the housing opening in the blade raised position to prevent any damage to the hydraulic jacks.

**3,521,714**  
**BULLDOZER BLADE AND MOUNTING ASSEMBLY**

James C. Farris, P.O. Box 123, Redway, Calif. 95560  
Filed Nov. 13, 1967, Ser. No. 682,423  
Int. Cl. E02f 3/76

U.S. Cl. 172-804

2 Claims

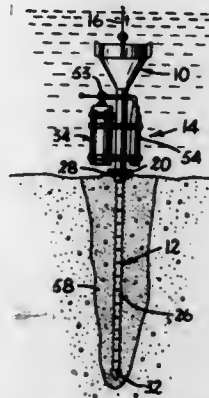


The apparatus permits fixing in a positive position the blade of a bulldozer, either normal to the longitudinal axis of the vehicle or at lateral angular relation with respect thereto. The blade is angled by lengthening and shortening telescopically related side arm members, and locking members are provided to maintain the side arm members in the selected position. A locking element is also provided to prevent pivoting between the dozer blade mount and the side arm assemblies. Both locking mechanisms and means for moving the side arms are powered by hydraulics.

**3,521,715**  
**METHOD AND APPARATUS FOR SAMPLING**  
Manfred G. Kruteln, San Diego, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware  
Filed Oct. 23, 1968, Ser. No. 769,992  
Int. Cl. E21b 49/00; G01n 1/08

U.S. Cl. 175-5

19 Claims

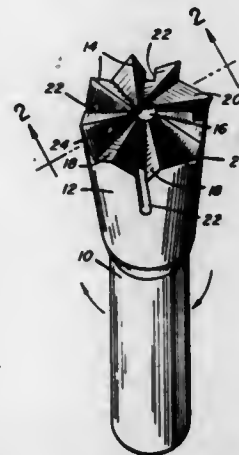


A sample of an earth formation or other bodies of relatively permeable material may be obtained by penetrating the material with a probe and introducing into the formation adjacent the probe a chemical grout which sets to form a substantially rigid body composed of the gelled chemical grout and the material which the chemical grout permeates. When the probe is removed, the rigid gel body is removed with it.

**3,521,716**  
**DRILL POINT**  
William F. Fisher, 2737 S. 49th West Ave.,  
Tulsa, Okla. 74107  
Filed Oct. 16, 1968, Ser. No. 768,101  
Int. Cl. E21c 13/06

U.S. Cl. 175-417

4 Claims



A drill point has a plurality of teeth, extending non-radially from the maximum diameter into a central recess, each tooth defined by a forward-downward rake face and a rearward-downward relief face. The slope ratio of the forward face is greater than that of the rearward. Exhaust cutout ports are angularly positioned from the base of alternate relief faces for maximum flow of fluid and/or cutting from an entry port or ports in at least one intermediate relief face.

**3,521,717**  
**DEVICE FOR CONVERTING A SNOWMOBILE TO A WHEELED VEHICLE**

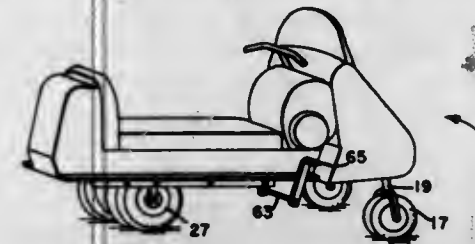
Robert C. Coons, Curry Bush Road, Box 315, R.D. 5, Schenectady, N.Y. 12306  
Filed Nov. 29, 1968, Ser. No. 779,762  
Int. Cl. B62m 27/02

U.S. Cl. 180-5

3 Claims

A chassis-frame device adapted for converting a conventional snow vehicle to a wheel vehicle after removing

the track, boggie wheels, rear sprocket and front skis and then bolting or otherwise attaching the chassis-frame device to the frame of the snow vehicle and replacing the front skis with front wheels. The device comprises frame



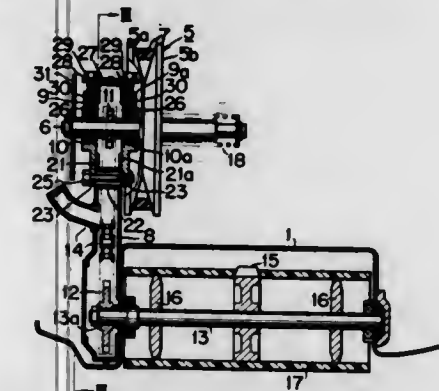
members, an axle mounting rear wheels and a driven sprocket, a drive sprocket and a drive chain trained over the drive and driven sprockets to transmit drive to the rear wheels.

**3,521,718**  
**TRANSMISSION DEVICE OF AN ENDLESS-TRACK VEHICLE**

Yutaka Masaoka and Fujihiko Tomita, Shizuoka-ken, Japan, assignors to Yamaha Hatsudoki Kabushiki Kaisha, Shizuoka-ken, Japan, a corporation of Japan  
Filed Nov. 6, 1968, Ser. No. 773,762  
Claims priority, application Japan, Nov. 8, 1967, 42/94,173; July 27, 1968, 43/52,881  
Int. Cl. B62m 9/16; B62d 55/12

U.S. Cl. 180-9.64

7 Claims



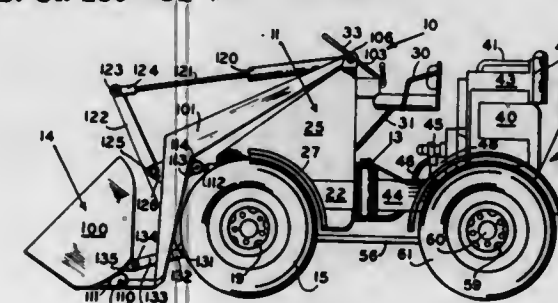
The present transmission device of an endless-track vehicle involves a box-shaped chain housing covering a driving sprocket, a driven sprocket and an endless chain stretched across said sprockets. On both sides of the upper portion of said chain housing are disposed a pair of opposed brackets so as to carry a counter axle supporting said driving sprocket. Said device further includes means for adjustably setting said brackets relative to said chain housing so that the distance between the axles of said sprockets may be varied.

**3,521,719**  
**MOTOR VEHICLE**  
Ray E. Forpahl, Harper, Kans., assignor to Rhino Industries, Inc., Kingfisher, Okla., a corporation of Oklahoma

Filed Oct. 3, 1966, Ser. No. 589,772  
Int. Cl. B60k 15/00

U.S. Cl. 180-51

25 Claims



This very compact articulated four-wheel drive motor vehicle has a rear chassis carrying an engine and an

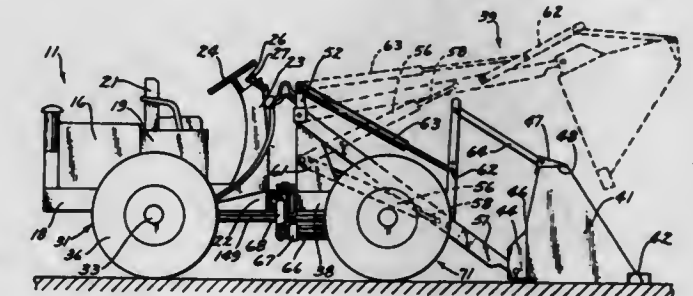
hydraulic pump for driving an hydraulic motor and a transmission that drives all four wheels carried on a front chassis. An operator's seat and steering apparatus are mounted on the front chassis preferably along with a material handling apparatus.

**3,521,720**  
**ARTICULATED VEHICLE WITH HYDRAULIC DRIVE, STEERING, AND IMPLEMENT MANIPULATING SYSTEM**

Isadore R. Korotkin, Pratt, Kans.  
(30 Wedgewood Ave., Halsa, Israel)  
Filed Feb. 28, 1969, Ser. No. 803,292  
Int. Cl. B60k 17/00; B62d 9/00

U.S. Cl. 180-51

7 Claims



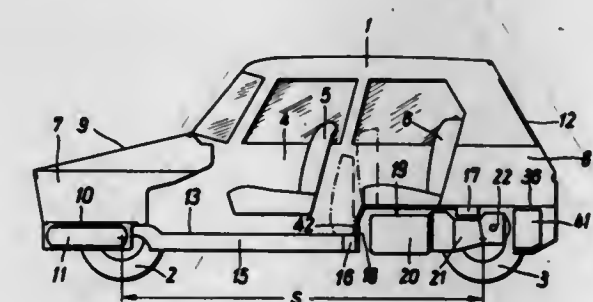
This invention relates to an articulated vehicle comprising a work module and a power module having an engine mounted thereon. The engine supplies power to a closed loop hydraulic drive system, also mounted on the power module, and comprises a variable displacement hydraulic pump, a hydraulic motor, inlet and outlet conduits fluidly connecting the pump and the motor, and transmitting means for connecting the hydraulic motor to the ground engaging means of the power module. A novel universal joint connects the power module to the work module.

**3,521,721**  
**WATER-COOLED ENGINE ARRANGEMENT FOR PASSENGER VEHICLE**

Ferdinand Anton Ernst Porsche, Stuttgart-Nord, and Wolfgang Eyb, Leonberg Wurttemberg, Germany, assignors to Firma Dr.-Ing. h.c.F. Porsche KG, Stuttgart-Zuffenhausen, Germany  
Filed May 27, 1968, Ser. No. 732,251  
Claims priority, application Germany, June 15, 1967, 1,630,936

Int. Cl. B60k 5/02, 11/04  
U.S. Cl. 180-54

10 Claims



A flat head rear drive engine has a single row of horizontal cylinders extending only on one side of the crankshaft axis, which is centrally aligned with the driving direction; the liquid-air heat exchanger is on the other side of the crankshaft at about the height of the row of cylinders. The drive unit, comprising the engine, transmission and differential, is substantially enclosed by cross and horizontal frame members rigidly connected with a hood.

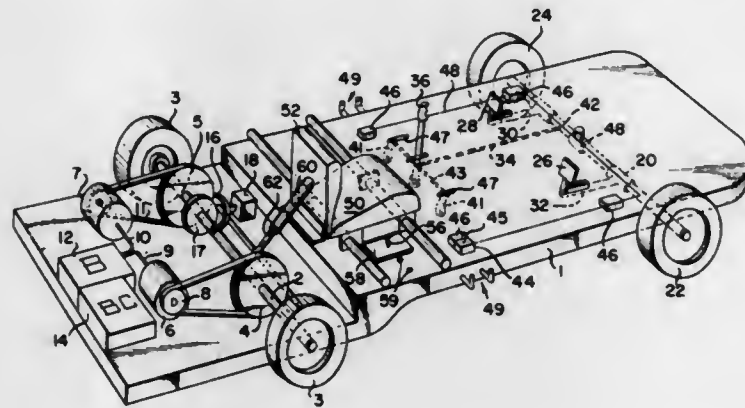


concavely downward that forms the bottom of the rear storage compartment and the floor underneath the rear seats. The frame has two rearwardly extending cantilevered arms, with the fuel tank provided therebetween directly rearward of the driving unit.

**3,521,722**  
**INVALID GO-CART**  
Raul R. V. Dimonte, 21 Arbor Hill Road,  
Annapolis, Md. 21403  
Filed July 17, 1967, Ser. No. 653,949  
Int. Cl. B601 11/18, 15/42

U.S. Cl. 180—65

6 Claims

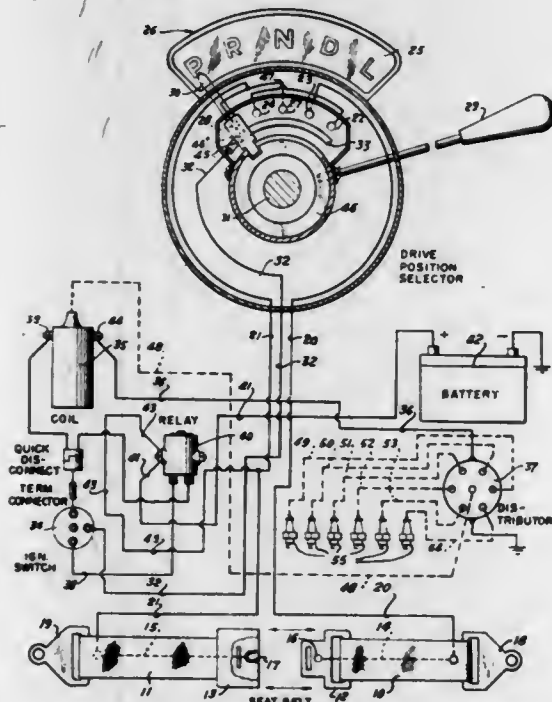


An invalid mobility go-cart for allowing a handicapped person to move about without assistance from another person. Motive means of the go-cart is provided by two electric motors, one to move the cart forward and the other to move the cart in reverse.

**3,521,723**  
**SAFETY BELT FOR AUTOMOBILES**  
Robert U. Snodgrass, 2206 Cales Drive,  
Arlington, Tex. 76010  
Filed Aug. 22, 1968, Ser. No. 754,573  
Int. Cl. B60r 21/10

U.S. Cl. 180—82

3 Claims



A seat belt for automobiles having an electrical conductor therein connected through the ignition circuit of a vehicle and through the drive positions of the transmission shift lever whereby, while the belt is uncoupled, the

ignition circuit is broken when the shift lever is in any of the drive positions and cannot be closed until the belt is coupled thus preventing the vehicle engine from functioning.

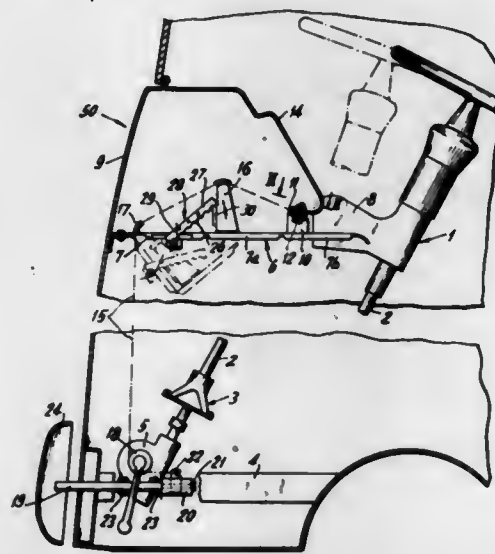
The circuits are so arranged through the belt and the transmission shift assembly to enable the ignition circuit to be closed when the shift lever is in the "neutral" or "park" positions but opened when the shift lever is moved to any of the drive positions.

**3,521,724**  
**MOTOR VEHICLE STEERING COLUMN MOUNTING CONSTRUCTION**  
Gustav Mayer, Wolfsburg, Germany, assignor to Volkswagenwerk Aktiengesellschaft, Wolfsburg, Germany

Filed Apr. 4, 1968, Ser. No. 718,747  
Claims priority, application Germany, Apr. 4, 1967, 1,655,597  
Int. Cl. B62d 1/18

U.S. Cl. 180—91

16 Claims



An automobile steering column mounting construction includes a bracing strut which supports the steering column at a location below the instrument panel and which is subdivided into sections by predetermined break lines. Associated with the bracing strut is a lever and associated mechanism for insuring and/or aiding the collapse of the bracing strut and its retention in a collapsed condition so that the steering column can move away from the driver in the event of a collision of the vehicle and will not thereafter move back against him. In one embodiment the collapse of the bracing strut is initiated by the backward movement of a rod member connected to the bumper to cause a connecting cable to bring about the buckling of the bracing strut in a weakened area. In another embodiment, an inertia member or weight is mounted in a position so that its forward movement which would be caused by a sudden collision will cause the breaking of the bracing strut. In both embodiments the collapsed bracing strut is held in a collapsed position by a ratchet and pawl mechanism.

**3,521,725**  
**DIRECTIONAL EXPLOSIVE ECHO RANGING DEVICE**  
William S. Filler, Rockville, and Joseph Petes, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy  
Continuation-in-part of application Ser. No. 78,794; Dec. 27, 1960. This application May 18, 1962, Ser. No. 197,171

U.S. Cl. 181—5

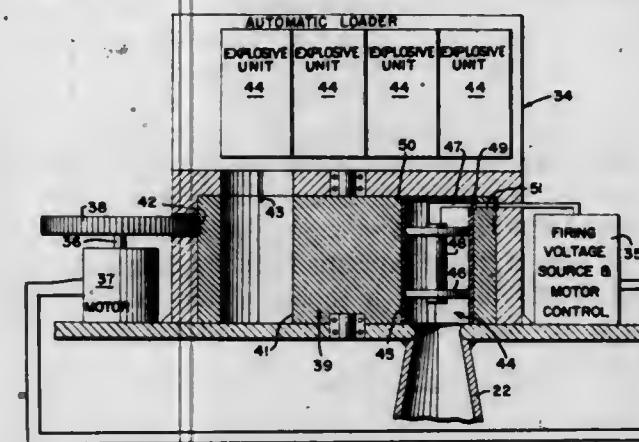
Int. Cl. H04b 11/00

5 Claims

1. A unidirectional underwater vibration source mounted on an underwater craft for greatly amplifying

the shock wave of a small high explosive charge in a liquid medium comprising a frustoconical tube, a rotatable firing block having a plurality of firing chambers therein, control means for moving each of the plurality of firing chambers in said block in direct communication with said tube at the smallest end thereof in rapid succession, a

passage in the atomizer head, in which a check valve is incorporated. An additional passageway is provided by-



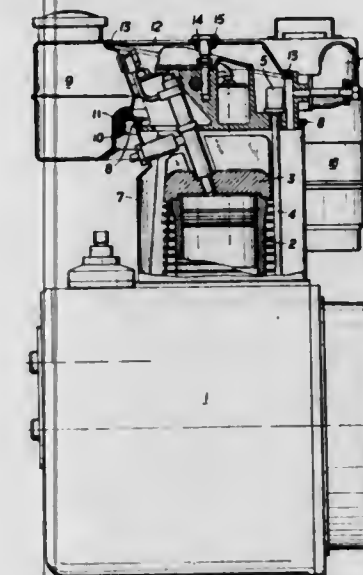
plurality of explosive means, one of said plurality of explosive means located in each of the plurality of firing chambers respectively in said firing block and ignitor means for firing each of said plurality of explosive means when the firing chamber in which it is located is aligned with said tube.

**3,521,726**  
**AIR-COOLED INTERNAL COMBUSTION ENGINE WITH SOUND-PROOFED SHEATHING**  
Fritz Freyn, Graz, Austria, assignor to Hans List, Graz, Austria

Filed Mar. 21, 1969, Ser. No. 809,211  
Claims priority, application Austria, Apr. 16, 1968, A 3,705/68

Int. Cl. F02f 7/00, 77/00; F16m 1/00  
U.S. Cl. 181—33

5 Claims



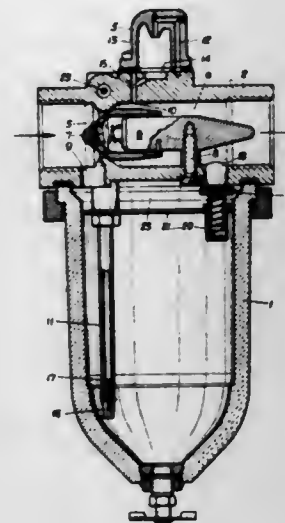
An air-cooled internal combustion engine with a sound-proofed sheathing and having a sound-proofed fuel reservoir secured to and surrounding the cylinder head at least on three sides as a sound-absorbing sheath.

**3,521,727**  
**ATOMIZER FOR LUBRICANTS**  
Herbert Sochting and Gerhard Hiltmann, Vienna, Austria, assignors to Hoerbiger Ventilwerke Aktiengesellschaft, Vienna, Austria  
Filed Feb. 19, 1968, Ser. No. 706,386  
Claims priority, application Austria, Feb. 24, 1967, A 1,833/67  
Int. Cl. F16n 7/34

U.S. Cl. 184—56

7 Claims

An atomizer for lubricants having a container for the lubricant, an atomizer head connected thereto and a flow

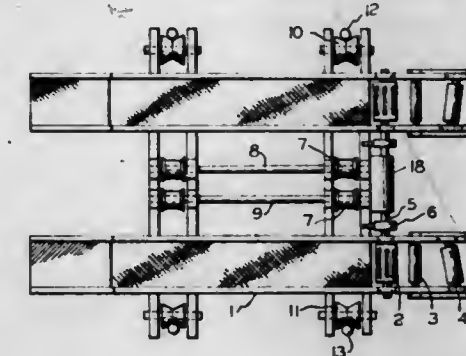


passing the check valve and permitting a reverse flow of medium through the atomizer head.

**3,521,728**  
**DEVICE FOR HANGARING AUTOMOBILES**  
Masao Murakami and Minoru Horita, Fukui, Japan, assignors to Izumi Kogyo Co., Ltd., Fukui, Japan, a corporation of Japan  
Filed Mar. 27, 1968, Ser. No. 716,501  
Int. Cl. B66f 7/24

U.S. Cl. 187—8.56

2 Claims



A hanging device for raising and lowering an automobile and operable by the automobile. The automobile rests on a guide plate having rollers to be driven by the wheels of the automobile. The rollers drive winding drums through a transmission. The drums wind up wiring which raises or lowers the guide plate. Preventive rollers are mounted at a small angle with the driving rollers to prevent the automobile from rolling on the guide plate. Damping means operate on the driving rollers to prevent rotation thereof when the automobile is lowered to the ground.

**3,521,729**  
**HYDROSTATIC RETARDERS FOR ROAD VEHICLES**  
Raymond Ravenel, Paris, France, assignor to Société Anonyme Andre Citroen, Paris, France  
Filed Sept. 3, 1968, Ser. No. 756,952  
Claims priority, application France, Sept. 19, 1967, 121,486  
Int. Cl. F16d 57/06

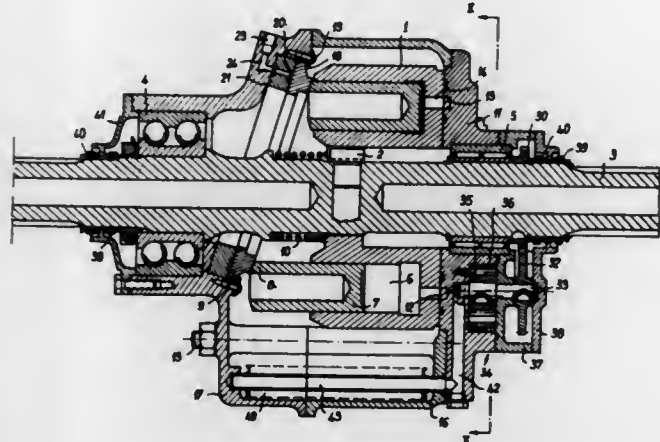
U.S. Cl. 188—91

9 Claims

Hydrostatic retarder for a road vehicle having an engine controlled by an accelerator pedal and a transmission



shaft driven by the engine. Mechanical brakes are provided on the vehicle front and rear axles having a pressure fluid control device. Control means are combined with the mechanical brakes control device. A barrel-type volumetric pump has cylinders rotatably driven by the transmission shaft and the pump has an impeller disk balanced by a hydrostatic abutment responsive to the delivery pressure of the pump. A timing plate is provided for setting and delivery. A low pressure over-feed pump is driven from the transmission shaft. There is a cooling



radiator. Distribution members for the low pressure over-feed pump have a gauge valve to limit the delivery pressure of said over-feed pump and a slide valve controlled by the vehicle engine accelerator for disconnecting the retarder through the gauge valve. Members are provided for adjusting the delivery pressure of the retarder comprising a braking valve and a braking pressure limiter. A device disconnects the retarder and a braking distributor adjusts braking repartition between the retarder and the mechanical brakes.

3,521,730

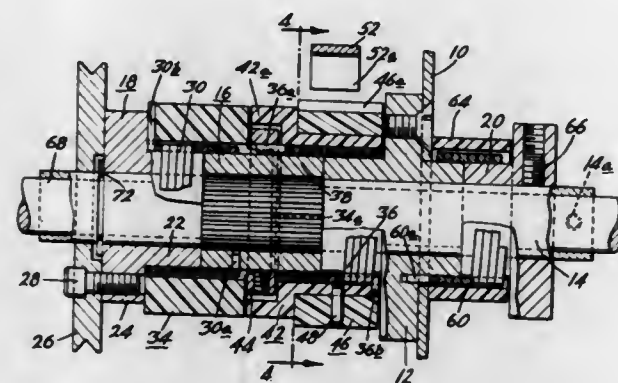
### CLUTCH BRAKE HAVING POSITIVE OUTPUT POSITION SELECTION

John H. Weatherby, Sewell, N.J., assignor to Precision Specialties, Inc., Pitman, N.J., a corporation of Missouri  
Filed June 21, 1968, Ser. No. 738,937

Int. Cl. F16d 67/06

U.S. Cl. 192-12

11 Claims



A clutch brake structure is provided wherein the output may be stopped at any desired rotational position of its output. The clutch employs a conventional helical clutch spring having input and output hubs which are normally engaged by the spring to drive the output from the input. The spring is connected between a clutch control member and the output hub. Brake means is provided to stop the output hub and the clutch control member relative to the frame. The brake means is preferably a helical

spring device, similar to the clutch spring connected between the output hub and the brake control member so that the brake control member rotates with the output hub. This preferred brake means is effective when the brake control member is stopped and causes or allows the brake spring to wrap down and connect the output hub to the frame. The brake means also acts essentially simultaneously to stop the clutch control member and permit the clutch spring to be unwound from the input hub as the input hub continues to rotate. A single revolution clutch provides a shoulder on the brake control member against which a removable stop rests. The stop is momentarily removed as desired to release the brake and engage the clutch and stops the system one revolution later, or at some intermediate shoulder. Preferably the stop is provided on a separate stop collar which is connected to the brake control member by a helical spring clutch.

3,521,731

### MULTIPLE FRICTION CLUTCHES

Pierre Labat, Suresnes, France, assignor to Societe Anonyme de Vehicules Industriels et d'Equipments Mecaniques Saviem, Suresnes, France

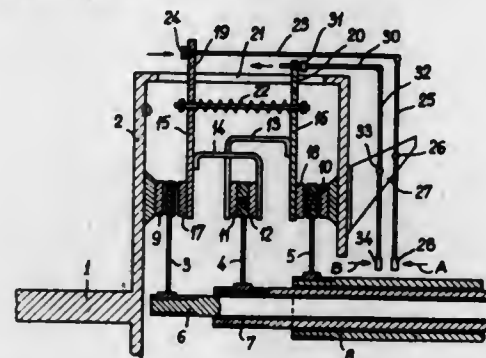
Filed Dec. 9, 1968, Ser. No. 782,354

Claims priority, application France, Jan. 10, 1968, 135,519

Int. Cl. F16d 21/06

U.S. Cl. 192-48.91

7 Claims



Multiple friction clutch comprising an input shaft and at least two concentric output shafts each provided with a clutch disc and a pair of clamping plates each adapted to engage one face of said disc, said clamping plates being rotatably solid with said input shaft, at least one of said clamping plates being adapted to slide axially along said shaft.

3,521,732

WITHDRAWN

3,521,733

### CONTROL MEANS FOR VENDING MACHINES AND THE LIKE

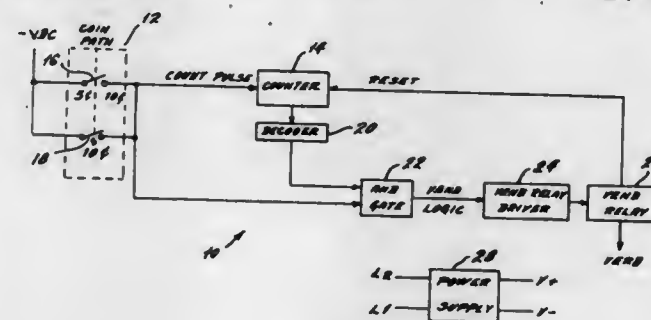
John R. Shirley, Crestwood, Mo., assignor to H. R. Electronics Company, High Ridge, Mo., a corporation of Missouri

Filed Mar. 25, 1968, Ser. No. 715,639

Int. Cl. G07t 5/10

U.S. Cl. 194-9

14 Claims



Electronic control means for vending machines and other coin controlled devices which will accept coins of

more than one denomination, make vends, and perform other functions, said control means including counting, memory and logic circuit means and means under the control thereof to initiate vending and other functions. The subject means are preferably designed and constructed using solid state components and are preferably packaged in a compact form so that they can be easily and quickly installed, removed and replaced in a vending machine.

3,521,734

### ARTICLE PICKUP MACHINE FOR RAISIN TRAYS AND THE LIKE

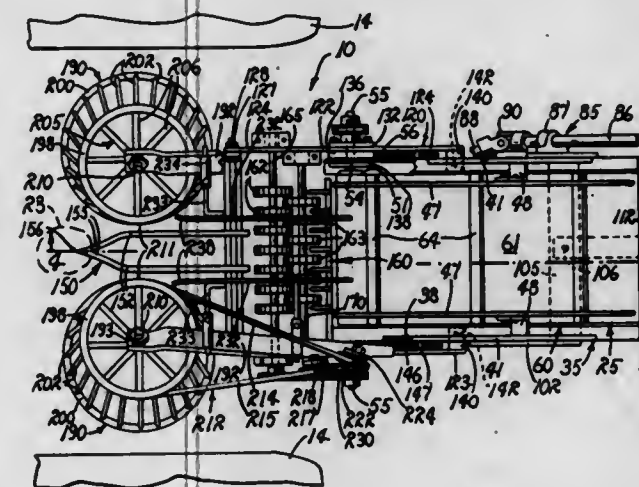
Henry Kerber, Jr., 5175 E. North Ave., Fresno, Calif. 93706

Filed Aug. 21, 1968, Ser. No. 754,346

Int. Cl. B65g 65/06

U.S. Cl. 198-9

6 Claims



An article pickup machine for raisin trays and the like having an elongated upwardly inclined conveyor mounted for earth traversing movement including a lifting member disposed in forward extension from the conveyor in earth penetrating lifting relation to raisin trays encountered incident to said ground traversing movement of the conveyor and means on the frame providing movable walls laterally adjacent to said lifting member for funneling said trays onto said lifting member and for directing them rearwardly in a rectilinear path substantially longitudinally aligned with the conveyor.

3,521,735

### EYELET FEEDING DEVICE

Albert F. Gallatin, Brookline, Mass.

(76 Rogers St., Cambridge, Mass. 02138)

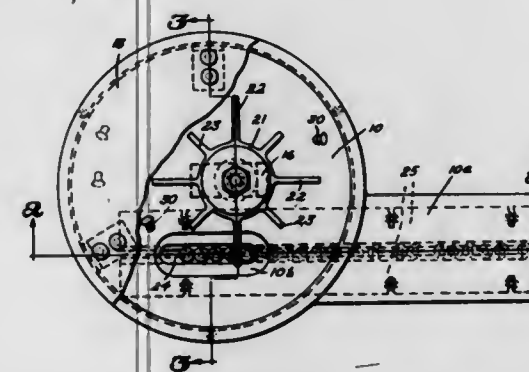
Continuation-in-part of application Ser. No. 558,458,

June 17, 1966. This application Sept. 29, 1967, Ser. No. 703,805

Int. Cl. B65g 47/24

U.S. Cl. 198-33

7 Claims



A device for aligning and feeding eyelets or similar fasteners having heads and stems. A hopper for holding eyelets in bulk has a sloping base plate with an extending

arm. A pair of tracks is mounted under a slot in the base plate. The tracks are spaced to admit the stems of single eyelets and have recessed portions to receive the heads. A revolving agitator sweeps over the slot to carry eyelets into it.

3,521,736

### STACKING MACHINE

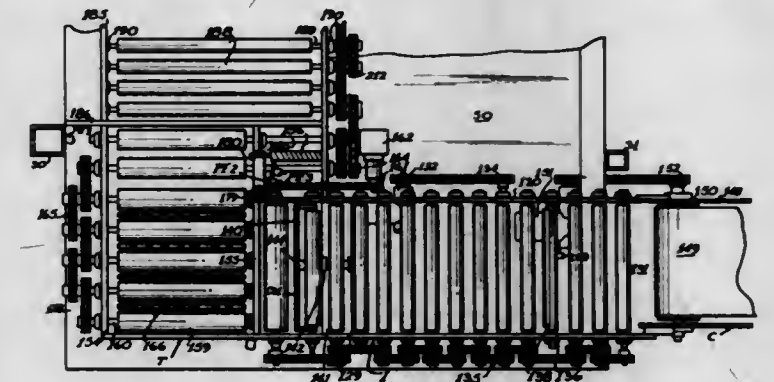
George E. von Gal, Jr., 3048 Thomas Ave. 36106; Lawrence H. Hutchinson, 3708 Audubon Road 36106; and Oneal W. Davis, 198 Garway Drive 36108, all of Montgomery, Ala.

Continuation of application Ser. No. 557,285, June 13, 1966. This application Nov. 14, 1968, Ser. No. 775,965

Int. Cl. B65g 47/24

U.S. Cl. 198-33

5 Claims



A stacking machine including an infeed conveyor, a cross-feed conveyor angularly disposed with respect to the infeed conveyor, and a turning section at the junction of the infeed conveyor and the cross-feed conveyor for selectively turning articles passing from the infeed conveyor to the cross-feed conveyor for sidewise or endwise movement along the cross-feed conveyor. A rake mechanism removes the articles from the cross-feed conveyor onto a selectively extendable apron assembly adjacent the cross-feed conveyor which selectively moves the articles into an elevator shaft. A compression and release assembly engages and retains the articles on the apron assembly within the elevator shaft while the apron assembly is retracted from under the articles thus held.

The compression and release assembly then release the articles in the elevator shaft and allows them to drop onto a pallet held within the elevator shaft by a vertically movable elevator. The elevator lowers the pallet and articles for receipt of more articles from the apron assembly. After a predetermined number of layers of articles have been placed on the pallet, the elevator lowers and discharges the loaded pallet from the machine, receives an empty pallet thereon and raises the same for the receipt of articles thereon.

The operation of the machine is controlled by a punched tape control mechanism. The control mechanism is actuated by a sensing means which electrically counts the number of articles moving into the machine.

3,521,737

### FEED CONTROL SYSTEM

Rodney K. Calvert, Dunwoody, Ga., assignor to The Mead Corporation, a corporation of Ohio

Filed Sept. 26, 1968, Ser. No. 762,775

Int. Cl. B65g 47/26

U.S. Cl. 198-34

5 Claims



A feed control system for use in conjunction with high speed packaging machines and the like comprises an infeed

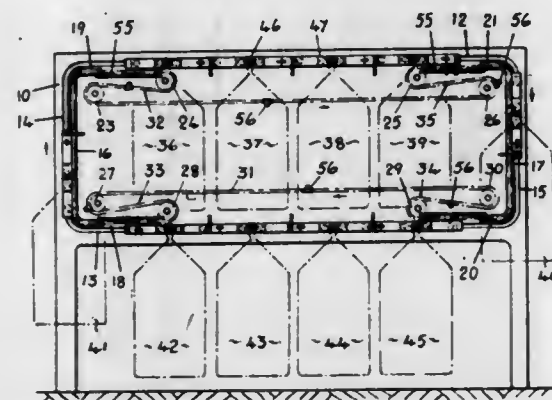


conveyor on which articles are transported, metering means engageable with the articles and operable to regulate the speed of movement thereof at a velocity slightly less than that of the conveyor means and accelerating means in the form of an accelerating arm pivotally mounted on the metering means and actuated by a cam and an associated cam follower for engaging preselected articles and for imparting smoothly controlled accelerated movement thereto.

**3,521,738**  
**ENDLESS PATH STORAGE SYSTEM**  
Ross W. Coleman, 15 Vanley Crescent,  
Downsview, Ontario, Canada  
Filed Apr. 26, 1968, Ser. No. 724,410  
Int. Cl. B65g 1/00

U.S. Cl. 198—85

5 Claims



A total storage system in which the total cubic space occupied by the system is available for the storage of wares. The system employs a pair of closed-loop tracks having an upper and lower horizontal run connected by vertical runs. The horizontal runs support a plurality of mobile storage transfer members which completely occupy the upper and lower runs. The transfer members are coupled together to form an upper unit and a lower unit.

A single drive mechanism, operating at constant speed, and operable either in a clockwise or in a counter-clockwise direction is provided which will carry out the following sequence:

- move the transfer members of the upper and lower runs one increment;
- automatically disconnect the lead transfer members on the upper and lower runs and stop the remainder in the new position and be retained in that position until the lead transfer members complete their travel on the vertical runs and into the space left vacant on the upper and lower runs by the one increment movement.

This operating cycle is continued until the desired transfer member comes into a position which will permit the removal of the wares therefrom or the storage of wares therein.

**3,521,739**  
**CONVEYOR LEVELING MECHANISM FOR HARVESTING MACHINE**  
Leon R. McRobert, Williamston, Mich., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

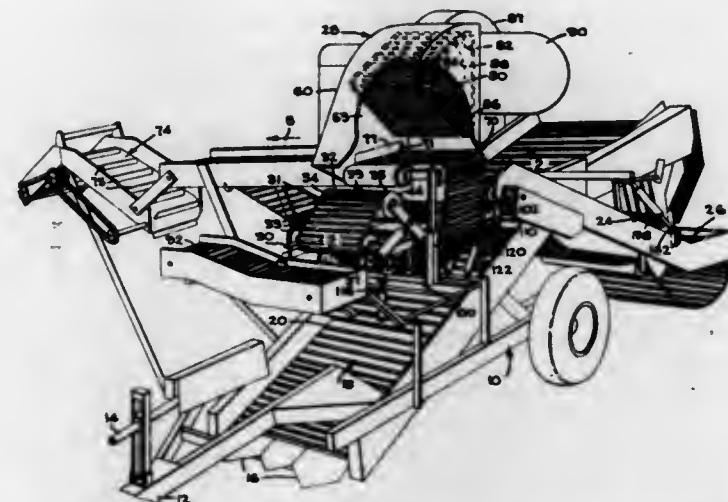
Filed Apr. 10, 1968, Ser. No. 720,195  
Int. Cl. B65g 37/00

U.S. Cl. 198—102

5 Claims

A machine for harvesting potatoes has mechanism for tilting some conveyors thereon relative to the frame of the machine to maintain an even distribution of potatoes on the conveyors. The machine has an upwardly sloping

elevating conveyor, and a separating conveyor with a receiving section which is pivotally connected to the upper end of the elevating conveyor. During level travel of the machine, potatoes and debris are carried up the elevating conveyor to the separating conveyor receiver section which is horizontal. A humped section of the separating conveyor lifts the potatoes and debris from the receiving section into an air stream which carries the less dense potatoes onto a potato removal conveyor. A first hydraulic



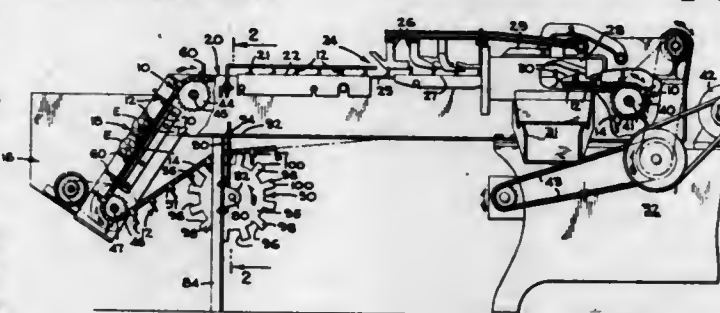
ram maintains the receiving section of the separating conveyor level in the longitudinal direction and a second hydraulic ram maintains that conveyor section level in the lateral direction. Master and slave cylinders and pistons tilt the elevating conveyor laterally on the frame of the machine in accordance with lateral tilt of the receiving section relative to the frame. Manual or automatic control can be used to maintain the conveyors level in the lateral direction.

**3,521,740**  
**PROCESSING CONVEYOR**  
Gerald P. Hamilton, Hoopeston, Ill., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Apr. 16, 1968, Ser. No. 721,702  
Int. Cl. B25g 19/00

U.S. Cl. 198—208

1 Claim



A conveyor for ears of corn or the like has transverse flight bars connected to and overlying side roller chains, and the conveyor is tightened by jockey pulleys on the flight bar side of the conveyor. The pulleys are notched to receive the flight bars, the notches providing chain guide teeth which directly engage the side chain rollers intermediate the flight bars.

**3,521,741**  
**PLANT CONTAINER**  
Gerald A. Beaudry, Geneva, N.Y., assignor to International Paper Company, New York, N.Y., a corporation of New York

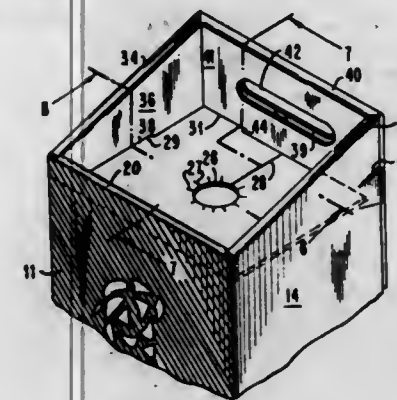
Filed June 4, 1968, Ser. No. 734,318  
Int. Cl. B25d 5/50

U.S. Cl. 206—45,14

16 Claims

A receptacle in which rose bushes, shrubs, and the like can be stored, transported, and planted in the ground

and having the characteristics of resistance to decomposition in the presence of moisture during storage, resistance to attack by fungi while in storage, and the ability

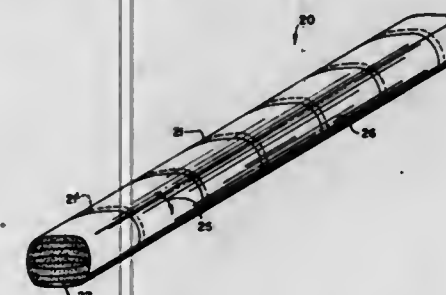


to decompose when planted in the ground sufficiently quickly to permit healthy development of the plant root systems.

**3,521,742**  
**PACKAGE FOR COMPRESSED MATERIALS**  
Robert A. Ferrell, Shelbyville, Ind., assignor to KCI Corporation, Shelbyville, Ind., a corporation of Indiana  
Filed July 26, 1968, Ser. No. 748,026  
Int. Cl. B65d 3/04, 85/16

U.S. Cl. 206—46

11 Claims

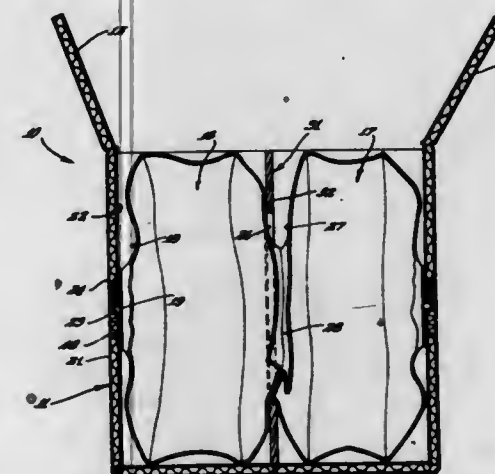


Flexible paper tubing for packaging compressed material such as insulation and the like. The tubing is made up of one or more layers of paper each of which is wound into a helical configuration with overlapping edge portions adhered to one another. When multiple layers are used, the layers may be wound in the same or opposite directions.

**3,521,743**  
**CUSHION PACKAGE**  
Carlo J. Sposito, Jr., 1532 SW. Pendleton, Portland, Oreg. 97201  
Filed Nov. 5, 1968, Ser. No. 773,516  
Int. Cl. B65d 85/30

U.S. Cl. 206—46

3 Claims



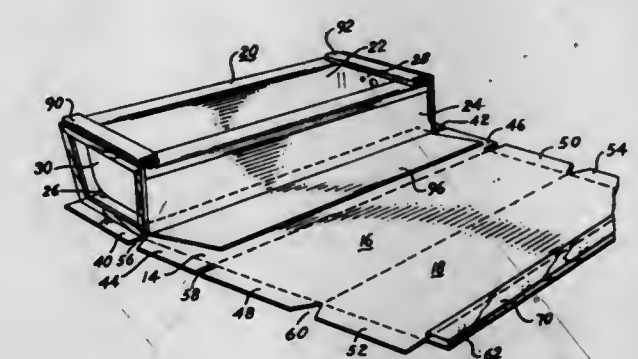
A cushioned package for fragile and the like goods including a closeable and sealable container in which is

disposed a pair of inflatable pillows. The goods are placed between the pillows after which the container is closed and sealed. Air valves mounted on the sides of the pillows register with openings formed in the container to permit the pillows to be inflated from an external source of pressurized air after the container has been closed and sealed. A distance guard is employed within the container for securing the goods in a substantially central location between the pillows during inflation of the pillows.

**3,521,744**  
**REINFORCED SHIPPING CONTAINER FOR BATHTUBS**  
Richard K. Smith, Benton Harbor, Mich., assignor to Twin Cities Container Corporation, Coloma, Mich., a corporation of Delaware  
Filed Apr. 16, 1969, Ser. No. 816,495  
Int. Cl. B65d 85/00, 5/02, 13/00

U.S. Cl. 206—46

10 Claims

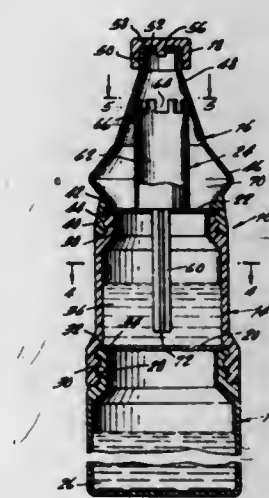


A shipping container for a bathtub having a wrapper formed of paperboard and scored to define distinct panels for the top, bottom, front and rear of the bathtub for extending continuously around the tub. A reinforcing member extends lengthwise of the tub at the lower rear thereof and frame inserts at the ends of the tub are secured in place by the tabs on said panels. The inserts have the same general configuration as the transverse shape of the tub and reinforce the wrappers to permit stacking of the containers without damaging the tub.

**3,521,745**  
**MIXING PACKAGE**  
Gilbert Schwartzman, 20 Wilmet Circle, Scarsdale, N.Y. 10583  
Filed July 31, 1968, Ser. No. 749,187  
Int. Cl. B65d 79/00

U.S. Cl. 206—47

4 Claims



A mixing package for separately storing and thereafter mixing two or three materials comprising a container, an

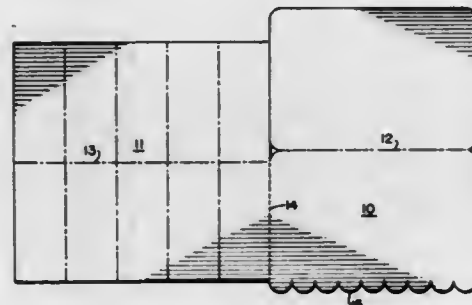


adapter, and a cover, all threadedly secured to each other. Sealing membranes are disposed to form three separate storage compartments and are ruptured when desired by a depression of the cover means which is provided with a bellows and which engages a seal-breaking member. The seal-breaking member is notched to permit flow of fluid out of the package.

**3,521,746**  
**COMBINATION PLACE MAT AND NAPKIN**  
Wilbert E. Thrasher, 14421 SW. 288th St.,  
Leisure City, Fla. 33030  
Filed Aug. 2, 1968, Ser. No. 749,645  
Int. Cl. B65d 79/00

U.S. Cl. 206—47

11 Claims



A combination place mat and napkin which are readily separable from each other. This arrangement provides a very substantial saving of labor in commercial applications, convenience, and sanitation in the serving of food in both public places as well as in the home. This invention also has an excellent novelty appeal.

**3,521,747**  
**PROTECTIVE WRAP**  
Isadore H. Katz, 7950 Morningside Drive,  
Indianapolis, Ind. 46240  
Filed Apr. 25, 1968, Ser. No. 724,077  
Int. Cl. B65d 85/66

U.S. Cl. 206—53

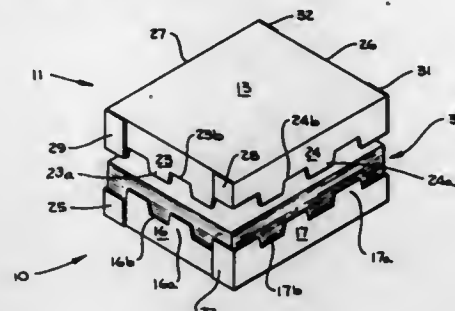
1 Claim



A protective, cushioning wrap adapted for wrapping on a loaded yarn beam or spool, the wrap being of laminated construction having a polyethylene component at the side margins of the wrap, a component of extensible kraft paper and an uppermost component or layer of creped kraft paper which carries spaced strips of polyethylene to adapt the wrap for fastening by pressure sensitive tape. The creped kraft component or sheet has a width substantially the same as the length of the beam or spool between its figures, the width of the extensible kraft sheet is slightly greater than that of the creped kraft and the polyethylene component extends substantially beyond the kraft layers on each side of the wrap to permit the extending portion to cling to the beam flanges protecting the yarn on the spool from contamination by dust, etc.

**3,521,748**  
**ADJUSTABLE DEPTH CARTON**  
Harold W. Layne, Sr., Beech Grove, Ind., assignor to  
Inland Container Corporation, Indianapolis, Ind., a  
corporation of Indiana  
Filed June 27, 1968, Ser. No. 740,715  
Int. Cl. B65d 45/00, 85/62  
U.S. Cl. 206—83.5

1 Claim



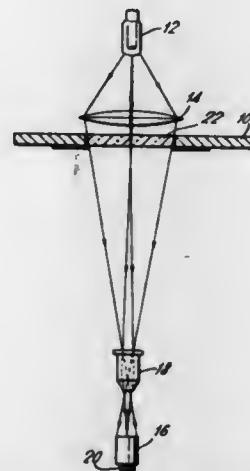
A container particularly adapted for packaging reams of paper comprising upper and lower sections with inter-fitting side margins which are normally spaced from each other vertically, with the sidepanels of the container sections lying in the same plane.

**3,521,749**  
**TECHNIQUES FOR DETECTING GEOMETRICAL DEFECTS IN REGULAR SHAPED FLAT OBJECTS**  
Harmen Hein Dijkstra, Steln, Netherlands, and Anthony John Alinutt, Richard Anthony Brook, and Robert Ernest Vickers Semos, Chislehurst, England, assignors to British Scientific Instrument Research Association, Chislehurst, England, a British company  
Filed Apr. 24, 1967, Ser. No. 633,144  
Claims priority, application Great Britain, Apr. 22, 1966, 17,820/66

Int. Cl. B07b 5/10

U.S. Cl. 209—82

9 Claims



Detecting of defects in coin blanks by positioning a blank between a light source and a photocell scribed into four quadrants, the light received by each quadrant providing a signal which is compared with a reference signal representing a blank of the desired dimensions.

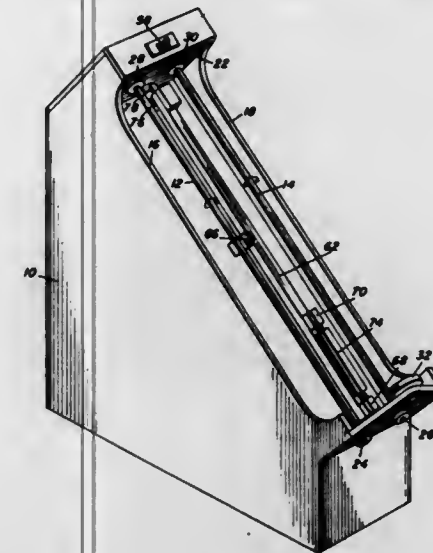
**3,521,750**  
**LABORATORY SIFTER**  
Edward R. Hamilton, Austin, Tex., assignor to Rainhart Company, Austin, Tex., a corporation of Texas  
Filed May 31, 1968, Ser. No. 733,442  
Int. Cl. B07b 1/08

U.S. Cl. 209—237

5 Claims

A sifting apparatus using standard laboratory sieves, mechanically duplicates the results of hand sieving. A pair of power driven rollers of sufficient length to accommodate the desired number of stacked sieves are

inclined at approximately 45° and laterally spaced to receive sieves of the desired diameter. The preassembled stack of sieves is laid on the rollers, with the center of the bottom sieve pan resting on a free turning turntable.

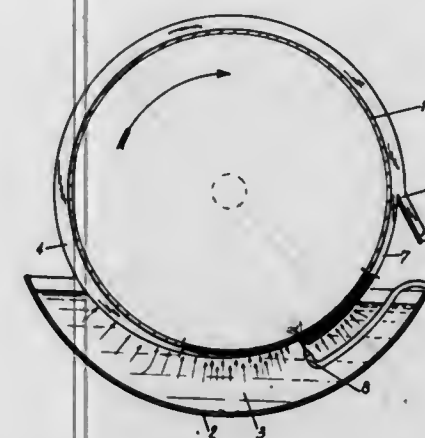


Rotation of the rollers causes the stack of sieves to rotate and the specimen is then poured into the open upper end. Means are provided to repeatedly tap the lower sieves to prevent clogging of the sieve meshes.

**3,521,751**  
**FILTERING METHOD AND APPARATUS**  
Theodorus H. Holthuis, Veendam, Netherlands, assignor of one-half to Nivoba N.V., Veendam, Netherlands, a company of the Netherlands  
Filed Dec. 15, 1967, Ser. No. 691,011  
Int. Cl. B01d 33/06

U.S. Cl. 210—77

3 Claims



The solid phase filter cake built up on the surface of a rotating perforate drum partially submerged in a body of a mixture comprising a liquid and a solid phase is partially removed while the cake is out of contact with the body of mixture. The inner part of the cake is removed when it is reintroduced into the body of mixture by directing a jet of the mixture within the body against the inner part.

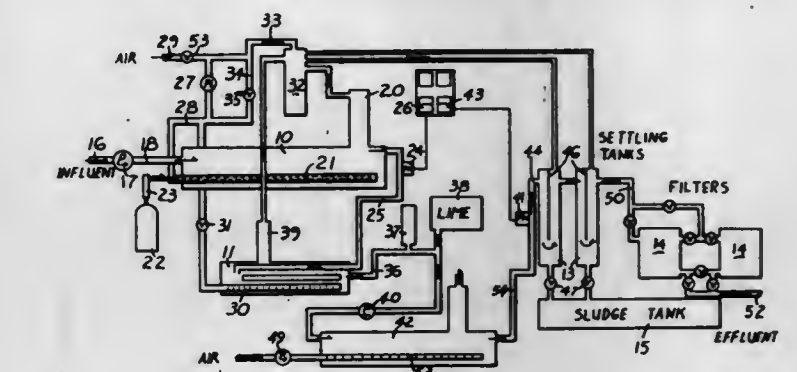
**3,521,752**  
**WATER PURIFICATION APPARATUS**  
William Edward Lindman, Grass Valley, Calif., assignor to Western Mechanical, Inc., Spokane, Wash., a corporation of Washington  
Filed Nov. 12, 1968, Ser. No. 774,802  
Int. Cl. C02b 1/34

U.S. Cl. 210—96

6 Claims

A water purification apparatus for the treatment of sewage waste water by intimately passing through the

water a gaseous mixture containing sulphur dioxide and oxygen. The apparatus also includes means for adding scrap iron to the solution, the iron being spent in the resulting acid solution. The apparatus includes primary treating tanks wherein a constant flow of waste water is violently agitated by the passage of sulphur dioxide and

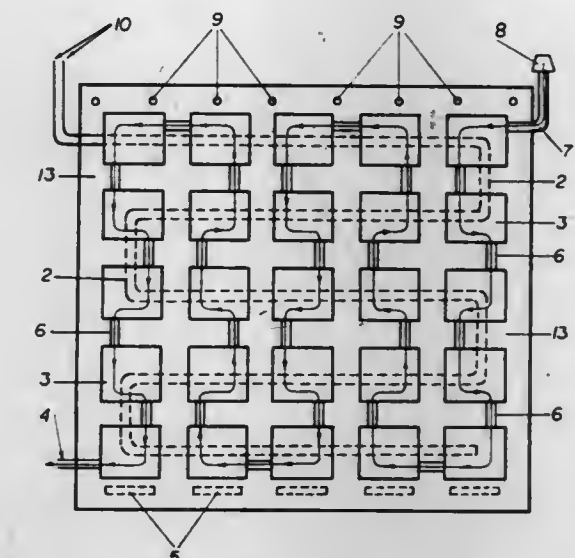


oxygen (air). The atmosphere within the tanks is part of a closed recirculating gas system. The waste water is then directed to tanks for the addition of alkaline chemicals to neutralize the acidic solution and precipitate solids. The apparatus is completed by suitable settling tanks and filters.

**3,521,753**  
**FILTERING AND HEATING OF LIQUIDS BY USE OF A FLEXIBLE CELLULAR BLANKET**  
Werner P. Schoening, 10906 Green Arbor,  
Houston, Tex. 77034  
Filed Apr. 30, 1968, Ser. No. 725,284  
Int. Cl. B01d 35/18

U.S. Cl. 210—185

6 Claims



A foldable, flexible, cellular blanket having connected cells containing heating means and filtering means. Preferably the blanket is made of sheets of reinforced plastic laminate having non-woven fibers arranged so that they can respond to stresses by sliding. A proposed use is for conditioning swimming pool water.

**3,521,754**  
**FILTERING BAG AND CONTAINER THEREFOR**  
Jack W. Ireland, 664 Merriman Road,  
Akron, Ohio 44303  
Continuation of application Ser. No. 666,184, Sept. 7, 1967. This application Sept. 17, 1969, Ser. No. 865,226  
Int. Cl. B01d 33/00

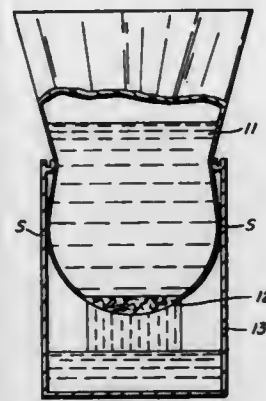
U.S. Cl. 210—359

2 Claims

A filtering bag that includes a resilient sleeve that is impervious to air and moisture and has provided therein



a filter in the form of an appendage that is appropriately shaped so as to permit the application of external forces



on the filter so as to thus create a withdrawal force on the bag contents.

3,521,755

## SEPARATING APPARATUS

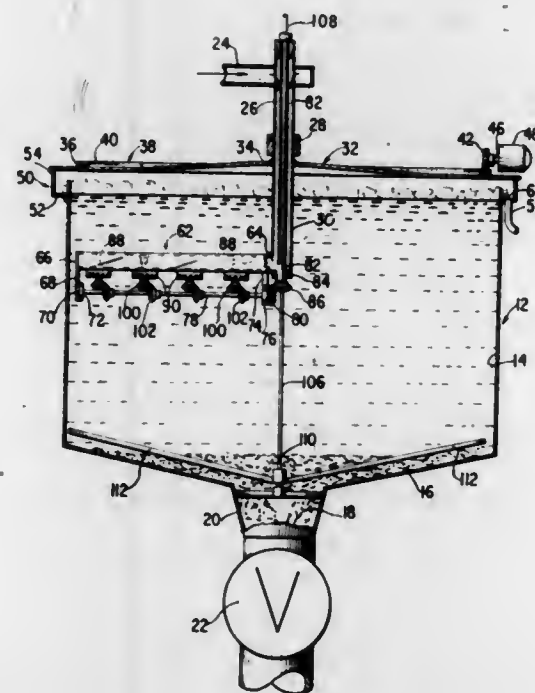
Clement W. Bowman, Edmonton, Alberta, Canada, assignor of thirty percent each to Cities Service Athabasca, Inc., a corporation of Delaware, Imperial Oil Limited, a corporation of Canada, and Atlantic Richfield Corporation, a corporation of Pennsylvania, and ten percent to Royalite Oil Company, Limited, a corporation of Canada

Filed Nov. 26, 1968, Ser. No. 779,068

Int. Cl. B01d 21/06, 21/24

U.S. Cl. 210—520

8 Claims



An apparatus for separating a hydrocarbon material, preferably bitumen, as an emulsion from bituminous tar sands is disclosed herein. The apparatus comprises a tank with a solids withdrawal port in the bottom. A rotatable central feed tube is vertically mounted in the tank and connected to a slurry of water and tar sand supply conduit at the top, with a transversely mounted distributor arm supported perpendicularly to and communicatingly connected to the bottom of the feed tube. A number of outlets are located on the underside of the distributor arm with a dispersing means mounted adjacent each outlet.

3,521,756

## COALESCING VESSEL

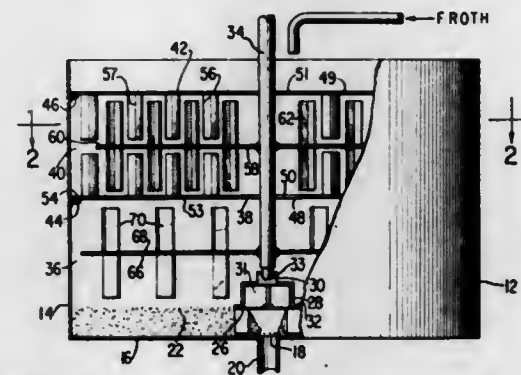
Victor P. Kaminsky, Edmonton, Alberta, Canada, assignor of thirty percent each to Cities Service Athabasca, Inc., a corporation of Delaware, Imperial Oil Limited, a corporation of Canada, and Atlantic Richfield Corporation, a corporation of Pennsylvania, and ten percent to Royalite Oil Company, Limited, a corporation of Canada

Filed June 17, 1968, Ser. No. 737,573

Int. Cl. B01d 21/14, 21/16

U.S. Cl. 210—521

5 Claims



An apparatus for the mechanical coalescing of water from a froth of bitumen and water is disclosed herein. The apparatus comprises a vertical cylindrical open top tank divided into upper and lower compartments by a lower stationary baffle horizontally mounted at a fixed height above the tank bottom, and an upper stationary baffle horizontally mounted a similar height above the lower stationary baffle. The lower face of the upper stationary baffle and the upper face of the lower stationary baffle each have mounted thereon vertically extending pickets equidistantly spaced in rows of pickets, each row radiating outwards from the center of each of the baffles where a large central circular opening is located. The bottom of the tank has centrally located withdrawal ports with a support collar mounted above the ports, the support collar rotatably supporting a vertical shaft at the bottom end hereof. Attached to the shaft at a point between the upper and lower stationary baffle is a horizontal upper rotating baffle comprising a flat circular horizontal plate with vertically mounted teeth on its upper and lower sides. The teeth are equidistantly spaced in radially extending rows to pass between the plurality of pickets as the upper rotating baffle is rotated. A second flat, horizontal circular plate is mounted on the shaft at a point midway between the lower stationary baffle and the tank bottom and has mounted on each side, a plurality of flat vertical blades. A feed conduit mounted above the tank passes froth into the tank through its open end.

3,521,757

## LAUNDRY DRIER

Johannes Liebscher, Nassau (Lahn), Germany, assignor to Gunter Leifhelt KG, Nassau, Germany

Filed Feb. 20, 1969, Ser. No. 801,025

Int. Cl. A47b 53/00

U.S. Cl. 211—1.3

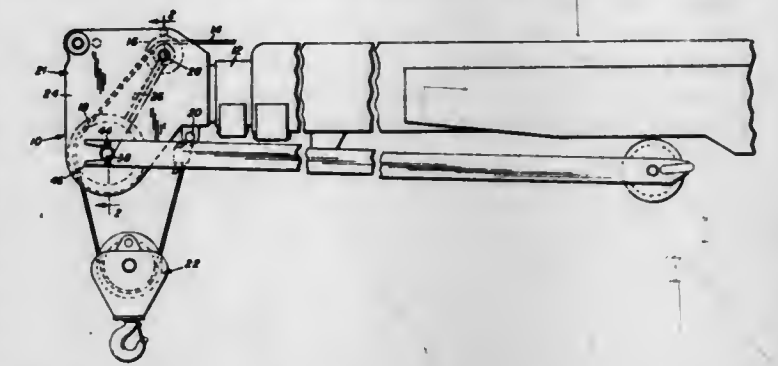
20 Claims



A laundry drier has an elongated base member and a pair of arms each turnably mounted on the base member

at one end of the latter so that they can be pivoted between an inactive position in which they parallel the base member and an active position in which they extend normal thereto. Each arm is provided with a plurality of longitudinally extending parallel grooves and in each groove a slider is mounted for longitudinal movement therein. Connecting means connects all sliders of each arm so that they move consecutively when any one is moved. Hangers extend between associated sliders of the respective arms and a rocker arrangement is provided on the base member and engages the arms when the same are moved to their inoperative position for causing them to assume predetermined relative positions, and is operative for shifting one of the arms out of its inoperative position in response to movement of the other arm beyond the inoperative position thereof.

with respect to the housing, a cable supported by the sheave for adjustably supporting the hook assembly, and



a jib having its pivot end supported on the shaft projections.

3,521,758

## EXPANSIBLE HANGER

Edward C. Guilfoyle, Sr., 1501 Miracle Mile #905,

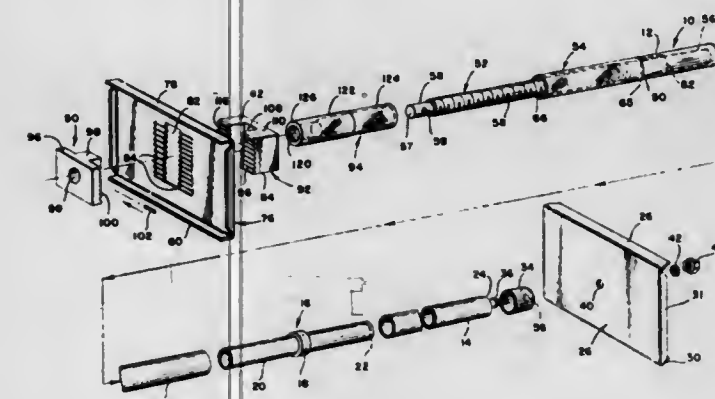
Tucson, Ariz. 85705

Filed Mar. 28, 1968, Ser. No. 716,720

Int. Cl. A47h 1/08

U.S. Cl. 211—105.4

15 Claims



An expansible hanger for supporting garment hangers or the like, is provided for substantially horizontal disposition between two horizontally-spaced support elements which may vary in elevation, such as opposing tiled bathroom walls where the rows of the tile are not in perfect vertical alignment. The hanger includes a tubular member with engaging means mounted on one end of the tubular member for engaging one of the support elements and a threaded rod mounted on the other end of the tubular member. An adjustable engaging member including a vertically extending slot is mounted on the projecting end of the threaded rod for engaging the other support element. Clamping means are provided to clamp the adjustable engaging member in a fixed vertical position relative to the end of the threaded rod.

3,521,759

## BOOM NOSE ASSEMBLY

Eugene C. Gardenhour, Waynesboro, Pa., assignor to Grove Manufacturing Company, Shady Grove, Pa., a corporation of Pennsylvania

Filed May 6, 1968, Ser. No. 726,725

Int. Cl. A47f 5/02

U.S. Cl. 212—144

1 Claim

A crane boom nose assembly for supporting simultaneously and without cable interference, a hook assembly and a jib including a housing secured to the end of the boom, a shaft through said housing having end portions projecting outwardly beyond the sides of the housing, a sheave in the housing mounted on the shaft for rotation

A workpiece transfer mechanism for indexing workpieces through the successive stations of a multi-station press, the mechanism having a reciprocating carriage with work-gripping fingers shiftable thereon in a path perpendicular to the path of travel of the carriage to and from work-gripping positions. Reciprocation of the carriage and actuation of the work-gripping members are controlled by cams rotated in synchronism with the reciprocation of the press ram. The work-gripping fingers are actuated by a rotatably supported shaft which extends parallel to the path of travel of the carriage. The latter shaft may have a spline connection with an axially fixed pinion through which the shaft slides, the pinion in turn being engaged with a gear rack having a cam follower thereon which engages the track in one of the cams. Alternatively the rotatable shaft may be fixed to the pinion and slideably engage the carriage. A lever having a fixed pivot at one end is connected directly to the carriage at its other end and a cam follower intermediate the ends of the lever engages the cam track in the other cam plate to reciprocate the carriage.

3,521,761

## WORK TRANSFER MECHANISM

Bernard J. Wallis, 25200 Trowbridge Ave., Dearborn, Mich. 48124

Continuation-in-part of application Ser. No. 770,048, Oct. 23, 1968. This application Mar. 13, 1969, Ser. No. 806,885

Int. Cl. B65g 25/02

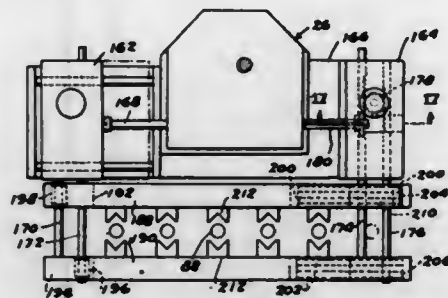
U.S. Cl. 214—1

20 Claims

A transfer mechanism for indexing workpieces through a series of successive stations in the die of a press. The



mechanism includes a pair of carriages spaced lengthwise of the die with one or both of the carriages being reciprocable in a direction lengthwise of the die. Support rods on each carriage are interconnected by a work-engaging finger bar and are reciprocable in a direction transversely of the carriage path of travel between work-engaging and retracted positions. A rotatable shaft ex-

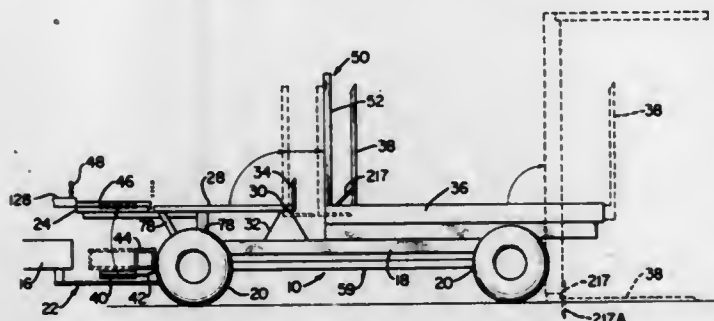


tending between the carriages is operatively connected to the support rods for actuating the finger bars. The rotatable shaft is axially fixed to the movable carriage or carriages. A drive mechanism is provided with two drive members, one of which is connected to the shaft to rotate it and the other is connected to the shaft to reciprocate it axially.

**3,521,762**  
**BALE STACKING APPARATUS**  
James C. Walters, 2326 Lowell Blvd.,  
Denver, Colo. 80211  
Filed Mar. 13, 1968, Ser. No. 712,664  
Int. Cl. B60p 1/28, 1/16

U.S. Cl. 214-6

7 Claims



Apparatus to produce butt or stack of bales with bale axes in each layer oriented to achieve best total intertie. Table on trailer receives successive bales from baler, raises each bale to level of positioning bed, and is rotatable about vertical axis to align each bale fore and aft or laterally as desired. First fences moves bale laterally to desired position. Second fence moves rearwardly to push bale onto transfer bed. Loaded transfer bed swings up to deposit the layer on the load bed. Clamp bars are used to compact the bales within each layer. When full stack is completed, load bed tilts to deposit stack upright on ground.

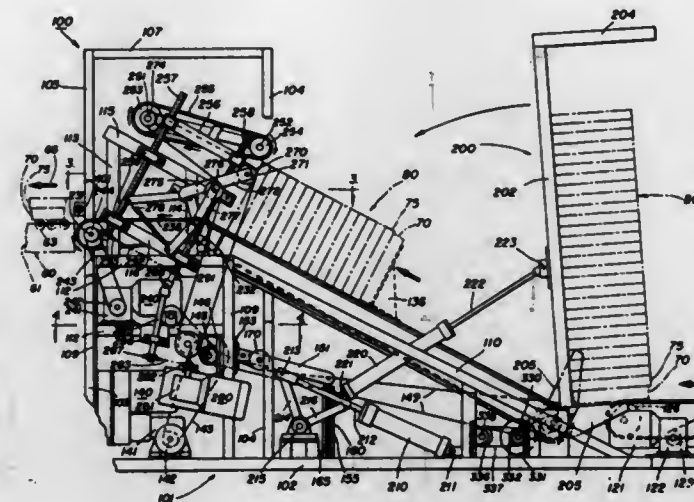
**3,521,763**  
**AUTOMATIC PAN UNSTACKER**  
Henry A. Heide, Addison, and Willis Clark Pulver, Oak  
Lawn, Ill., assignors to Veltin & Pulver, Inc., Chicago,  
Ill., a corporation of Illinois  
Filed Jan. 2, 1969, Ser. No. 788,473  
Int. Cl. D65g 47/24

U.S. Cl. 214-8.5

17 Claims

There is disclosed a machine for removing bread pans one-by-one from a stack thereof comprising an infeed conveyor, an inclined conveyor disposed adjacent to the discharge end of the infeed conveyor, a stack support

frame at the juncture of the conveyors and movable between a first position for receiving a stack of pans from the infeed conveyor and a second position for placing the stack of pans upon the inclined conveyor, lower and upper discharge conveyors for engaging respectively the lower and upper ends of the top pan on the inclined conveyor to remove the top pan therefrom, and thus to deposit the pans one-by-one sequentially on the lower dis-

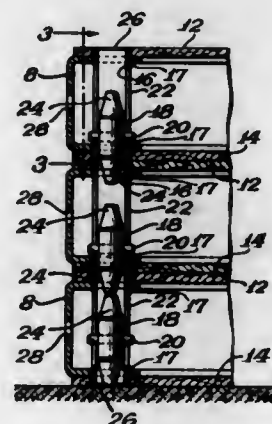


charge conveyor, drive mechanisms for the conveyors, and control mechanism responsive to the drive mechanism for the inclined conveyor to halt operation of the machine when a stack of pans on the inclined conveyor is not being readily conveyed thereby. In a modification of the invention, two of the automatic pan unstacking machines are positioned side-by-side for alternately feeding pans one-by-one to a common outfeed conveyor.

**3,521,764**  
**PALLET AND STACKING PIN**  
Russell M. Loomis, Palos Heights, Ill., assignor to  
Unarco Industries, a corporation of Illinois  
Filed June 28, 1968, Ser. No. 741,120  
Int. Cl. B65d 19/38

U.S. Cl. 214-10.5

7 Claims



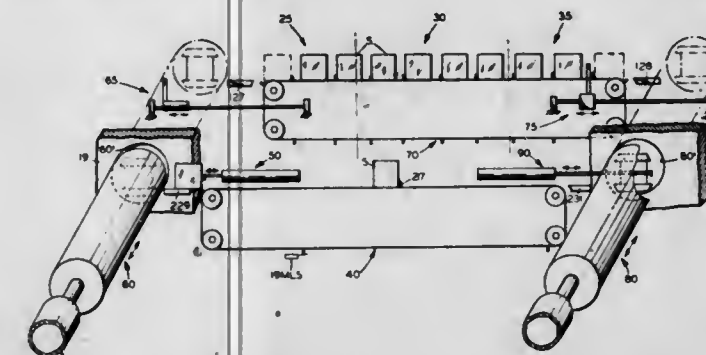
A stacking pin construction for preventing movement of vertically stacked pallets or the like includes a tubular guide socket extending through the thickness of each of the panels and opening to its opposite faces. A tapered pin is slideably disposed within the tubular socket and carries a pair of removable projecting arms which extend through elongated slots in the socket. The pin is adapted to assume a first position in which the pin is entirely contained within the tubular guide and is adapted to move to a second position by gravity in which a portion of the pin extends beyond one of the faces of the pallet

and into the opening of the tubular guide of the next adjacent pallet for aligning the pallets and preventing their movement relative to each other.

**3,521,765**  
**CLOSED-END MACHINE FOR PROCESSING ARTICLES IN A CONTROLLED ATMOSPHERE**  
Ronald D. Kauffman, Bethlehem, Robert K. Miller, Macungie, and Frank J. Viola, Bethlehem, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York  
Filed Oct. 31, 1967, Ser. No. 679,383  
Int. Cl. C23c 15/00

U.S. Cl. 214-17

32 Claims

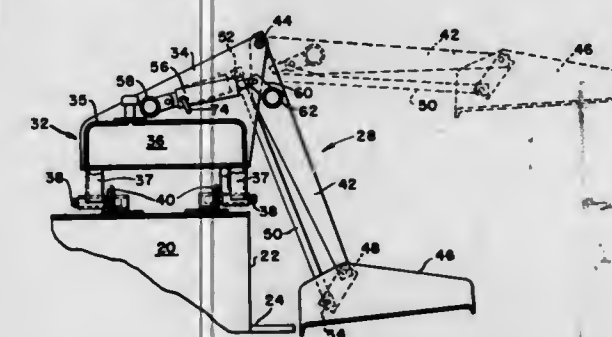


An apparatus for depositing a metallized coating onto the surface of a substrate includes a sputtering chamber containing a controlled atmosphere through which the substrates are continuously advanced by an internal conveyor. The sputtering apparatus is provided with entrance and exit transfer and lock units which are located adjacent opposite ends of the internal conveyor. Each transfer unit has a transfer member mounted for reciprocation between a first position outside the chamber to a second position inside the transfer and lock unit. Internal and external sealing means are provided for each transfer unit to allow substrates to be moved into and out of the sputtering chamber without disturbing the controlled atmosphere maintained therein, and feed mechanisms are provided for transferring substrates between the entrance and exit transfer members and the internal conveyor.

**3,521,766**  
**BALE THROWER**  
Gust Soteropoulos and Theodore Marion Barnes, Ottumwa, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware  
Filed Sept. 3, 1968, Ser. No. 756,886  
Int. Cl. B65g 67/22, 31/00

U.S. Cl. 214-42

9 Claims



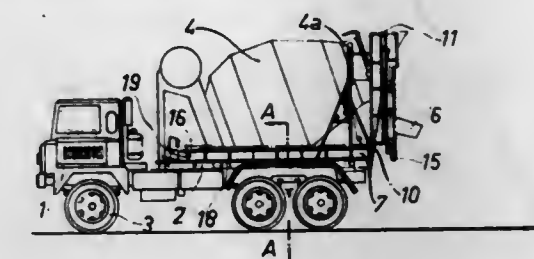
A pull-type pickup baler has a fore-and-aft bale case with a rearward discharge opening. A bale thrower is mounted on the baler and includes a horizontal pan which receives successive bales discharged from the bale case. The pan is mounted on a pair of swingable arms, which are actuated by a hydraulic cylinder and swing the pan upwardly and rearwardly when the bale moves onto the pan, to accelerate the bale so that its momentum carries it into a trailing bale-receiving vehicle.

**3,521,767**  
**VEHICLE FOR THE TRANSPORT OF A ROTATING MIXER, OR THE LIKE, PROVIDED WITH CONTINUOUS CONVEYOR**  
Lionello Rossi, Via Tiburtina Km. 16,500, Rome, Italy  
Filed Jan. 24, 1968, Ser. No. 700,220  
Claims priority, application Italy, Jan. 26, 1967, 34,394/67

Int. Cl. B60p 1/36, 3/16

U.S. Cl. 214-83.26

8 Claims



The invention relates to a container transporting vehicle adapted to contain and dispense loose or plastic materials having a conveyor including a plurality of sections over which is entrained an endless belt and wherein the sections are so interconnected one with another as to permit a folded and juxtaposed relationship for retraction with respect to the vehicle and positioned along a lateral side of the vehicle. The conveyor is so mounted and arranged as to permit pivoting thereof both in a horizontal and vertical plane to any desired angular position for ultimate dispensing of the material. The conveyor when not in use is positioned to provide minimum extension beyond the vehicle and can be quickly disposed in a working position for conveying of material over considerable distances along horizontal or inclined paths as well as along paths forming an angle with respect to the longitudinal vertical center plane. The arrangement and construction of the conveyor being such that normal dispensing operation of the container is permissible during inactivation of the conveyor and inoperability thereof.

**3,521,768**  
**SUPPORT FOR A GRAIN TANK DISCHARGE PIPE**  
Helmuth Rohwedder, Mittelbach, Germany, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

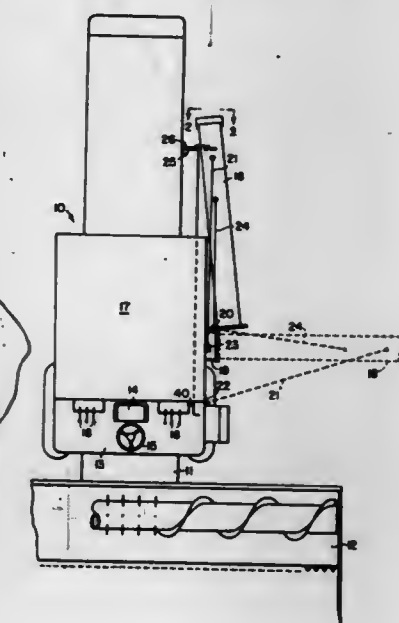
Filed Feb. 3, 1969, Ser. No. 795,984

Claims priority, application Germany, July 2, 1968, 1,757,962

Int. Cl. B60p 1/42; B65g 21/02

U.S. Cl. 214-83.26

6 Claims



An arm pivotally mounted to the side of a combine carries a cradle at one end to receive and support the

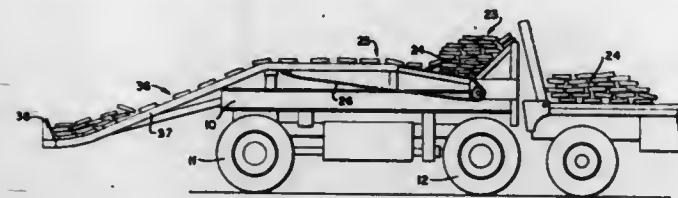


combine grain tank discharge pipe when the pipe is moved to a transport position. The arm is movable between upper and lower positions in which the cradle is open upwardly and open at approximately a 45° angle from the vertical, respectively. As the pipe is moved to the transport position, it moves into the cradle and moves the arm to the upper position where the arm is automatically locked against movement. A spring acts against the arm to return the arm to the lower position when the lock is released.

**3,521,769**  
**MACHINES FOR MAKING BOARD ROADS**  
Troy A. Caperton, 327 Julia St.,  
Thibodaux, La. 70806  
Filed Nov. 15, 1968, Ser. No. 776,215  
Int. Cl. B60f 1/38

U.S. Cl. 214—83.36

1 Claim

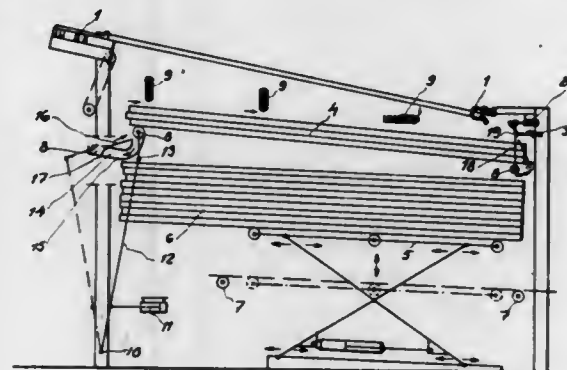


The machine of this disclosure is directed to a vehicle which receives bundles of boards of the type 3" x 8" x 14' for building board roads through marsh preparatory to establishing an oil well drilling rig. The machine is independently self-propelled and has a storage area for board bundles, a transfer and metering area and finally a board distribution area where workmen may pick up the boards in metered quantities and lay them. The prime mover may be either a diesel or gasoline engine which drives a hydraulic system which in turn controls all operations of the machine.

**3,521,770**  
**METHOD FOR FORMING A BUNDLE OF SAWN OR PLANED BOARDS OR PLANKS, SORTED AS TO LENGTH**  
Onni I. Rossi, Kaskinen, Finland, assignor to Oy. Tahka AB., Kaskinen, Finland, a corporation of Finland  
Filed Aug. 27, 1968, Ser. No. 755,626  
Claims priority, application Finland, Sept. 5, 1967, 2,384/67  
Int. Cl. B65g 57/22

U.S. Cl. 214—152

5 Claims



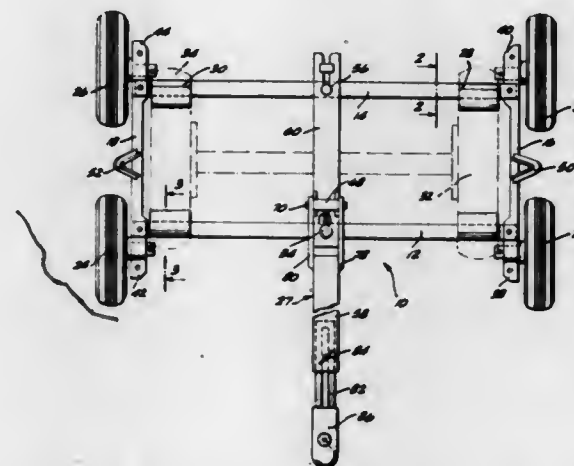
A method for forming a bundle of sawn or planed boards or planks, sorted as to length and conveyed in their transversal direction to be dropped from the transverse conveyor to constitute a pile providing a portion of the height of the finished bundle and having the width of one board or plank, this pile is thereafter pushed sideways and another pile is thereafter formed at the evacuated site, this second pile is similarly pushed sideways together with the first formed pile, and this is continued

until the piles situated adjacent each other constitute a partial bundle having the width of a complete bundle. The partial bundle is thereafter transferred vertically so as to permit the formation of the next partial bundle, which thereafter is similarly transferred vertically along with the previous partial bundle and this is continued until the bundle reaches its desired height, whereafter the thus formed bundle is transferred to the next following handling step for example, a tying step.

**3,521,771**  
**DOLLY**  
Charles P. Nowell, 7305 El Dominio, Buena Park, Calif. 90620, and Aubrey S. Nowell, 832 Felicidad St., Anaheim, Calif. 92801  
Filed Oct. 16, 1968, Ser. No. 767,974  
Int. Cl. B60b 37/00

U.S. Cl. 214—331

10 Claims

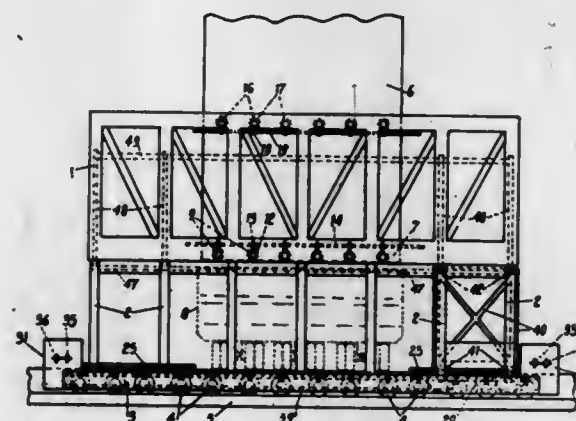


The dolly is sectionalized so that cross rails can be placed under the disabled vehicle, the end pieces installed thereon and then the dolly is jacked up for installation of its dolly wheels. A tow bar is pivotally attached by vertical pins to each of the cross pieces at its center, and at its forward end is attachable to the towing ball on a towing vehicle. The cross pieces are attached to the end pieces by vertical pins so that the dolly is steerable in accordance with the direction it is pulled by the towing vehicle.

**3,521,772**  
**METHOD AND AN APPARATUS FOR DISPLACING A HEAVY LOAD TO A FOUNDATION**  
Adrianus E. Q. van Hezik, Staringsstraat 11, Nijmegen, Netherlands  
Filed Dec. 7, 1967, Ser. No. 688,827  
Claims priority, application Netherlands, Dec. 23, 1966, 6618076  
Int. Cl. B66f 3/18

U.S. Cl. 214—390

9 Claims



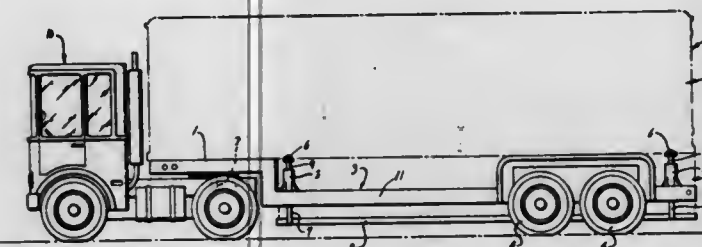
A pair of jack assemblies are adapted to straddle a load. Each assembly includes a base and a jack frame, the base being supported by wheels and drive mechanism

being provided for the wheels to travel the jack assemblies and the load supported between them to a point of destination for the load and drive mechanism also being provided to lift the jack frames on the bases. A bridge interconnects the bases of the jack assemblies to stabilize them and it is movable along the jack assemblies from one end to the other beneath the load which is attached to and elevated by the jack frames. The bridge carries coupling shafts which are aligned with the drive mechanisms of the jack assemblies at either of opposite end positions of the bridge so that lifting and travelling movements of the two jack assemblies are coordinated.

**3,521,773**  
**TRAILER WITH PORTABLE CONTAINERS**  
Harold R. Geister, 5 Pigeon Hollow Road,  
San Rafael, Calif. 94901  
Filed July 15, 1968, Ser. No. 744,823  
Int. Cl. B60p 1/64

U.S. Cl. 214—390

4 Claims

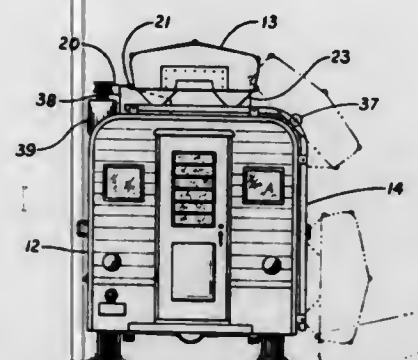


A combination of a truck trailer with a container for cargo provides for picking up and dropping off of the container from the trailer as well as for holding the container in position during transportation. The combination also provides for advantageous loading and unloading and eliminates the need for multiplicity of trailers.

**3,521,774**  
**LOADING APPARATUS FOR VEHICLES**  
Kenneth A. Raypholtz, Marion, Ind.  
(W. Sycamore St., Silver Lake, Ind. 46982)  
Filed July 10, 1968, Ser. No. 743,885  
Int. Cl. B60r 9/08

U.S. Cl. 214—450

4 Claims



Apparatus for loading onto and unloading from vehicles, objects such as boats, utilizing a channel-track, a carriage traveling on wheels in the track, a cable and winch for lifting and lowering the object, and means for securing the object in position on top of the vehicle.

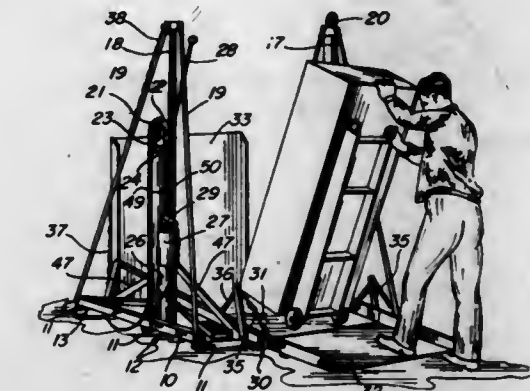
**3,521,775**  
**PORTABLE POWER LIFT**  
Howard H. Vermette, 7 143rd St.,  
Hammond, Ind. 46320  
Filed Aug. 16, 1968, Ser. No. 753,293  
Int. Cl. B60p 1/02; B66b 9/20

U.S. Cl. 214—512

4 Claims

A portable power lift comprising a frame having retractable casters and a platform movable vertically on the

frame by a hydraulic hoist. The casters are retracted automatically as the platform is raised and may be extended as the platform approaches ground level. A dock board and ramp at opposite ends of the platform are tied together by connecting rods that raise one of these members as the other member is lowered. Both the dock board and ramp may be down at the same time to allow the platform to be used as a bridge. The lifting force is applied to the

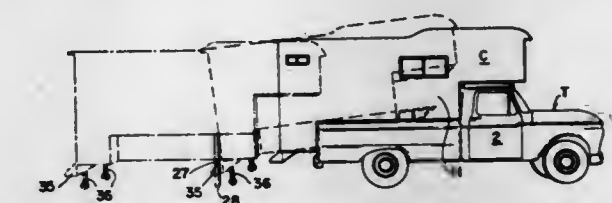


platform by cables attached to opposite sides of the platform. The arrangement of the cables prevents the platform from tilting or binding relative to the frame. A safety catch mounted on opposite sides of the platform prevents the platform from falling if either cable breaks. The hydraulic hoist has a gage adapted to measure the oil pressure. The dial of the gage is calibrated in pounds or grams to indicate the weight of the load directly.

**3,521,776**  
**DEVICE FOR LOADING AND UNLOADING SLIDE-IN TYPE CAMPERS AND THE LIKE**  
Hazen Vere Talbot, 301 S. 98th St., Mesa, Ariz. 85201  
Filed Mar. 10, 1967, Ser. No. 622,167  
Int. Cl. B60p 1/32, 3/38

U.S. Cl. 214—516

10 Claims



A vehicle such as a pickup truck having a generally horizontal bed, a rotatable toothed element such as a sprocket having a shoulder on each side of the teeth and centrally mounted on the vehicle at an edge of the bed, means for rotating such element and moving an object such as a camper adapted to be loaded onto the bed from a position with an undersurface thereof generally horizontal at a level below that of the bed, the object having a rack whose width is sufficient to engage each sprocket shoulder and which is inclined to the horizontal when the object is in said position, said element meshing with the rack so that upon rotation of said element it will traverse the rack and the vehicle and the object will be drawn together and the object will be moved relatively to the vehicle toward a position atop the bed. The inclined rack may be on a bracket swingable between horizontal operative position and transverse inoperative position. The inclined rack merges with a similar longitudinal rack on the bottom of the object. One form of supporting leg may be applied to the side of the object with a projection underlying the object to which the load is carried through the bottom of the object; the leg may be removed and turned through 90° and reapplied to the



side of the object when not in use. Another form of supporting leg has a roller at its lower end and is carried by a bumper at the rear of the object, which in this case is a camper, and may be swung up in a transverse plane to inoperative position when not in use.

### 3,521,777 SHIPPING DRUM PALLET WITH ANNULAR FORK RECEIVING MEANS

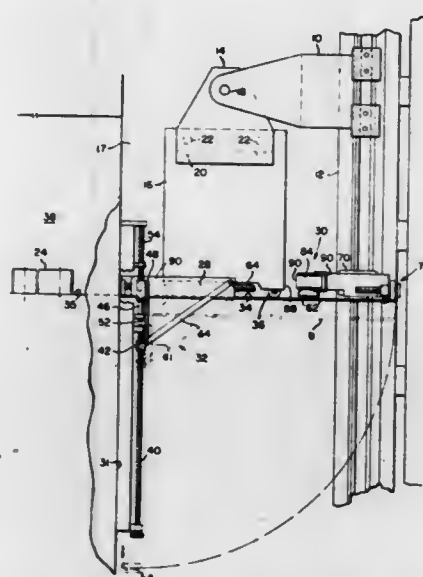
Albam M. Vik, New Brighton, Minn., assignor to Inventors Engineering Inc., Fridley, Minn., a corporation of Minnesota  
Filed Oct. 9, 1967, Ser. No. 673,609  
Int. Cl. B65d 19/08, 19/40  
U.S. Cl. 214-621 2 Claims



A pallet for facilitating the handling of shipping containers such as steel drums with a fork lift truck including in its construction an upper drum engaging element which is fastened to the bottom of the drum and an annular horizontally disposed recess below the drum engaging element to receive the forks of the lift truck from any side of the drum. Below the annular recess is provided a base which is preferably of just the proper size to fit onto the top of a similar drum to facilitate stacking.

### 3,521,778 VEHICLE WITH EXTERNAL LOADING AND UNLOADING MEANS

Thomas P. Howard, Ashland, Mass., assignor, by mesne assignments, to Sybron Corporation, Rochester, N.Y., a corporation of New York  
Filed July 22, 1968, Ser. No. 746,409  
Int. Cl. B65g 47/00  
U.S. Cl. 214-624 8 Claims

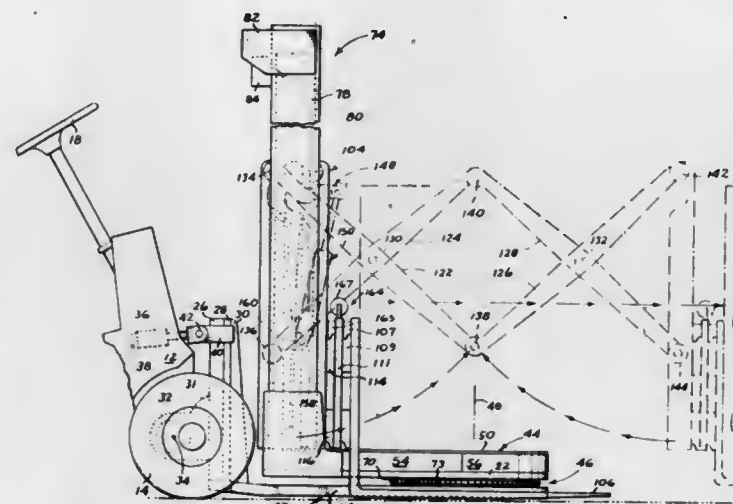


Apparatus for loading or unloading wheeled containers from a monorail guided, self-propelled transporter includes: a platform, pivoted adjacent the monorail track for unnesting containers from the transporter and supporting the containers at floor levels; a shuttle for engaging and ejecting containers from the platform and onto the floor, the driving face of the shuttle being a conveyor which includes an endless belt running over magnets for attraction and holding containers against the belt to eject containers laterally away from the shuttle; and a wall

mounted receiving conveyor also comprising an endless belt running over magnets for moving ejected containers to a point removed from the shuttle.

### 3,521,779 LIFT TRUCK WITH A ROTATING MAST MOUNTED ON A SUBFRAME

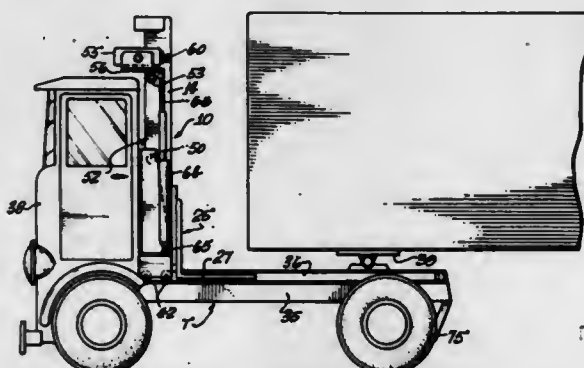
Robert C. Warren, Portland, Stanley E. Farmer, Gresham, and Gaylord G. Baughman, Troutdale, Oreg., assignors to Cascade Corporation, Portland, Oreg., a corporation of Oregon  
Filed Mar. 18, 1968, Ser. No. 713,815  
Int. Cl. B65g 47/00  
U.S. Cl. 214-671 8 Claims



A lift truck including a wheel-supported vehicle frame, and a subframe disposed adjacent the ground mounted on the vehicle frame and extending forwardly of the wheels that support the frame's forward end. Means mounts the subframe on the vehicle frame enabling its tilting about a horizontal axis extending transversely of the vehicle's longitudinal axis. A turntable on the subframe is rotatable about a substantially upright turn axis. Mounted on the turntable is an upright mast assembly which is disposed in a position offset laterally from the turn axis. A carriage supported on the mast assembly mounts extensible reach mechanism carrying a pair of lift forks. With the reach mechanism contracted, the forks have opposite extremities located on opposite sides of the turn axis, whereby such axis projects up through a load supported on the forks.

### 3,521,780 TRUCK-MOUNTED LIFTING DEVICE

Harold E. Cook, P.O. Box 71, Bell, Calif. 90201  
Filed Aug. 14, 1968, Ser. No. 752,516  
Int. Cl. B65g 47/00  
U.S. Cl. 214-674 6 Claims

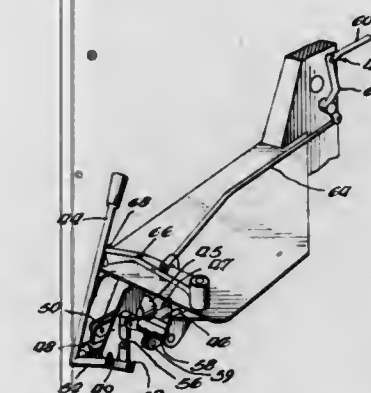


A novel combination of a fork lift with a tractor for hauling semi-trailers is provided in which the fork lift is movable from a carrying position behind the cab to an operating position at the rear end of the trailer while

keeping the mast of the fork lift in an upright position. The result is a simple, rugged construction which eliminates many of the complex motions and mechanisms characterizing earlier devices.

### 3,521,781 ANTI-ROLLBACK MECHANISM

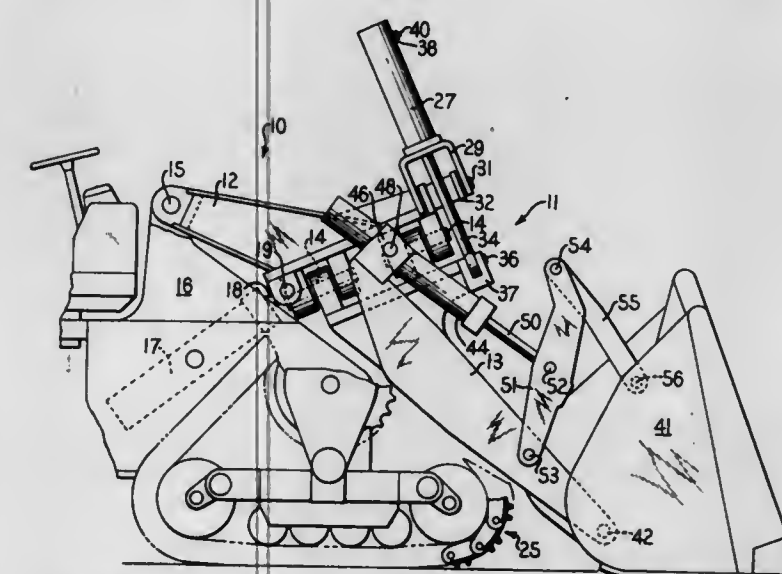
David J. Holsinger, El Segundo, Calif., Quintin N. Rottering, Newton, Iowa, Pinnamaneni Venkata Narayana Rao, Bapatla, Andhra Pradesh, India, and Donald D. Ficken, Dallas, Tex., assignors to J. I. Case Company, a corporation of Wisconsin  
Filed Sept. 26, 1968, Ser. No. 764,373  
Int. Cl. E02f 3/28  
U.S. Cl. 214-764 13 Claims



A loader unit mounted on a tractor and including pivotally mounted lift arms pivotally carrying a bucket and all controlled by a hydraulic circuit including a lift arm control cylinder and a bucket control cylinder. The hydraulic control circuit incorporates a lift arm control valve spool and a bucket control valve spool operable by a single control lever. The loader unit also includes a mechanical return to dig linkage having a latch engageable with the single control lever to hold said lever in bucket rollback position to roll back the bucket into a dig position as said arm is lowered and further includes means coupled to the return to dig mechanical linkage for preventing movement of said lever into the bucket rollback position when the bucket and arm is in position to permit rearward dumping of the bucket.

### 3,521,782 SWINGING BUCKET LOADER

Robert A. Peterson, San Leandro, Calif., and Robert N. Stedman, Chilleothe, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California  
Filed Nov. 14, 1968, Ser. No. 784,983  
Int. Cl. E02f 3/70  
U.S. Cl. 214-768 11 Claims

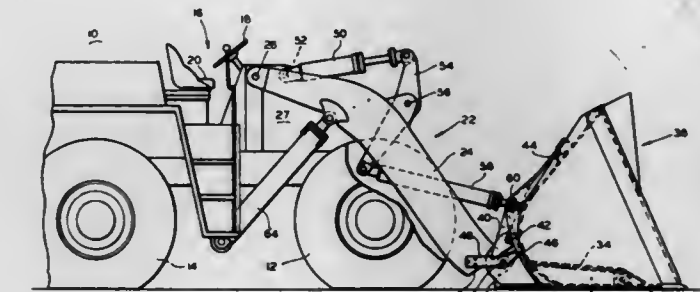


A loader comprises an articulated lift arm having a rear section pivotally mounted for vertical movements on

a tractor. A loader bucket is pivotally mounted on a forward end of the lift arm's front section for earth loading purposes. Actuating means are provided for pivoting the front section laterally relative to the rear section to discharge a load from the bucket to either side of the tractor.

### 3,521,783 HIGH LIFT BUCKET

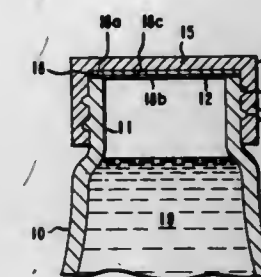
Paul F. McAdams, St. Joseph, Mich., assignor to Clark Equipment Company, a corporation of Delaware  
Filed Jan. 17, 1969, Ser. No. 792,040  
Int. Cl. E02f 3/04  
U.S. Cl. 214-780 10 Claims



A loader apparatus for a tractor shovel or loader. At the outer end of an elevatable boom is a carrier member. A bucket is pivotally mounted on the carrier member and is normally latched to the carrier member. Means are provided responsive to initial dumping movement for unlatching the bucket from the carrier member and pivoting it about the outer end of the carrier member to provide greater height and reach for dumping.

### 3,521,784 CLOSURE-CAP HAVING VENTING GASKET

Robert B. Gaines, Wilmington, Del., and John A. Hayes, Philadelphia, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Filed Nov. 29, 1968, Ser. No. 779,704  
Int. Cl. B65d 51/16, 53/00  
U.S. Cl. 215-56 19 Claims



There is disclosed a novel closure-cap, and an article in which said closure-cap is combined with a container to provide improved means for packaging, storing and shipping aqueous bleach compositions and other liquids which, when packaged in conventional containers, tend to develop harmful pressure differentials or leaking of the liquids from the closed containers; the novel closure-cap contains a sealing member such as a disc comprised of a particular nonwoven fibrous sheet of continuous strand material, and preferably also comprised of an upper layer of porous polymer-bonded asbestos fiber sheet material.



3,521,785

## INTERLOCKING HOLDING DEVICES

Wilhelm Bergmann and Dieter Soelter, Hamburg, Germany, assignors to Eppendorf Geratebau Netheier and Hinz GmbH, Hamburg, Germany

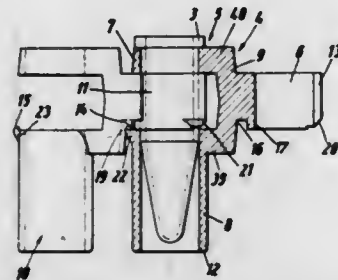
Filed June 18, 1968, Ser. No. 738,072

Claims priority, application Germany, June 22, 1967, 1,575,122

Int. Cl. B65d 21/02; B011 9/00

U.S. Cl. 220—23.4

12 Claims



These uniquely designed devices have adjacent shoulders with apertures for holding small cylindrical vessels in parallel. When used in combination, the vessels act as axes and linking pins about which the devices may pivot. Means are also provided to secure adjacent devices against lateral separation even in the absence of vessels.

3,521,786

## PRESSURE VESSEL HAVING FRANGIBLE OPENING MEANS

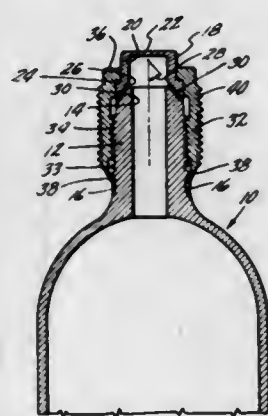
Herbert G. Bock, Farmington, and Walter J. Szerejko, Newington, Conn., assignors to Chandler Evans Inc., West Hartford, Conn., a corporation of Delaware

Filed Sept. 10, 1968, Ser. No. 758,904

Int. Cl. B65d 17/00

U.S. Cl. 220—27

4 Claims



A metal high pressure gas storage vessel has a threaded neck adapted to engage a threaded cap such that both cap and neck sealingly bear against an interposed seal element. The seal and cap are loosely assembled with the empty bottle and placed in a fluid tight filling fixture whereupon highly pressurized gas is introduced to the fixture, causing the bottle to fill by leakage between the loosely engaged threads. Then the cap is tightened and the fixture is vented prior to removal of the filled bottle. To lock the cap against rotation, the cap is locally upset into grooves in the neck after the acceptability of the charge has been verified.

3,521,787

## REFUSE CONTAINER COVER REMOVER

Elmore J. Madere, Rte. 1, Box 1194-D, Reserve, La. 70084

Filed Jan. 22, 1969, Ser. No. 793,051

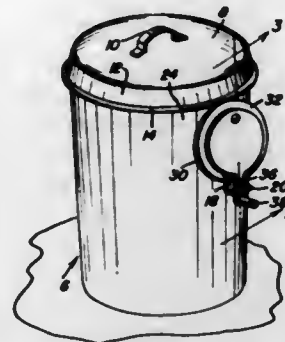
Int. Cl. B65d 43/04

U.S. Cl. 220—43

7 Claims

For use on an outdoors-type refuse container having a friction-retained lid or cover, a cover lifting, dislodging and freeing attachment characterized in part by an adapter

bracket having a fixed pivot pin on which a handle-equipped cam is operatively mounted. A marginal edge of the cam has camming contact with the usual overhang-



ing bead on the rim-flange of the cover. By catching hold of and turning the handle in an orbital path, the resulting action lifts the cover to an easily removable position.

3,521,788

## FOOD CONTAINER

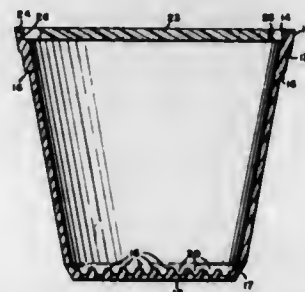
Gerald J. Kandel, Paul H. Carter, and Herbert M. Bank, Baltimore, Md., assignors to Maryland Cup Corporation, Owings Mills, Md., a corporation of Maryland

Filed Nov. 12, 1968, Ser. No. 774,621

Int. Cl. B65d 1/22, 21/00

U.S. Cl. 220—72

5 Claims



A container for hot food for the carryout trade is provided of thermally insulated material such as foamed polystyrene. The container is of conventional inverted frusto-conical shape to permit group nesting. The upper rim is offset outwardly to provide a downwardly facing shoulder at the outside and an upwardly facing shoulder on the inside. Projections in spaced circumferential relation are disposed below the downwardly facing shoulder to contact the upwardly facing shoulder of a nested container and thereby hold the adjacent side walls of juxtaposed containers against wedging engagement. Also it permits separation when desired by avoiding a suction between the container. The upwardly facing shoulder also acts as a rest for a lid for the container which may have vents to permit the escape of steam and to serve as finger holes for removing the lids when access to the interior of the container is desired. The side wall at the bottom is also beveled further to prevent wedging of nested containers. The bottom wall comprises upward projections such as ridges or fingers to support the contents off the bottom in an elevated position and to permit air to circulate below the food as well as to function as a sump to collect fat drippings.

3,521,789

## HANDLING FLUID MATERIALS

August L. Kraft, Roselle Park, N.J., assignor to Automatic Process Control, Inc., Union, N.J., a corporation of New Jersey

Filed Feb. 20, 1968, Ser. No. 706,959

Int. Cl. B67d 5/08

U.S. Cl. 222—1

10 Claims

A method and apparatus for effecting withdrawal of a liquid from a vessel is disclosed whereby liquid from the vessel is introduced into an associated chamber which

## ERRATUM

For Class 222—1 see:  
Patent No. 3,521,789

3,521,791

## BEVERAGE DISPENSING DEVICE

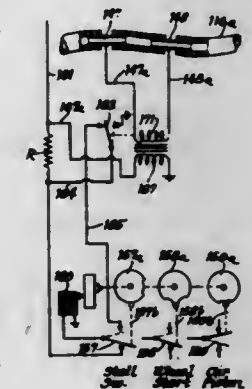
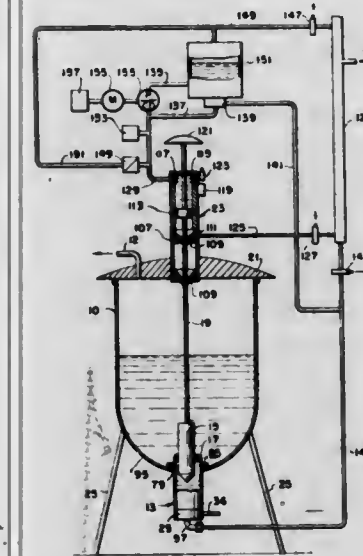
William G. Freise and Benjamin M. Przybyszewski, Chicago, Ill., assignors, by mesne assignments, to Paymax Syrup Corporation, Chicago, Ill., a corporation of Illinois

Original application Aug. 3, 1965, Ser. No. 476,977, now Patent No. 3,421,430, dated Jan. 14, 1969. Divided and this application Apr. 12, 1968, Ser. No. 769,457

Int. Cl. B67d 5/14

U.S. Cl. 222—64

1 Claim



Included within the scope of the invention is a system (FIG. 5) including a plurality of vessels and associated discharge chambers which operate together. The vessel, with which the metering apparatus is combined, can be a liquid degassing vessel (FIG. 7) and the degassing vessel can be heated by a helically wound heating element controlled by a helically wound temperature sensing element.

Alternately, the metering system can be combined with a melting vessel (FIG. 4) having a temperature controlled grid.

A beverage dispensing machine has an urn with a discharge conduit having a pair of spaced electrodes therein. When no liquid is present to complete a circuit between the electrodes, a coil is deenergized to prevent further dispensing.

3,521,790

## CONVEYOR-TYPE CELLULAR MAGAZINE DISPENSER

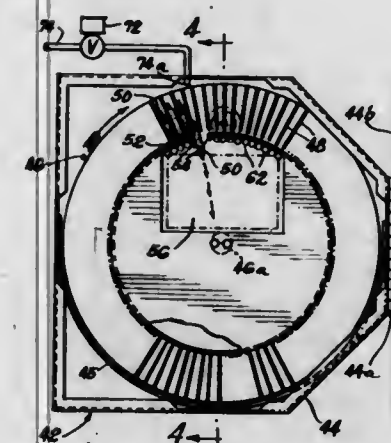
William G. Freise and Benjamin M. Przybyszewski, Chicago, Ill., assignors, by mesne assignments, to Paymax Syrup Corporation, Chicago, Ill., a corporation of Illinois

Original application Aug. 3, 1965, Ser. No. 476,977, now Patent No. 3,421,430. Divided and this application Apr. 12, 1968, Ser. No. 769,458

Int. Cl. G07f 11/16

U.S. Cl. 221—81

2 Claims



3,521,792

## DISPENSING ACTUATOR FOR COMPONENT PRESSURE CANS

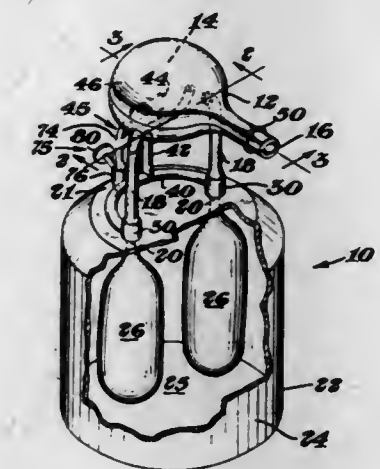
William G. Davidson, Zionsville, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Apr. 1, 1968, Ser. No. 717,877

Int. Cl. B65d 83/14

U.S. Cl. 222—136

8 Claims



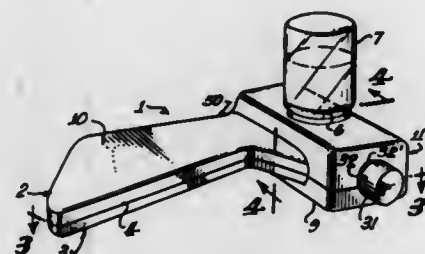
This invention relates to a liquid dispensing device for beverages and, more particularly, to a liquid dispensing device that enables the individual brewing of beverages.

A dispensing actuator for multiple component pressure cans having a plurality of dispensing valves, the actuator having conduits adapted to direct dispensed ingredients to a mixing chamber and a dispensing nozzle at another end of the mixing chamber.



**3,521,793**  
**MERCURY DISPENSER**  
 Robert C. McShirley, 6535 San Fernando Road,  
 Glendale, Calif. 91201  
 Continuation-in-part of application Ser. No. 691,582,  
 Dec. 18, 1967. This application June 6, 1969, Ser.  
 No. 840,094

Int. Cl. G01f 11/10  
 U.S. Cl. 222-216

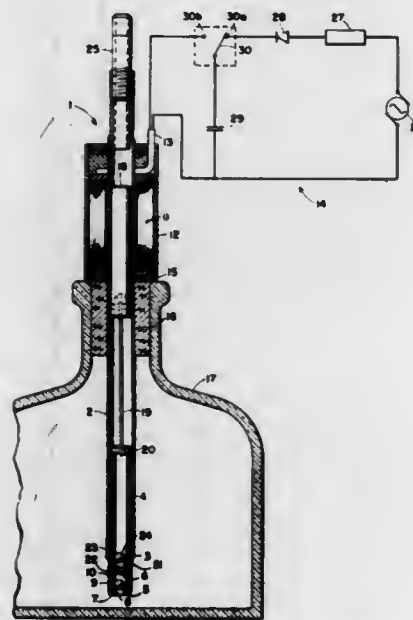


A hand held dispenser for dispensing a predetermined amount of mercury is disclosed. The dispenser is particularly suitable for use in dental work where an exact amount of mercury must be measured for use in an amalgam. A cavity of predetermined volume is formed below a sealed container of mercury. The cavity, once filled with mercury, is laterally moved into communications with an outlet port where the cavity is closed, discharging the mercury. The cavity is never filled with air thus preventing the contamination of the cavity by the air associated with prior art mercury dispensers.

**3,521,794**  
**AMMONIA PUMP**  
 Dingeman Bijl, Rotterdam, Netherlands, assignor to  
 GAF Corporation, New York, N.Y., a corporation  
 of Delaware  
 Filed Aug. 1, 1967, Ser. No. 657,603  
 Int. Cl. G01f 11/06

U.S. Cl. 222-309

7 Claims

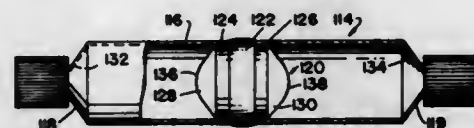


This invention relates to an electromagnetic pump for supplying an intermittent quantity of liquid ammonia to a diazo developing machine. The pump includes a slidable piston adapted to be actuated by the armature of an electromagnet. The coil of the electromagnet is intermittently energized solely by a capacitor discharge circuit responsive to a selective microswitch, the latter of which is controlled by operation of the developing machine.

**3,521,795**  
**FULL DISCHARGE DISPENSING CONTAINER**  
 Henrik G. Langhjem, Southfield, Finn Bergshagen,  
 Birmingham, and Kenneth A. Hutchinson, Livonia,  
 Mich., assignors to Bahl Associates, Birmingham,  
 Mich., a co-partnership  
 Filed Mar. 4, 1968, Ser. No. 710,169  
 Int. Cl. B67d 5/42

9 Claims U.S. Cl. 222-386

11 Claims

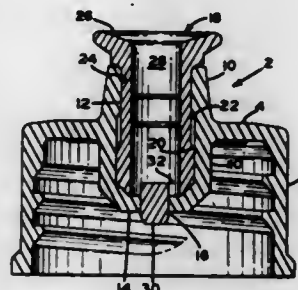


A dispenser and method are provided for dispensing fluid materials, such as pastes and liquids, by displacement from a tubular body. The dispenser comprises a tubular body fabricated of a flexible plastic material. A dispensing opening is provided at one end and a plunger element is provided within the body. The plunger element preferably has a spherical portion which contacts the interior surface of the tubular body and is constructed as a rigid or semi-rigid element. The major diameter of the spherical portion is greater than the diameter of the tubular body. Consequently, the tubular body is stretched outwardly and is in sealing engagement with the plunger. The plunger is manipulated by external pressure applied to the tubular body. Movement of the plunger towards the dispensing opening causes fluid material to be dispensed out the opening. The plunger is self-lubricating, the spherical nature thereof resulting in sufficient pivoting so that surfaces of the plunger and the walls of the tube are coated with the fluid material which acts as a lubricant.

**3,521,796**  
**SLIDING PLUNGER DISPENSING CLOSURE**  
 Gerald L. Roy, Lancaster, Pa., assignor to Armstrong  
 Cork Company, Lancaster, Pa., a corporation of Penn-  
 sylvania  
 Filed June 10, 1968, Ser. No. 735,866  
 Int. Cl. B65d 4/28

U.S. Cl. 222-525

1 Claim



A closure for a container embodying a dispensing plunger. The plunger located in the center of a closure is movable between an upward position and a downward position. When the plunger is in the downward position, the exit port is sealed. When the plunger is in its upward position, the exit port of the plunger is open and liquid may be dispensed.

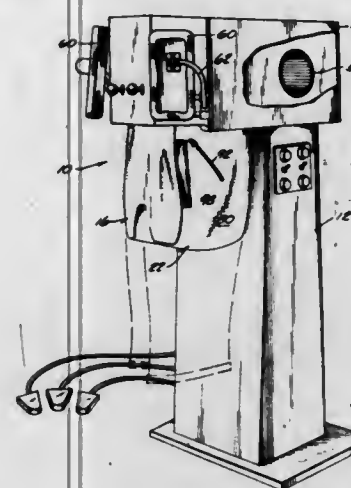
**3,521,797**  
**PANTS TOPPER AND IMPROVED BAG AND MOUNTING THEREOF**  
 Norman A. Buckley, Wauwatosa, Wis., assignor to  
 McGraw-Edison Company, Elgin, Ill., a corpora-  
 tion of Delaware  
 Filed May 22, 1969, Ser. No. 826,933  
 Int. Cl. D06c 5/00

U.S. Cl. 223-73

10 Claims

A pants topper having a buck and waist expander covered by a porous bag and over which a pair of pants to be finished is dressed, the bag including side sections

having vents therein located adjacent the side edges of the buck operable to permit air and/or steam within the bag to escape to inside the pants dressed over the bag, and bag collapsing structure supported by the waist expander

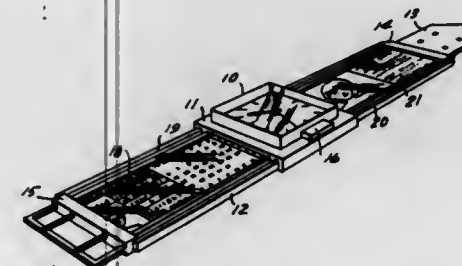


in a manner to swing freely toward the buck but being restrained from swinging away from the buck whereupon retracting movement of the waist expander simultaneously collapses the bag.

**3,521,798**  
**WRIST FRAME**  
 Delmer James Hill, Grosse Pointe Woods, Mich.  
 (3133 Cortland Drive, Vestal, N.Y. 13850)  
 Filed Jan. 12, 1968, Ser. No. 697,416  
 Int. Cl. A44c 5/00

U.S. Cl. 224-4

4 Claims

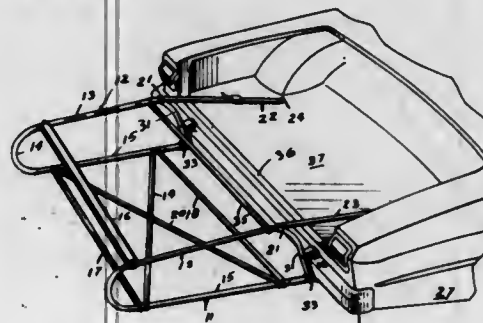


A hollow transparent watchband for displaying an insert such as a photograph or the like. A pair of buckle members are mounted on the band's ends to enclose the contents, and are removable to allow replacement of the contents.

**3,521,799**  
**AUTO CARRIER**  
 Albert A. Rundel, R.D. 1, Saegertown, Pa. 16433  
 Filed Aug. 28, 1967, Ser. No. 663,768  
 Int. Cl. B60r 9/06; B60p 3/10

U.S. Cl. 224-42.07

5 Claims



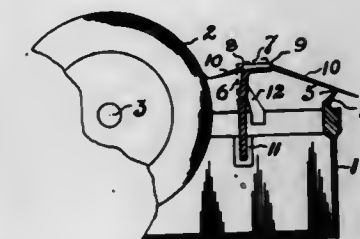
The carrier disclosed herein is suitable for attaching to the rear bumper of an automobile at its front lower part. Its front top part is suitable for attaching to a member such as a strap attached to the floor of a trunk. The

carrier extends rearward from the vehicle. It may be made of bent tubing. Each side of the carrier is made from a tube bent generally into the form of a rectangle. The spacers that separate the two sides may also be tubular. When the carrier is used for a boat, one of the spacers may be provided with a bearing at each end to form a roller which will facilitate movement of the boat onto the carrier.

**3,521,800**  
**ADHESIVE TAPE DISPENSERS**  
 Hugh Stephens, 90 Leighton Ave., Winnipeg 15, Mani-  
 toba, Canada, and Robert M. Stephens, 296 Matheson  
 Ave., Winnipeg 4, Manitoba, Canada  
 Filed Apr. 10, 1967, Ser. No. 629,678  
 Int. Cl. B26f 3/02

U.S. Cl. 225-21

2 Claims

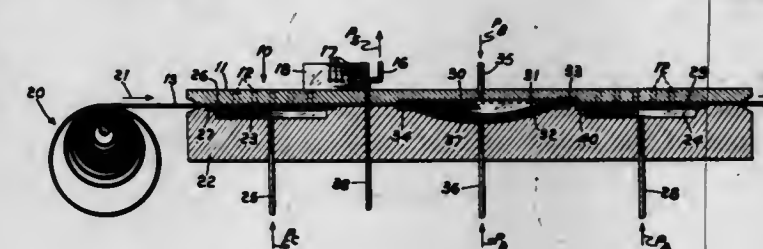


Applicants employ a degree of flexion in a tape rest medially positioned between the roll and the cutter bar of a tape dispenser with the object of ensuring under all conditions the separation of the tape from the cutter bar following severance. The bending of the tape rest is limited by a stop which permits a higher tension to be put on the tape. The tape rest in question forms part of Pat. No. 3,265,264 and has a concave upper face. Present application places an upper and lower limit on this concavity.

**3,521,801**  
**PUNCHED TAPE DRIVE AND CONTROL SYSTEM**  
 Harold E. Clupper, Fort Wayne, Ind., assignor to Interna-  
 tional Telephone and Telegraph Corporation, Nutley,  
 N.J., a corporation of Delaware  
 Filed Apr. 9, 1968, Ser. No. 719,920  
 Int. Cl. B65h 17/18

U.S. Cl. 226-95

10 Claims



A drive system operated by pneumatic fluid which forces a tape into a predetermined recess in a drive housing, which recess is shaped to provide the proper amount of tape drive. Adjacent input and output brake cavities in the housing cooperate with the recess to provide the tape movement.

**3,521,802**  
**WEB GUIDE MEMBERS**  
 Walter H. Bossons, London, England, assignor to Masson,  
 Scott Thrissell Eng. Ltd., London, England, a corpo-  
 ration of Great Britain  
 Filed May 10, 1968, Ser. No. 728,109  
 Claims priority, application Great Britain, May 12, 1967,  
 22,247/67  
 Int. Cl. B65h 29/52

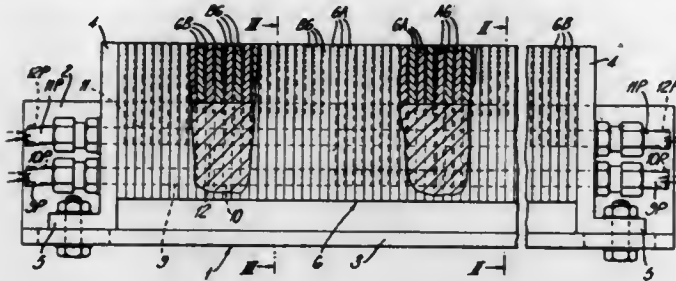
U.S. Cl. 226-97

11 Claims

A guide member for a travelling web, e.g. of paper, comprises a stack of laminar elements clamped together; airways through the elements communicate with one or



more air ducts formed by aligned perforations through the elements so that, in operation, air can be supplied



via the ducts and airways to the outer surface of the stack to provide air lubrication for the travelling web.

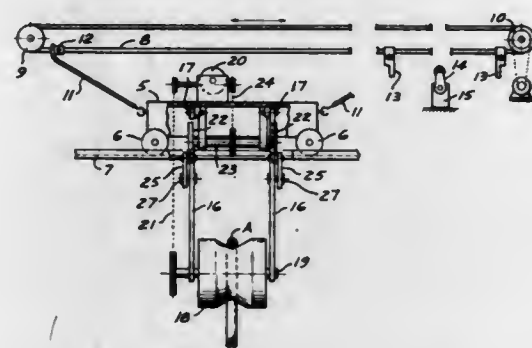
3,521,803

## DYEHOUSE UNLOADER

Arnold Jaffe and Gordon Gauvin, Amsterdam, N.Y., assignors to Fownes Brothers & Co. Incorporated, New York, N.Y., a corporation of New York  
Filed Nov. 4, 1968, Ser. No. 772,909  
Int. Cl. B65h 29/18

U.S. Cl. 226—108

6 Claims



This invention is directed to an unloader for a fabric rope being discharged from a processing unit and includes a carriage that is reciprocable along one path and a constantly driven draw roll mounted on a frame that is supported by the carriage and is oscillatable along a path at a right angle to that of the carriage travel in order to deposit the fabric rope in a cart as a series of zigzag folds in uniform layers. Means are provided to adjust both the stroke of carriage reciprocation and the degree of oscillation of the draw roll frame in order to conform the deposition of the fabric rope to the horizontal dimensions of the receiving cart.

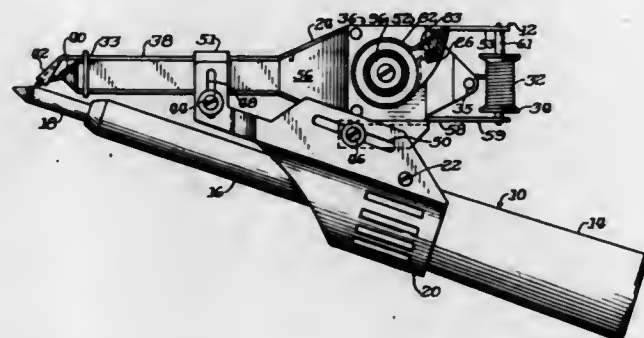
3,521,804

## STRIP SOLDER FEEDING DEVICE

Joseph M. Jacobs, 3432 S. Wisconsin Ave., Berwyn, Ill. 60402  
Filed Jan. 29, 1968, Ser. No. 701,438  
Int. Cl. B23k 3/06

U.S. Cl. 228—52

9 Claims



Apparatus mountable on a soldering iron for feeding strip solder to the heated tip thereof. The apparatus incorporates a novel parallelogram track arrangement for

sequentially gripping and advancing the strip solder through the housing to the heated tip. During periods of nonuse the solder feeding device may be utilized as a rest or support.

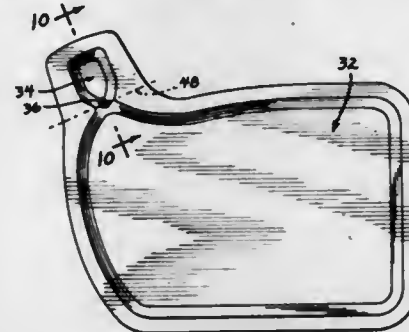
3,521,805

## DISPENSING PACKET

Frank A. Ward, Rockford, Ill., assignor to Anderson Bros. Mfg. Co., Rockford, Ill., a corporation of Illinois  
Filed Sept. 27, 1968, Ser. No. 763,107  
Int. Cl. B65a 39/00

U.S. Cl. 229—7

10 Claims



Two recessed pockets are formed with an intercommunicating neck and a peripheral flange. A cover is sealed to the flange to retain a product in the pockets. The neck has a reduced throat at a well-defined juncture between the pockets. The packet is swingable about a line at the flange and extending crosswise of the neck to rupture the neck for dispensing.

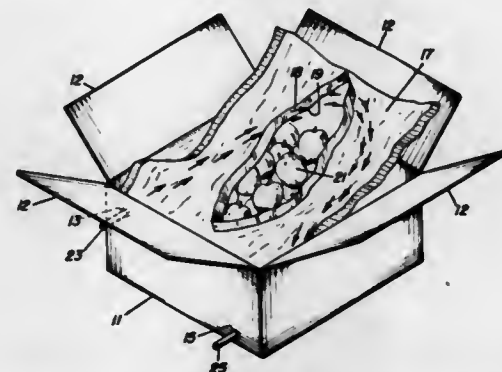
3,521,806

## CARTON

Joseph J. Esty, San Diego, Calif., assignor of one-fourth to Oberlin J. Everson, San Diego, Calif.  
Filed June 14, 1967, Ser. No. 645,968  
Int. Cl. B65d 5/60

U.S. Cl. 229—14

3 Claims



A package for preserving perishable products, such as food and flowers, in which the product is in an impermeable container which has been purged, after the product is in the container, by forcing an inert gas through the container. The composite package includes the container enclosed in an inherently stable carton.

3,521,807

## COMBINATION BAG AND STAND ASSEMBLY

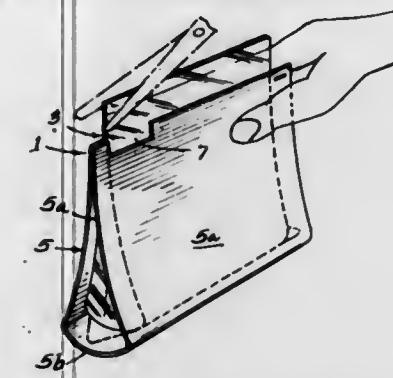
Sydney R. Welsberg, 1715 S. Halsted, Chicago, Ill. 60608  
Filed Oct. 4, 1968, Ser. No. 765,063  
Int. Cl. B65d 5/60, 25/16

U.S. Cl. 229—14

10 Claims

A non-self-supporting flexible bag is supported on a stand having a bottom wall on which the bag rests, a pair of relatively close spaced inwardly flexible side walls which together with the bottom wall form a confined space in which the bag will remain upright and which, when gripped by the user, snugly engage the upper portion of the side walls of the bag to hold the same in place when

the stand is grasped and tilted forwardly to pour the contents of the bag. Means are provided at the front of



the stand which are engaged by the front bottom portion of the bag to keep the bottom portion of the bag from swinging away from the stand when the same is tilted forwardly.

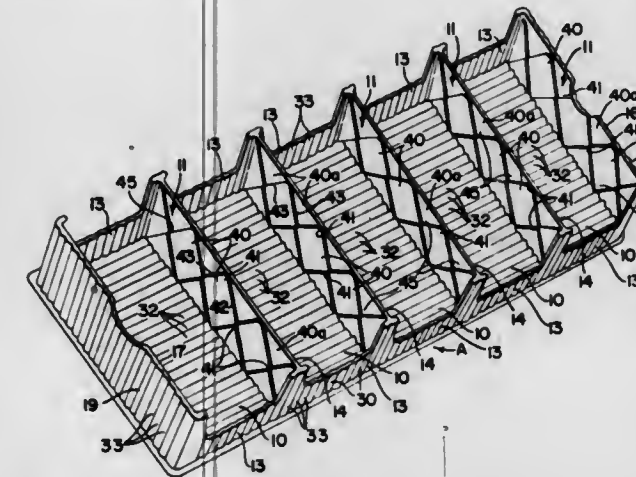
3,521,808

## TRAY FOR FRANGIBLE MATERIALS

Hugh R. Weiss, Montclair, N.J., assignor to The Pantasote Company of New York, Inc., New York, N.Y., a corporation of New York  
Filed July 26, 1968, Ser. No. 748,016  
Int. Cl. B65d 1/36, 85/36

U.S. Cl. 229—15

6 Claims



A one-piece tray vacuum-formed of a very thin thermo-plastic material and suitable for packaging, protecting, and displaying frangible foods has a plurality of compartments each having duplex walls terminating in somewhat thicker spines at their upper edges, the adjacent compartments are separated by vertical duplex partitions formed of adjacent wall panels of adjacent compartments and extending transversely of the tray. Increased resistance to deflection by both vertical and transverse loads is obtained by molding into the panels a series of adjacent pyramidal triangular structures having walls extending out of the plane of the panels greatly increasing protection of the packaged foods without decreasing absorption of shocks in directions transverse to the walls of the compartments.

3,521,809

## DISPENSING OPENING FOR CARTON

John Zimmerman, Willowdale, Ontario, Canada, assignor to Somerville Industries Limited, London, Ontario, Canada  
Filed Feb. 24, 1969, Ser. No. 801,431  
Claims priority, application Canada, June 7, 1968, 021,936

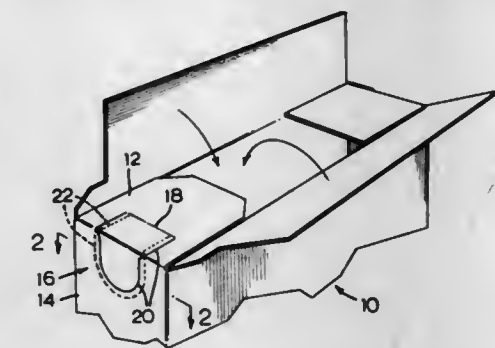
U.S. Cl. 229—17

Int. Cl. B65d 5/70

2 Claims

The invention relates to a closure tab for a paperboard carton that is especially suited for location at the junction of two of the carton walls. The closure is a sealed one

when the carton is new and can be opened by depressing the closure inwardly of one wall and then lifting it with respect to the other wall. The closure is defined by spaced apart edge cuts on each side of the carton walls that extend only partially through the walls so that when the



seal is broken and the closure opened, there is a line of cleavage between the two marginal edge cuts that define the opening. A complementary line of cleavage exists on the carton so that the closure can be relocated on the carton to form a tight re-closure as required.

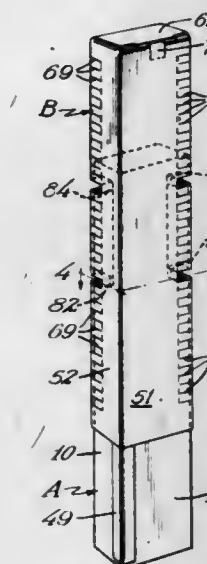
3,521,810

## VARIABLE SIZE CONTAINER

Gary W. Boyer, Sand Springs, Okla., assignor to Hoerner Waldorf Corporation, St. Paul, Minn., a corporation of Delaware  
Filed June 21, 1968, Ser. No. 739,077  
Int. Cl. B65d 7/24, 13/00

U.S. Cl. 229—23

10 Claims

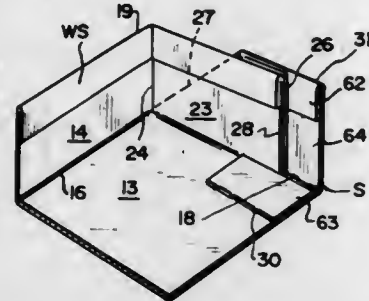


A container is provided for containing elongated articles of various lengths. Two elongated rectangular sections each having an open end and a closed end are telescoped together. The inner of the two sections includes a pair of slits intersecting the fold lines of diagonally opposed corners of the section, the ends of which are connected by fold lines parallel to the intersected fold lines and spaced on opposite sides thereof. The portions of the containers between the slits are forced inwardly to provide elongated rectangular notches. The corresponding corners of the outer container are provided with closely spaced slits intersecting the fold lines at these corners, the ends of the slits being connected by parallel fold lines. The areas between any of these slits may be forced inwardly into the elongated notches of the inner section to lock the sections from relative movement.



**3,521,811**  
**STAND-UP BOX WITH LOCKING STRUCTURE**  
 Richard E. DePaul, Norristown, and Charles Robert Helms, Barto, Pa., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware

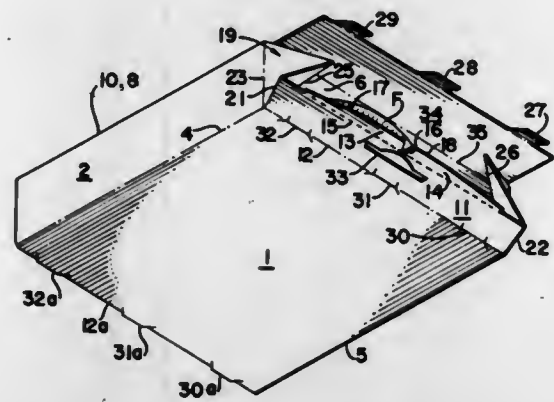
Filed May 2, 1969, Ser. No. 821,216  
 Int. Cl. B65d 5/22, 5/36  
 U.S. Cl. 229—34 6 Claims



A stand-up box having the appearance of a conventional set up box, and adapted to be shipped in a flat condition, the infolded sides thereof being adapted to be erected, and in so doing erecting the end walls thereof which are comprised partly of side wall flaps glued to end panels, the erected end walls and side wall flaps cooperating with structure arranged to prevent the side wall flaps and the end panels from collapsing.

**3,521,812**  
**CARTON HAVING ARTICLE STABILIZING MEANS**  
 Jack Moers, Walnut Creek, and Joseph M. Slenk, Richmond, Calif., assignors to The Mead Corporation, a corporation of Ohio

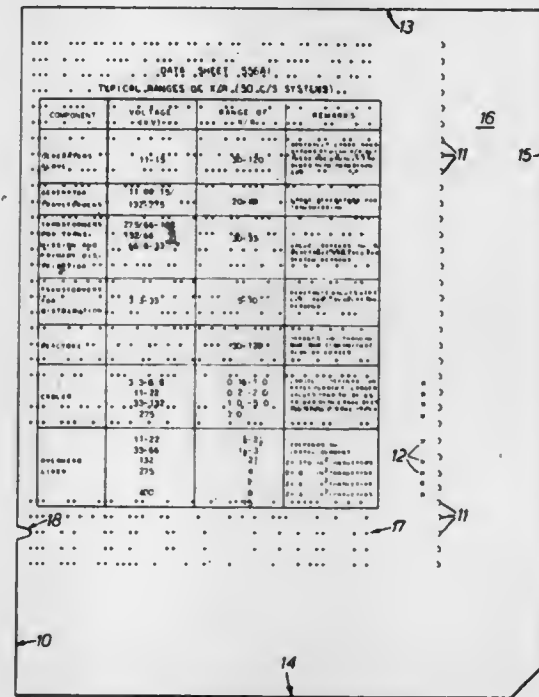
Filed May 29, 1968, Ser. No. 733,007  
 Int. Cl. B65d 5/10  
 U.S. Cl. 229—39 2 Claims



A carton of the folding box type for packaging individual confectionery products such as pies and the like is provided with stabilizing means particularly adapted for engaging the flange of a tin packaged therein. The carton includes main top and bottom, and spaced side walls foldably interconnected to form a tubular structure together with end closure means incorporating a stabilizing panel foldably joined to an end edge of one of the main panels such as the bottom panel and a closure panel foldably joined to the other main panel such as the top panel and arranged to overlap the stabilizing panel when such panels are in their normal closed positions. One or more positioning flaps foldably joined to the edge of the stabilizing panel remote from the panel to which it is foldably joined normally lie in flat face contacting relationship with the panel to which the closure panel is foldably joined and are configured so as to bow the stabilizing panel inwardly. A stabilizing slot, formed in the stabilizing panel, serves to receive the flange of the pie tin disposed

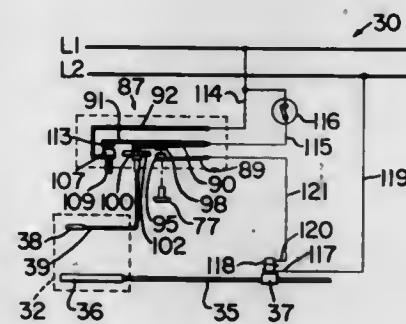
within the package and thus contributes to the stability of the carton.

**3,521,813**  
**PUNCHED CARDS AND METHODS FOR FORMING SUCH CARDS**  
 Raymond Robert Buckler, Hebburn, Durham, England, assignor to A. Reyrolle & Company Limited  
 Filed Sept. 7, 1966, Ser. No. 577,752  
 Int. Cl. G06k 1/02, 19/06  
 U.S. Cl. 234—1 9 Claims



A card having areas of graphic record thereon is punched with data holes smaller than the size of at least the majority of the significant details of the graphic record, so as not to obscure such details. Certain areas of the card may be selected to be kept free of perforations where such perforations might obscure significant details of the graphic record. Apparatus is provided to read and sort such cards.

**3,521,814**  
**FUEL CONTROL SYSTEM AND PARTS THEREFOR OR THE LIKE**  
 Charles D. Branson, Greensburg, and Denis G. Wolfe, Southwest Greensburg, Pa., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware  
 Filed Oct. 3, 1967, Ser. No. 672,520  
 Int. Cl. F23n; G05d 23/12  
 U.S. Cl. 236—15 20 Claims

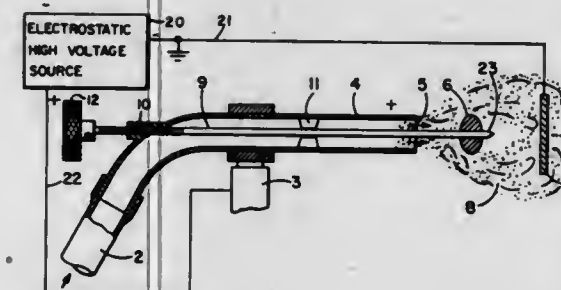


This disclosure relates to a fuel control system for a domestic oven or the like wherein an electric thermostat is provided for operating a gas regulating means to control the temperature effect in the oven as selected by a manual selector means, the manual selector means also simultaneously controlling a valve member for interconnecting and disconnecting the fuel supply to the electrically

operated regulating means. The fuel control system also has means for automatically reducing the temperature effect in the oven to a low temperature effect after the occurrence of an event, such as the lapse of a predetermined cooking time, and permits the housewife or the like to select a temperature effect below the automatic low temperature effect, even though the timer means or the like has automatically adjusted the control system to its low temperature effect setting.

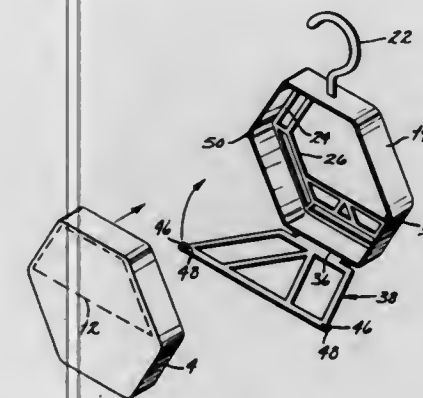
**3,521,815**  
**GUNS FOR THE ELECTROSTATIC SPRAY COATING OF OBJECTS WITH A POWDER**  
 Imre Szasz, Krazernstrasse 114, St. Gall, Switzerland  
 Continuation-in-part of application Ser. No. 599,444, Dec. 6, 1966. This application May 7, 1969, Ser. No. 822,557

Int. Cl. B05b 5/04  
 U.S. Cl. 239—15 13 Claims



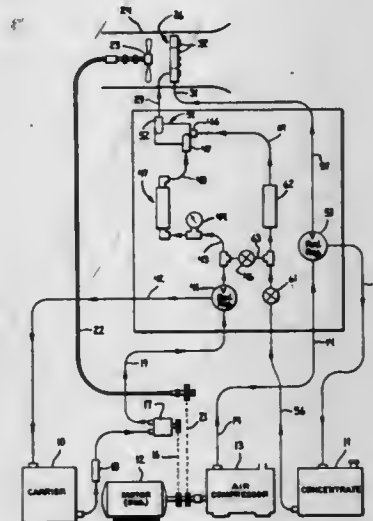
The present invention involves new and useful improvements in electrostatic spray coating of objects with a powder by means of a gun utilizing a unique deflecting means located at a point beyond the end of the gun nozzle, placed directly in the path of a uniform moving powder cloud, and affecting the powder cloud aerodynamically thus producing a variety of useful coating patterns.

**3,521,816**  
**VAPOR RELEASING DEVICES**  
 Norman E. Wilson, University City, Mo., assignor to The Puro Co., Inc., St. Louis, Mo., a corporation of Missouri  
 Filed Jan. 11, 1968, Ser. No. 697,234  
 Int. Cl. A61l 9/04  
 U.S. Cl. 239—60 13 Claims



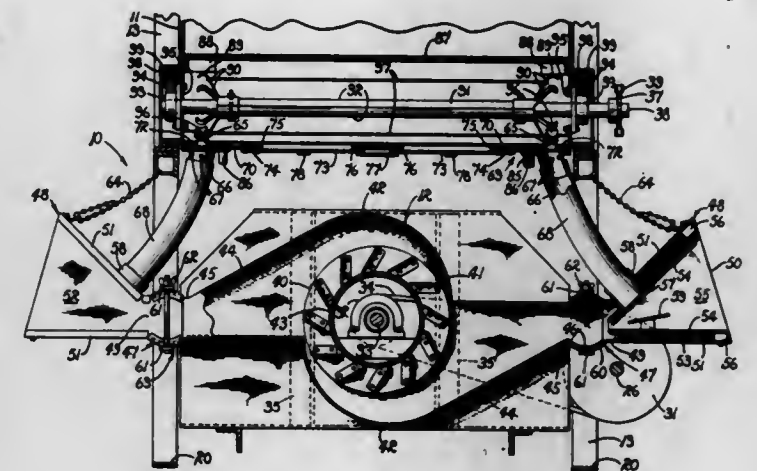
An evaporative cake holder having a peripheral wall which is shaped to accept an evaporative cake encased in a plastic wrapper. The wall merges into a webbing along one of its margins while a closure flap is hingedly connected to the opposite margin. A dotted guide line is provided on the cake wrapper above the closure flap for designating a line along which the wrapper can be cut to expose a limited area of the cake to the atmosphere.

**3,521,817**  
**NONTHERMAL AEROSOL FOG GENERATOR**  
 Russell R. Curtis, Indianapolis, and Conrad D. McGinnis, Noblesville, Ind., assignors to Curtis Dyna-Products Corporation, Westfield, Ind., a corporation of Ohio  
 Filed July 8, 1968, Ser. No. 743,119  
 Int. Cl. A01n 17/10  
 U.S. Cl. 239—77 6 Claims



Disclosed is fog generator which produces an aerosol fog, used for example as an insecticide, by supplying high velocity, low volume air and a mixture of a carrier fluid and an insecticide concentrate material to multiple low volume nozzles, the inert carrier fluid and the concentrate being mixed just upstream of the nozzles, the atomized fog or dispersion issuing from the nozzles being propelled and directed from the fog generator by a low velocity high volume air stream provided by a ducted fan.

**3,521,818**  
**CROP DUSTING MACHINE**  
 Masick C. Magarian, 4481 N. Palm Ave., Fresno, Calif. 93704  
 Filed Mar. 7, 1968, Ser. No. 711,329  
 Int. Cl. A01n 17/08  
 U.S. Cl. 239—77 19 Claims



This invention is an agricultural dusting machine particularly adapted to dusting with sulphur and similar powdered chemicals on grapevines. The machine consists of a support frame with a supply hopper mounted on its upper portion and a blower unit with output nozzles which deliver a mixture of the dusting compound and air, mounted below the supply hopper. The support frame is carried by the implement supports of a normal vineyard tractor. The sulphur is delivered from the hopper to the



nozzles where it is mixed with the air from the blower. The hopper has outlet ports which are controllable to regulate the supply of sulphur and a paddle mechanism and anti-clogging baffles to assure even flow through the ports. The hopper can be tilted with respect to the frame to dump any excess sulphur remaining after the dusting has been completed. Also, a metal duct is used between the blower and the nozzles which incorporates a durable flexible connection to permit movement of the nozzles, and the nozzles themselves have a combination of inner chambers to assure even distribution of the sulphur in the air stream.

### 3,521,819 VALVED EJECTOR

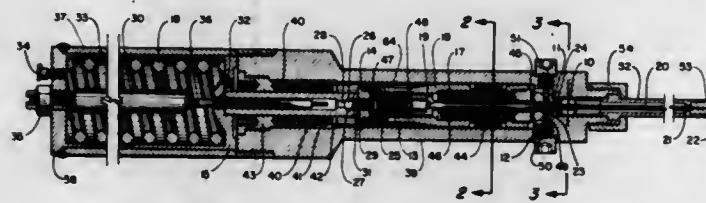
Douglas Johnston, Decatur, Ala., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Apr. 1, 1968, Ser. No. 717,774

Int. Cl. B05b 1/08

U.S. Cl. 239—99

5 Claims



An ejector device is disclosed which receives liquid from a high pressure source, accumulates the liquid until its volume has built up sufficiently to compress an accumulator spring and, after taking up lost motion, a lifter spring, at which time a valve is snapped open to a detent position; when a given volume of liquid has been discharged through the valve, a return spring overcomes the detent and snaps the valve shut, at which time the cycle is repeated.

### 3,521,820 HYDRAULIC PULSED JET DEVICE

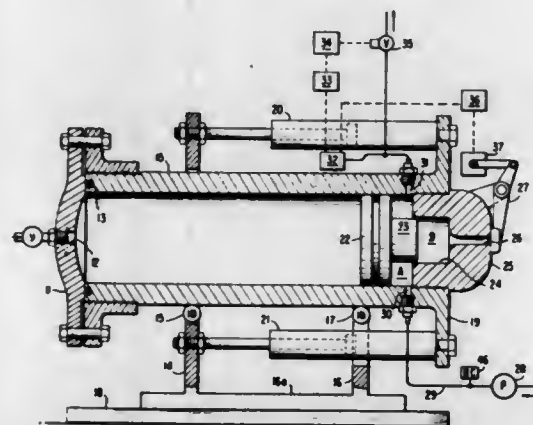
William C. Cooley, Bethesda, Md., assignor to Exotech Incorporated, Rockville, Md.

Continuation-in-part of application Ser. No. 568,368, July 22, 1966. This application Jan. 31, 1967, Ser. No. 612,945

Int. Cl. B05b 1/08

U.S. Cl. 239—101

8 Claims



A device for compressing water to extremely high pressures and discharging it in the form of pulsed jets from a nozzle by means of a free piston in a cylinder. In the device the water is fed under constant pressure to one side of the free piston and causes a gas on the other side to be suitably compressed. As the piston advances toward

the nozzle, excess water is vented to the atmosphere and the remaining water is compressed during a power stroke and discharged as a jet from the nozzle.

3,521,821  
IRRIGATION SYSTEM  
Clayton L. Emsbach, 1540 Rubenstein Ave.,  
Encinitas, Calif. 92024  
Filed Apr. 15, 1968, Ser. No. 721,339  
Int. Cl. A01g 27/00

U.S. Cl. 239—145

2 Claims



A porous tube for irrigation purpose, the tube being formed of porous Dacron.

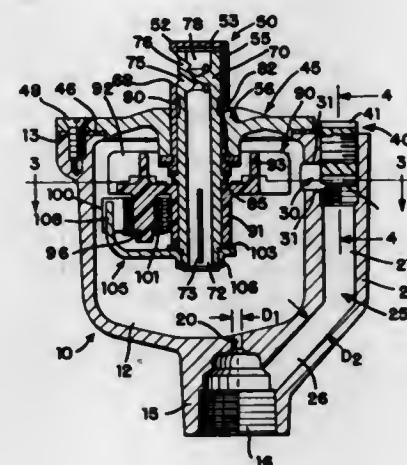
3,521,822  
IRRIGATION SPRINKLER  
Anton R. J. Friedmann and Ralph H. Eby, Troy, Ohio,  
assignors to Ashley F. Ward, Inc., doing business as  
The Skinner Irrigation Company, Troy, Ohio, a corporation of Ohio

Filed Feb. 19, 1968, Ser. No. 706,272

Int. Cl. B05b 3/04

U.S. Cl. 239—206

9 Claims



A pop-up sprinkler unit in which both the flow rate of the water and the rate of step-by-step rotation of the nozzle are adjustable independently by control means accessible at all times from the top of the unit.

3,521,823  
METHOD OF MAKING A SEALED ELECTRICAL  
CONNECTOR COMPONENT  
Arden D. Van Horssen, Minneapolis, Minn., assignor to  
United-Carr, Incorporated, Boston, Mass., a corporation of Delaware

Filed July 19, 1968, Ser. No. 746,226

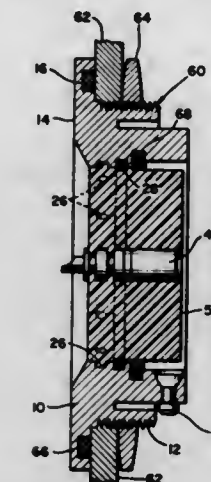
Int. Cl. H01r 13/52

U.S. Cl. 339—218

4 Claims

A metal shell has an internal circumferential groove formed therein for the accommodation of a silicone rubber O-ring, the O-ring being of a size so that a portion thereof projects inwardly into the shell's bore. The shell and its O-ring, together with one or more electrical contacts, are placed in a mold assembly and glass-filled epoxy resin is introduced under sufficient pressure so as to compress the O-ring. When the resin cools and sets, it shrinks

sufficiently so as to allow the O-ring to expand partially but not completely. In this way, an effective barrier is provided which prevents the passage of air or moisture. Because of the shrinkage, the contact element itself is contractively gripped and held by the hardened epoxy



resin. Also, a plurality of angularly spaced recesses are formed in the cylindrical inner wall surface so that some of the resin flows into the recesses and thereby precludes any relative rotation between the set plastic material and the shell.

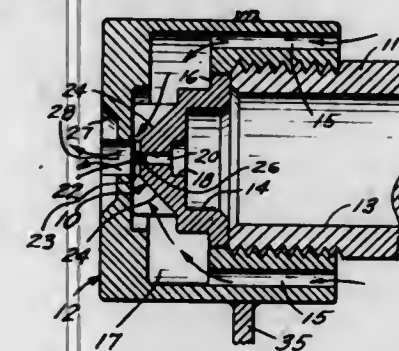
3,521,824  
AIR-LIQUID FLAT SPRAY NOZZLE  
Richard L. Wilcox, Adel, Iowa, assignor to Delavan Manufacturing Company, a corporation of Iowa

Filed Oct. 11, 1968, Ser. No. 766,675

Int. Cl. B05b 7/06

U.S. Cl. 239—424.5

4 Claims



An air-liquid spray nozzle which emits a sheet of liquid through an elongated orifice or slit and has a pair of air discharge slots wider than the length of the slit for causing air to flow against the sides of the sheet to atomize the liquid. The nozzle is capable of providing a fine spray at flow rates at the lower end of the volume flow range with very low pressure air.

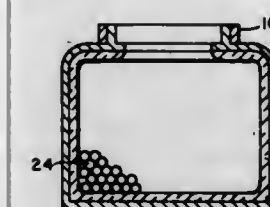
3,521,825  
MILLING PROCESS  
William R. Morcom, Livingston, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 13, 1967, Ser. No. 615,820

Int. Cl. B02c 17/22

U.S. Cl. 241—26

1 Claim



A method of providing for the homogeneous dispersion of a second phase material in a matrix material through

a milling process. The matrix material is placed in a milling jar which is lined with and/or includes milling balls constructed from the second phase material. By controlling the various milling parameters a preselected amount of second phase material is abraded into the matrix powder.

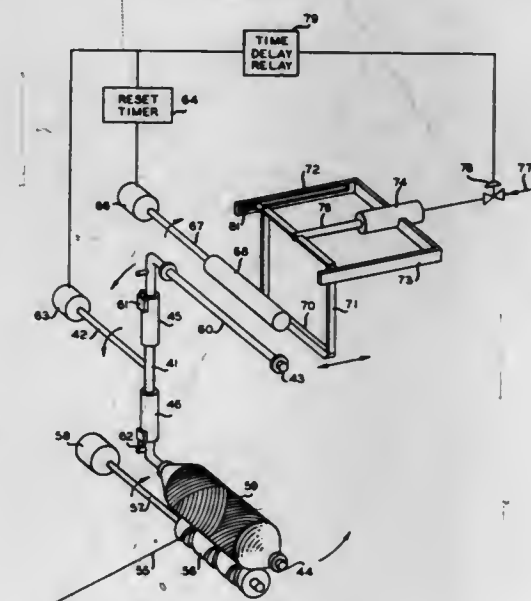
3,521,826  
YARN PACKAGE TRANSFER APPARATUS  
Hayes J. Schmick, Greenville, S.C., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 29, 1968, Ser. No. 709,445

Int. Cl. B65h 54/02

U.S. Cl. 242—18

4 Claims



Apparatus in combination including a pivotable arm having spindles to carry a yarn package at either end, drive means for each spindle and a yarn traversing means. Yarn is wound on the package contained on one spindle while the second spindle carries an empty package; as the first package is filled, the arm is rotated 180 degrees to bring the empty package into contact with the traversing yarn. When the yarn is cut it automatically wraps around and is taken up on the empty package.

3,521,827  
WINDING CONTROL DEVICE FOR CONTINUOUS  
SPINNING FRAMES AND THE LIKE  
Jean-Frédéric Herubel, Guebwiller, France, assignor to N. Schlumberger & Cie, Guebwiller, Haut-Rhin, France, société à responsabilité limitée

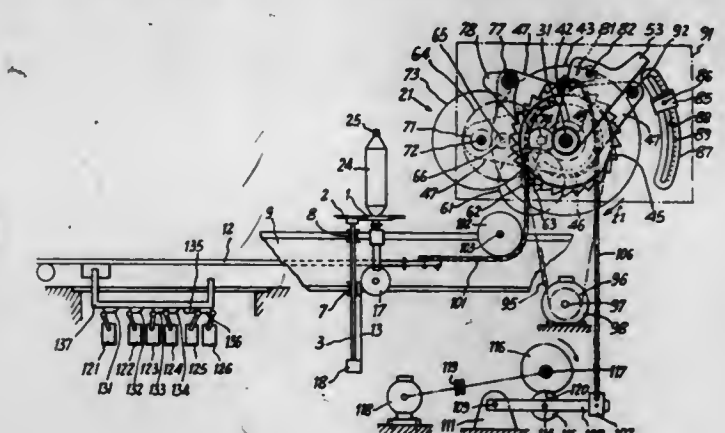
Filed Nov. 30, 1967, Ser. No. 686,985

Claims priority, application France, Dec. 9, 1966, 86,842

Int. Cl. B65h 54/36

U.S. Cl. 242—26.4

4 Claims



Winding control means for a continuous spinning frame or the like comprising a driving member capable of



being driven with an alternating movement and constituting an element of a first differential and a driven member permanently connected with the ring rail and constituting an element of a second differential, an element common to the two differentials, a further element of the first differential being connected to a ratchet wheel in engagement with a pawl carried by the driving member while a further element of the second differential may be either held fixed or driven to ensure to bring about overwinding or unwinding, while a pivoting element carries a second pawl co-operating with this ratchet wheel and a fixed stop limits the amplitude of pivoting movement of the pivoting element to bring about the fundamental movement.

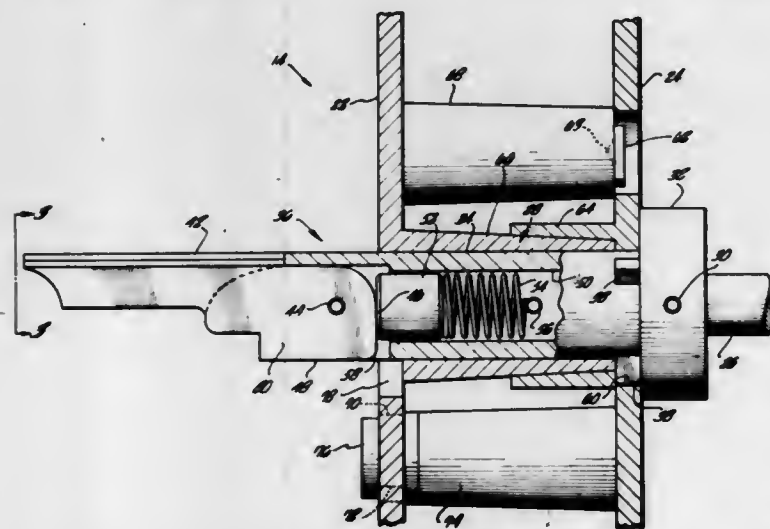
### 3,521,828 REEL HUB

William G. Campbell, Jr., Los Angeles, Calif., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan

Filed Jan. 8, 1968, Ser. No. 696,386  
Int. Cl. B65h 17/02, 75/14

U.S. Cl. 242—68.3

6 Claims



A hub for mounting two-piece tape reels of a tape transport mechanism having a pair of spaced-apart power driven shafts. Each hub is secured to a shaft and has a configuration to positively engage one half of the reel to be mounted on it. A free end of the hub includes a pivotally mounted locking arm having a configuration to positively engage the other half of the reel. Relative rotational movements of either reel half is thereby prevented. The locking arm and the hub are constructed to bias the arm into either an open or a locking position.

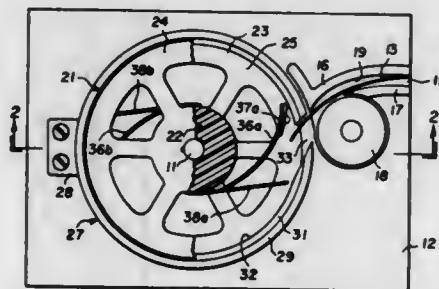
### 3,521,829 SELF-THREADING TAKE-UP REEL

Elmer O. Wangerin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 730,222, May 20, 1968. This application May 15, 1969, Ser. No. 827,102  
Int. Cl. B65h 75/28

U.S. Cl. 242—74

17 Claims

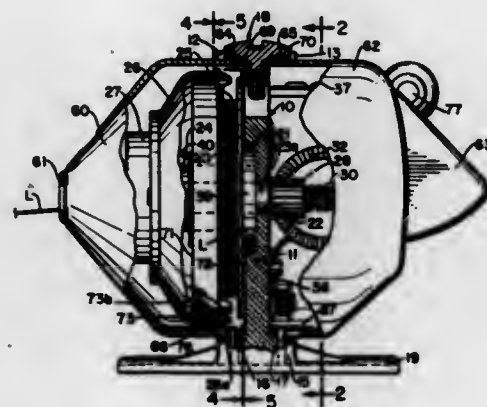


A self-threading film take-up reel adapted to accommodate film corresponding in width to the spacing between

the reel flanges and also film of a predetermined narrower width, comprises a snubber member adjacent one of the reel flanges for automatically engaging the end of a film strip of either width and a flexible guide member adjacent the opposite flange for guiding the end of a narrower film strip so that the latter is engaged by the snubber and wound onto the reel beside the reel flange adjacent the snubber member.

3,521,830  
HOUSING ASSEMBLY FOR SPINNING REEL  
R. Dell Hull, 6101 E. Apache St., Tulsa, Okla. 74115  
Original application July 28, 1965, Ser. No. 475,365, now Patent No. 3,416,746, dated Dec. 17, 1968. Divided and this application Oct. 15, 1968, Ser. No. 767,639  
Int. Cl. A01k 89/00  
U.S. Cl. 242—84.2

3 Claims



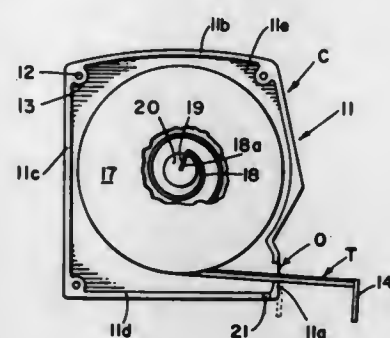
The disclosure is directed to cover locking arrangements for closed face spinning reels of the type having front and rear cup-shaped covers which engage a reel frame body having a circular transverse wall. The covers are locked in a nested relation with flanges of the frame by insertion of locking pins formed on the frame into slots formed in the covers by the engagement of buttons formed on the covers with the head of a locking screw threaded into the frame body.

### 3,521,831 TAPE MEASURE WITH TAPE HOOK BUMPER SPRING

Erwin Schmidt, Bay City, Mich., assignor to Cooper Industries, Inc., Houston, Tex., a corporation of Ohio  
Filed Jan. 22, 1968, Ser. No. 699,495  
Int. Cl. B65h 75/16

U.S. Cl. 242—84.8

8 Claims



A tape measure construction comprising a tape casing formed of a pair of mating sections having aligned slots forming a tapeline opening therein near a bottom wall thereof; a motor retracted tapeline coiled in the casing and having a free end with a tape hook thereon extending out the opening; and wherein aligned slots in the bottom wall portions are provided adjacent the tape opening to define with the tape opening slots resilient bumper leaf

springs disposed in the path of the tape hook to engage and cushion it when the motor means is retracting the tapeline at high speed.

### 3,521,832 AUTOMATIC LOCKING DEVICE FOR SAFETY BELTS

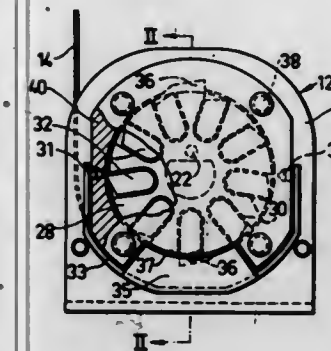
Gert Ingmar Rex, Halmstad, Sweden, assignor to AB Autoindustri, Halmstad, Sweden, a corporation of Sweden

Filed Feb. 5, 1968, Ser. No. 702,999  
Claims priority, application Sweden, Feb. 10, 1967, 1,933/67; May 18, 1967, 6,997/67; Nov. 14, 1967, 15,646/67

Int. Cl. B65h 75/48

U.S. Cl. 242—107.4

17 Claims



A safety belt is wound about a spring-loaded shaft in a housing secured to a vehicle so that the shaft extends parallel to the direction of travel of the vehicle. A plurality of pawls are radially slidable in spaced recesses formed in the periphery of a drum that is attached to one end of the shaft for rotation in a stationary ring. An inertia-responsive member pivotal on the ring about an axis transverse to the shaft has a projection which normally extends between the drum and ring to prevent a pawl from dropping into locking engagement with a notch formed in the ring. When the vehicle decelerates in excess of about .2 g, the member pivots to release the pawl and lock the belt. Alternatively, when the shaft and drum are accelerated above about .6 g by sudden withdrawal of the belt from the housing, centrifugal force causes at least one pawl to shift radially outwardly into locking engagement with another notch formed in the bore of the ring above the drum.

### 3,521,833 SPOOL WITH PLASTIC CONNECTORS

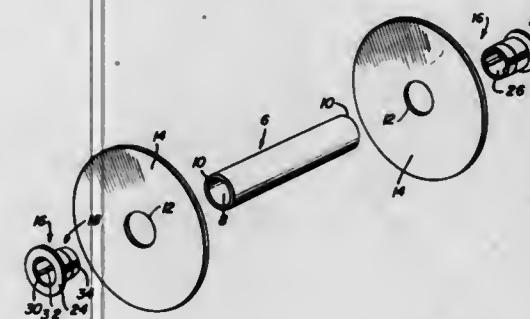
Louis H. Ridgeway, 1403 St. Anthony Drive, and Lawrence M. Ridgeway, Jr., 900 Ranch Road, both of Florence, S.C. 29501

Continuation-in-part of application Ser. No. 659,221, Aug. 8, 1967. This application July 10, 1968, Ser. No. 743,796

Int. Cl. B65h 75/14

U.S. Cl. 242—118.61

4 Claims

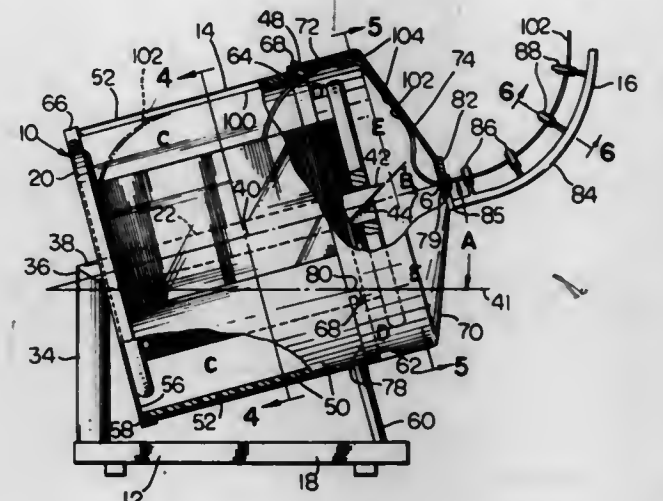


A ready-to-assembly spool which enables a user to expeditiously assemble or disassemble the prefabricated individual component parts at the site of use, if desired,

without tools. It comprises a core, spool heads, and core and thimble-like head assembling and retaining connectors. On-the-spot assembling overcomes perplexing packaging, shipping and storage problems.

3,521,834  
DEREELING APPARATUS  
John C. Kauffman, Fort Wayne, Ind., assignor to Phelps Dodge Magnet Wire Corporation, Fort Wayne, Ind., a corporation of Delaware  
Filed Feb. 14, 1969, Ser. No. 799,418  
Int. Cl. B65h 49/00  
U.S. Cl. 242—129.72

11 Claims



A dereeling apparatus for dispensing strand material, for example, wire, wound on a reel. The apparatus comprises a frame, a member and a spindle secured to the frame. The member has a flat surface which is angularly disposed to the horizontal. The spindle extends from the member away from the flat surface and over the frame. The spindle has an axis which is substantially perpendicular to the flat surface of the member, and, also, angularly disposed to the horizontal. A reel can be placed on the spindle with one of its ends contiguous to the aforementioned flat surface. The spindle has a distal end portion which functions to guide a reel onto the spindle without damaging the wire on the reel. The spindle and reel are enclosed by the aforementioned member, a wall element coaxially positioned of the spindle and secured to the frame, and a lid removably attached to the wall element. The lid has an aperture formed therein. When the lid is positioned on the wall element, the aperture is positioned with respect to the spindle such that the axis of the spindle when extended passes through the center of the aperture. Both the wall element and the lid have interior guiding surfaces which guide the wire from a wound condition on the reel, through the aforementioned aperture, and into a payed-out condition. In a specific embodiment, a guide having spaced-apart eyelets is secured to the lid for guiding the wire in the direction desired.

3,521,835  
SYNCHRONOUS SATELLITE  
Alvise A. Braga-Illa, Cambridge, and Walter E. Morrow, Jr., Weston, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts  
Filed June 5, 1967, Ser. No. 643,493  
Int. Cl. B64g 1/00

U.S. Cl. 244—1

3 Claims

A control system for synchronous satellites which produces control signals with the coincidence of optical sig-



nals from two celestial bodies and an ephemeris corrected-time signal corresponding to a segment of an orbit with



a programmed on-board impulse rocket response to said signals to maintain orbit synchronism.

3,521,836

## INFLATED BUOYANT WING

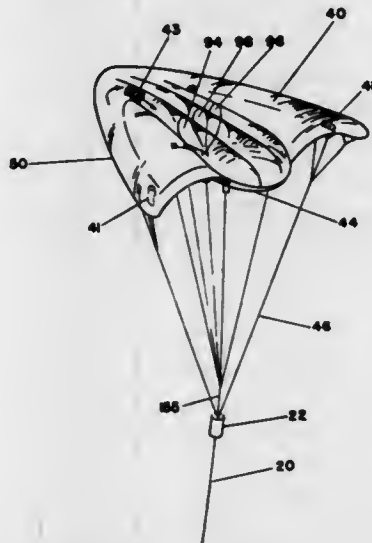
Arthur D. Struble, Jr., 1754 S. Crenshaw Blvd., Torrance, Calif. 90501

Continuation of application Ser. No. 489,888, Sept. 24, 1965. This application Aug. 6, 1968, Ser. No. 751,698

Int. Cl. B64b 1/50, 1/42; B64f 1/12

U.S. Cl. 244-33

8 Claims



An inflated buoyant wing and method of pressuring and launching the wing, including a generally delta-shaped wing, having a central inflatable section controlled by superpressuring lines, inflated booms along the outside edges of the wings separated from the central portion by appropriate one-way check valves and a turbine means including an electrical generator, a reel means fixedly attached to the lower end of load lines connected to the wing and having a reel about which the superpressure line is wound and from which a tethering line extends, an electrical generator coupled to the tethering line reel and a trough-shaped land-based carrier vehicle having a generally elongated trough-shape, and including hook means for coupling the pressure lines and the load lines together at spaced points along the vehicle and at spaced points vertically below the first mentioned points along the trough and a winch means connected to the lines, adapted to pull the previously mentioned lines downward-

ly in a vertical fashion until the wing is in contact with the trough-shaped carrier.

3,521,837

## AIRFOIL

Hermann Papst, Karl-Malerstrasse 1, St. Georgen, Black Forest, Germany

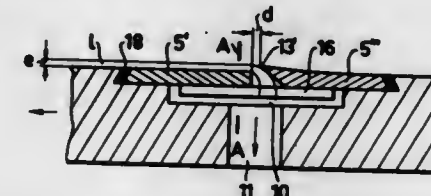
Filed June 30, 1967, Ser. No. 650,462

Claims priority, application Germany, July 1, 1966, 1,268,979

Int. Cl. B64c 21/06

U.S. Cl. 244-42

21 Claims



An arrangement for controlling the boundary layer which develops along the outer surfaces of airfoils and profiled bodies which come in direct contact with fluid streams. The airfoil is provided with one or several recesses which extend transversely of the direction of relative movement between airfoil and stream. The recess is covered by a longitudinal thin metallic strip so that a longitudinal and nearly completely closed channel is formed. The strip has a sharp upper edge at its leading flank and is fixed within the recess so that between sharp edge and opposite part there is a longitudinal narrow slot extending transversely of the direction of said relative movement. The boundary layer is compelled to enter the interior of said channel and the sharp edge peels off the stratum of the boundary layer which is adjacent to the surface of the airfoil. The sharp edge may be elevated above the opposite edge of the slot to improve the effect of "peeling off" the adjacent strata of the boundary layer. The strips are prefabricated and may be composed of two single strips with a narrow longitudinal slot between.

3,521,838

## CONTROL APPARATUS FOR VTOL CRAFT

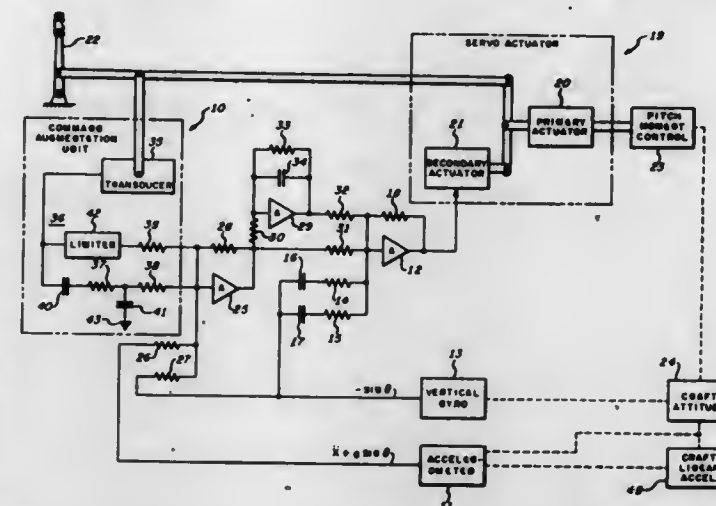
Robert S. Buffum and John C. Dendy, Phoenix, Ariz., Wilburn T. Robertson, Northridge, Calif., and Everett R. Tribken, Scottsdale, Ariz., assignors to Sperry Rand Corporation, a corporation of Delaware

Filed Aug. 9, 1967, Ser. No. 659,473

Int. Cl. B64c 13/22

U.S. Cl. 244-77

10 Claims



Flight control apparatus for aiding pilot handling and reducing the effect of external disturbances on VTOL aircraft in hover, transition and cruise flight. An orthogonal set of linear accelerometers function to attenuate externally induced translational motions of the craft and

a vertical gyroscope stabilizes the craft attitude, the gyro also being operative to compensate for gravity components sensed by the accelerometers. Pilot handling is aided by a transducer providing a command signal proportional to motion of the control stick which is mechanically coupled to the flight control actuator mechanism. An electrical circuit shapes and mixes the command signal with the acceleration data thereby modifying it such that the craft responds to the control stick motion in a prescribed manner.

3,521,839

## CONTROL APPARATUS FOR AIRCRAFT

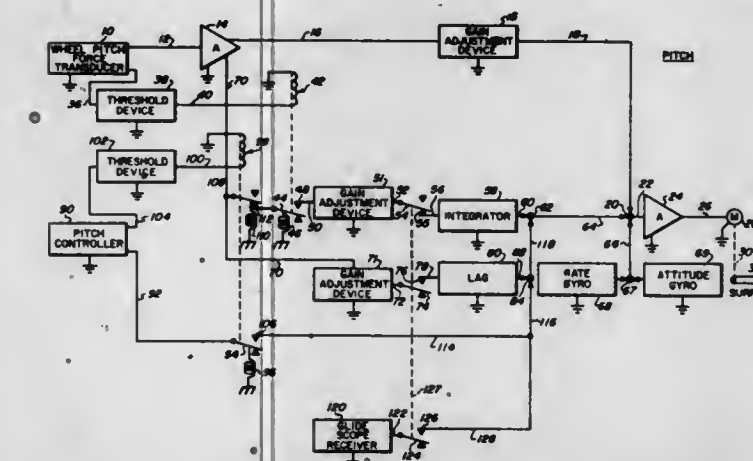
Arthur C. Diani, Clifton, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Oct. 2, 1967, Ser. No. 672,203

Int. Cl. B64c 13/18

U.S. Cl. 244-77

11 Claims



Apparatus for manually supplementing automatic control of an aircraft. The aircraft control wheel is equipped with pitch and roll transducers for providing electrical signals corresponding to pilot applied force, and which signals effect alternatively the displacement or displacement rate of an aircraft control surface. An anticipation signal is provided for breaking the at rest inertia of the control surface when the pilot applies force to the control wheel.

3,521,840

## PARACHUTE WITH DESTRUCTIVE AGENT DISPENSING MEANS

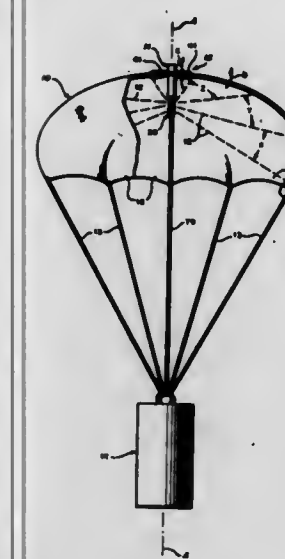
Robert E. Ainslie, Glenside, Pa., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 27, 1968, Ser. No. 779,328

Int. Cl. B64d 17/00

U.S. Cl. 244-142

19 Claims



A parachute with a pyrotechnic dispenser arranged adjacent the parachute for spraying acid over the fabric

of the fully deployed parachute during descent to cause parachute fabric disintegration after landing.

3,521,841

## MODULAR DROGUE PARACHUTE

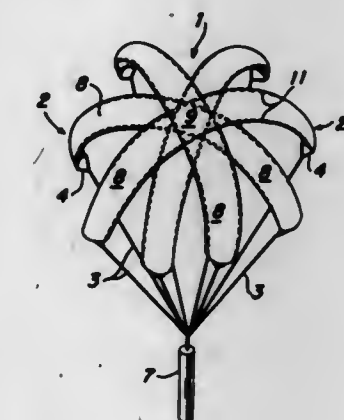
Rex G. Finney, El Centro, and Albert J. Sidebottom, Seeley, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed June 5, 1968, Ser. No. 734,693

Int. Cl. B64d 17/02

U.S. Cl. 244-145

6 Claims



The canopy of the parachute is a spoke-like structure formed of rectilinear strips of material centrally crisscrossed and secured one to the other. A U-shaped bridle is coupled to the end of each strip and a load suspension line is secured medially to the U-shaped loop of the bridle. Most suitably, the load suspension line is inserted into the bridle and stitched to form a strong Chinese finger splice arrangement. A special construction is used for large-sized canopies to materially reduce bulkiness and weight.

3,521,842

## SPRING CLAMP FOR MOUNTING CONDUIT ON A CHANNEL SUPPORT

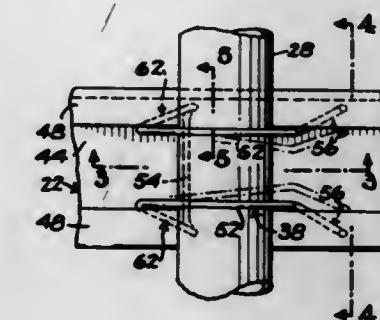
Orval A. Oppert, Bloomfield, Mich., assignor to F. Jos. Lamb Co., Detroit, Mich., a corporation of Michigan

Filed May 6, 1968, Ser. No. 726,673

Int. Cl. F16l 3/04, 3/10

U.S. Cl. 248-54

6 Claims



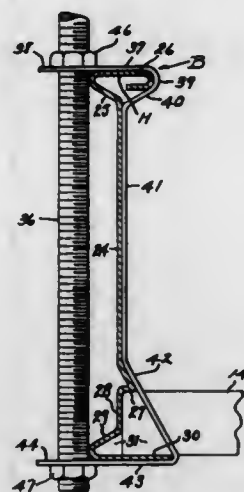
A one-piece spring steel wire clamp for attaching a conduit crosswise on opposed inwardly extending flanges along the free edges of a channel-shaped support member. The clamp is formed with two spaced saddle members integrally interconnected by a strut. Hooks are formed adjacent both the free ends and the strut ends of the saddle-shaped members to underlie and engage the inwardly extending flanges of the support member, thereby captivating a conduit between the flanges of the support and the saddle-shaped members.



**3,521,843**  
**CABLE SUPPORTING RACK**  
 Delbert R. Ogle, 400 Deansview Drive,  
 Cincinnati, Ohio 45224  
 Filed Mar. 22, 1968, Ser. No. 715,211  
 Int. Cl. F16l 3/22

U.S. Cl. 248—58

6 Claims



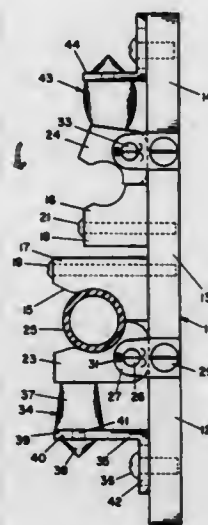
A cable supporting trough including a pair of parallel side rails and a cable supporting floor disposed between and interconnecting the side rails. The side rails are configured to confine the floor with a tight fit therein. The floor includes transverse rails having the upper longitudinal edges thereof rolled over to provide substantially increased resistance to lateral buckling. Splice plates are provided to connect end-to-end disposed side rails with the rails being configured to receive the splice plates with a snap fit in one construction, and with a snug wedge fit in another construction. The floor contains apertures through which cables may be passed, with certain of such apertures being lined with removable resilient bushings for preventing fraying of the insulation of cables passing therethrough. The rack may be suspended from a ceiling or wall by suitable hanger fixtures, each including a C-shaped bracket which embraces the side rail and follows the general contour of the inner side of the rail to effect a snug clamping fit therewith.

**3,521,844**  
**MILKING PARLOR HOSE SUPPORT**  
 Wilbur G. Pfisterer, 2211 Liberty Lane, Janesville, Wis. 53545, and Wallace L. Olstad, Rte. 1, Edgerton, Wis. 53534

Filed Sept. 26, 1968, Ser. No. 762,863  
 Int. Cl. F16l 3/10

U.S. Cl. 248—74

2 Claims



A hose support fixture, having quick connection and release clamps for holding milk transfer hoses above the floor in a farm milking parlor. The fixture has a base for

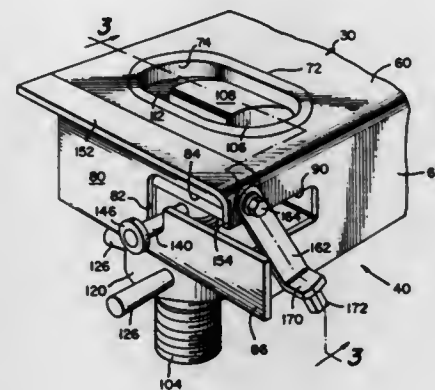
mounting in a fixed position, and spaced supporting clamps attached to the base, each clamp having a fixed jaw and an adjustable tension-biased pivotable jaw. The jaws are made of paraffin impregnated Teflon.

**3,521,845**  
**CONTAINER COUPLING MECHANISM**  
 Adam D. Sweda, Grosse Pointe Farms, and Richard Wassermann, Detroit, Mich., assignors to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan

Filed May 24, 1968, Ser. No. 731,768  
 Int. Cl. B65j 1/22

U.S. Cl. 248—119

11 Claims

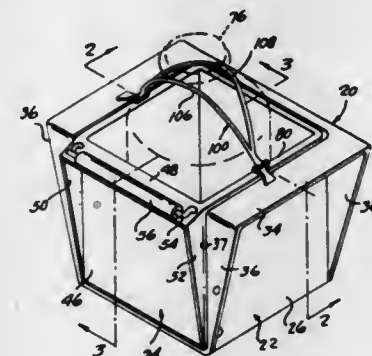


A lock means is carried by a supporting structure which is adapted to support a container thereon. A shear block is disposed adjacent the lock means and is received in a hole provided in the corner casting of a container. Means is provided for rotating the lock means between lock and unlock position. Separate means is also provided for vertically adjusting the position of the lock means and for forcing it downwardly to securely lock an associated container in place on the supporting structure.

**3,521,846**  
**LIQUID POURING DEVICE**  
 Hans W. Copony, 2733 Shippen Ave.,  
 Louisville, Ky. 40206  
 Filed May 24, 1968, Ser. No. 731,793  
 Int. Cl. A47f 5/12

U.S. Cl. 248—139

6 Claims



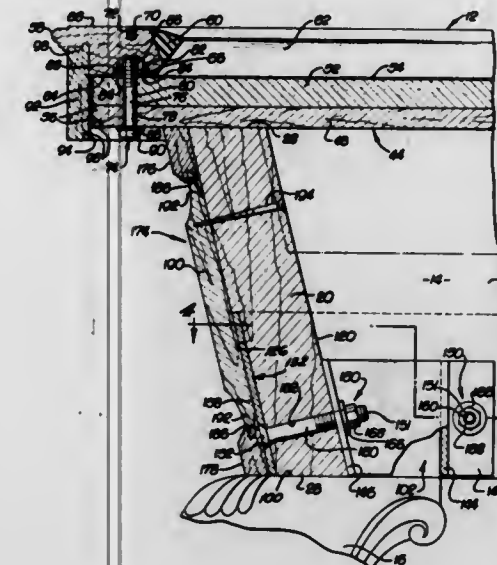
Apparatus for pouring liquid from an open container without handling the container. The liquid container is clamped in a receptacle shell which is pivotally connected to an outer shell for tilting movement with respect thereto. Alternate pivot points are provided between the shells for limiting the maximum attainable height of the liquid container during its pivotal movement whereby the apparatus can be used in a confined space, such as between refrigerator shelves. Means are provided in the receptacle shell for restraining lateral movement of the bottom of the liquid container, if necessary.

**3,521,847**  
**TABLE STRUCTURE**  
 Charles A. Porter, Garden Grove, Calif., assignor of one-half to Will R. Golden and Joan E. Golden, both of Studio City, Calif.

Filed Feb. 16, 1968, Ser. No. 706,183  
 Int. Cl. A47b 13/06

U.S. Cl. 248—188

9 Claims

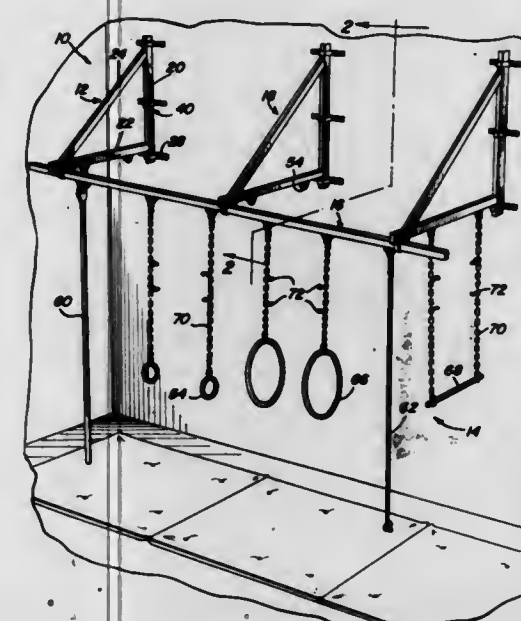


A leg mounting construction for a heavy table structure, such as a billiard table, in which screw or bolt mounted brackets secure upwardly extending projections of the legs to the corners of the table frame, thereby providing a rugged leg mounting assembly which may be readily disassembled for replacing legs with legs of different ornamental design. Ornamental panels are releasably secured to the outside of the table frame in one embodiment of the invention.

**3,521,848**  
**WALL MOUNTED EXERCISING APPARATUS**  
 Kermit Aase, 914 S. 11th St., Brainerd, Minn. 56401  
 Filed Aug. 3, 1967, Ser. No. 658,280  
 Int. Cl. A63b 7/02

U.S. Cl. 248—205

5 Claims



A physical fitness center including a support beam mounted in an elevated position by a plurality of brackets and in turn suspending exercising apparatus of various types. Selected units of the apparatus are in the nature of chain suspended members with the suspension chains

having adjusting hooks secured thereto for selective engagement with the overhead bar so as to vary the height of the unit.

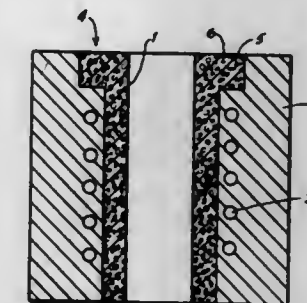
**3,521,849**  
**CONTINUOUS METAL-CASTING MOLD**  
 Friedrich Karl Voss, Dusseldorf, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a corporation of Germany

Filed Oct. 20, 1967, Ser. No. 676,956  
 Claims priority, application Germany, Oct. 22, 1966,  
 1,508,975

Int. Cl. B29c 1/02

U.S. Cl. 249—135

8 Claims



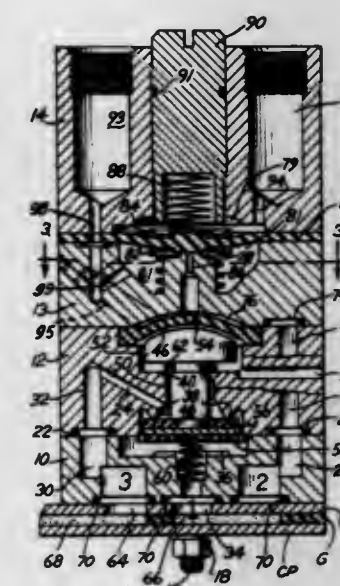
A mold for the continuous casting of steel comprising a body of high strength metal of low thermal conductivity such as tungsten, molybdenum or titanium, for example, having a skeletal or porous structure providing voids containing a metal of high thermal conductivity such as silver or copper, for example.

**3,521,850**  
**PRESSURE DIFFERENTIAL SENSOR VALVE ASSEMBLY**

Dale F. German, Bryan, Ohio, assignor to Aro Corporation, Bryan, Ohio, a corporation of Delaware  
 Filed Mar. 29, 1968, Ser. No. 717,137  
 Int. Cl. F16k 11/02, 31/12

U.S. Cl. 251—28

4 Claims



A pressure differential sensor valve assembly adapted to coact with a pressure actuated fluid logic valve or the like by utilizing differential pressures on opposite sides of a pilot control diaphragm to pneumatically control a pressure actuated element of the fluid logic valve. The pressure differential sensor valve assembly is controlled by first and second signal pressures on opposite sides of the pilot diaphragm which pneumatically controls the pressure responsive element of the fluid logic valve.



3,521,851

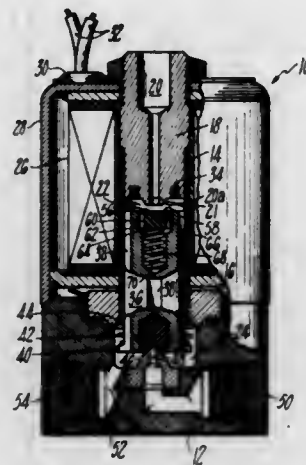
**FLOATING VALVE SEAL**

Stephen J. Sorrow, Suffield, Conn., assignor to Skinner Precision Industries, Inc., New Britain, Conn., a corporation of Connecticut

Filed Aug. 23, 1968, Ser. No. 754,919  
Int. Cl. F16k 11/02, 25/00, 31/02

U.S. Cl. 251—85

1 Claim



An electrically operated valve assembly having a plunger operable in a flow passage to control fluid flow, and a floating circular valve member loosely confined in a cavity within the plunger, the valve member being pressed by a spring toward a valve seat and self-vented through peripheral flutes circumferentially disposed about the valve member for ensuring full length stroking of the plunger and complete valve sealing while precluding entrapment of fluid behind the valve member.

3,521,852

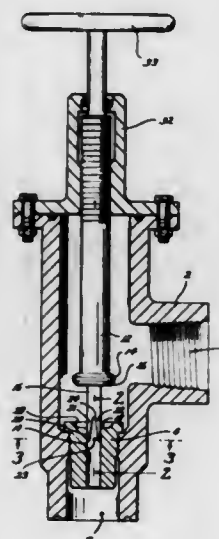
**THROTTLE AND SHUTOFF VALVE**

Thomas S. Gillis, Jr., P.O. Box 7907, Houston, Tex. 77007

Filed Dec. 12, 1966, Ser. No. 600,848  
Int. Cl. F16k 47/08

U.S. Cl. 251—121

7 Claims



Improved apparatus is provided for controlling high velocity fluid flows. An improved throttling plunger is provided which is adapted to form the fluid into two or more streams which are directed away from the wall of the throttling passageway into convergence to form a single stream located coaxially in the passageway.

3,521,853

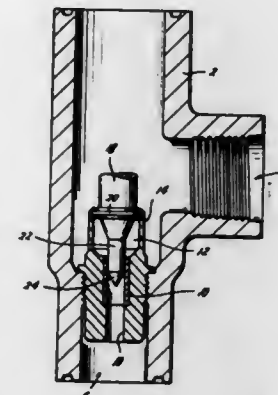
**THROTTLE AND SHUTOFF VALVE**

Thomas S. Gillis, Jr., P.O. Box 7907, Houston, Tex. 77007, and John W. Pennington and Elry C. Bird, Houston, Tex.; said Pennington and said Bird assignors to said Gillis

Filed Dec. 12, 1966, Ser. No. 600,963  
Int. Cl. F16k 47/08

U.S. Cl. 251—122

3 Claims



Improved throttling and shutoff apparatus is provided for controlling high velocity fluid flow. In particular, provision is made for full throttling before the shutoff surfaces are brought together to fully interrupt all flow. In addition, provision is made for reducing fluid velocity across the shutoff surfaces during shutoff.

3,521,854

**ELECTROMAGNETICALLY ACTUATED VALVE WITH A PLUNGER-TYPE ARMATURE ARRANGEMENT**

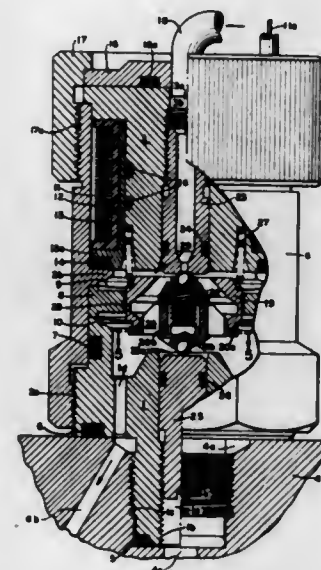
Heinz Leiber, Leimen, Heinz Wehde, Heidelberg, and Dietrich Brunner, Edingen, Germany, assignors to Teldix Gesellschaft mit beschränkter Haftung, Heidelberg, Germany

Filed Nov. 3, 1967, Ser. No. 680,365  
Claims priority, application Germany, Nov. 8, 1966, T 32,498

Int. Cl. F16k 31/06

U.S. Cl. 251—129

17 Claims



An electromagnetically actuated valve having a light-weight plunger-type armature. The armature which has one cylindrical surface and one substantially planar surface for the transition of magnetic flux therethrough is shaped as an annulus. The valve element is arranged in the open center of the armature and is held there in position by a number of arms extending radially outward from the valve element to the armature.

3,521,855

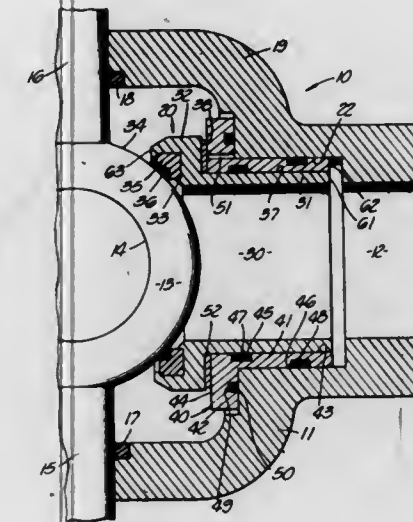
**BALL VALVE SEAT-SEAL**

William E. Jensen, Tujunga, Calif., assignor to Bell Aerospace Corporation, a corporation of Delaware

Filed Aug. 31, 1967, Ser. No. 664,850  
Int. Cl. F16k 25/00

U.S. Cl. 251—172

1 Claim



Disclosed is a ball valve having a seal which operates on the pressure differential concept wherein the differences of pressure on the upstream and downstream side of the seal surrounding the ball valve when the same is closed is effective to cause the seat to firmly engage the surface of the ball valve and effect a seal with respect thereto to prevent leakage of fluid past the seat. A single seat-seal structure is utilized to effect the desired seal irrespective of the direction of flow of fluid through the valve. The seat-seal is constructed of a pair of members which slidably engage each other and which define a pair of opposed surfaces within which a spacer can be positioned to adjust the longitudinal dimension of the seat-seal means thereby applying the desired contact pressure under a no-pressure load condition against the surface of the ball valve.

3,521,856

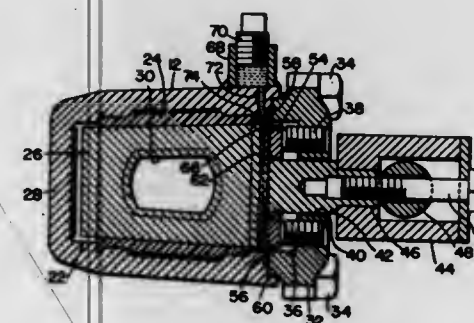
**LINED PLUG VALVE WITH MEANS FOR SEALING AGAINST LEAKAGE**

Russell G. Smith, Cincinnati, Ohio, assignor to Xomox Corporation, Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 25, 1967, Ser. No. 670,041  
Int. Cl. F16k 5/16

U.S. Cl. 251—172

19 Claims



Leakage between the liner and the valve body is prevented by the use of a highly viscous sealant or sealastic which strongly resists flow, and which thereby forms a barrier against leakage of fluid controlled by the valve. The same type of sealant may be utilized in the region of a diaphragm sealing about the actuating stem of the valve plug, to eliminate leakage along the actuating stem

to atmosphere. Means may be provided to maintain the sealant under pressure, and/or to replenish the supply of sealant.

3,521,857

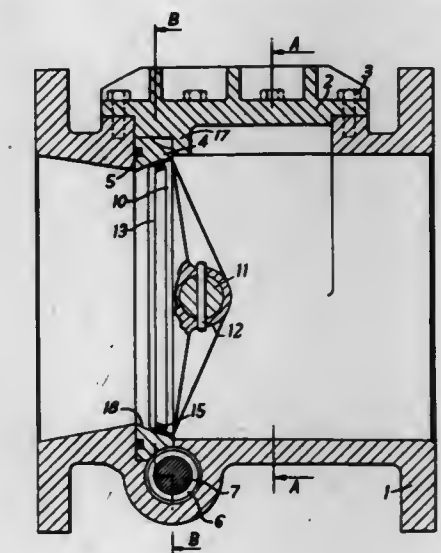
**BUTTERFLY VALVES**

Charles Edward Over, Betchwood, England, assignor to Kinematics Limited, London, England

Filed June 30, 1967, Ser. No. 650,385  
Claims priority, application Great Britain, July 4, 1966, 29,984

Int. Cl. F16k 1/20, 25/00, 31/53  
U.S. Cl. 251—305

8 Claims



A butterfly valve having a valve body, the centre part of which is of U-shape in cross-section and has a top opening. A seat ring is slidable in a U-shaped groove in the sides and body of the centre body part for removal through the top opening. A valve disk, disengageably mounted on an offset spindle, is also removable through the top opening after withdrawal of the spindle. The seat-ring may be rotatable either by manually-operated driving means or by ratchet gearing or the like driven by the valve disc spindle.

3,521,858

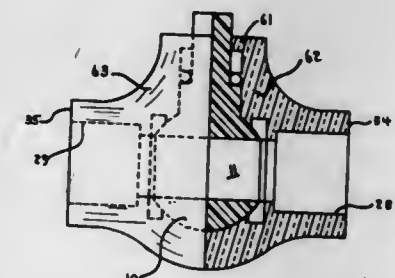
**VALVE HAVING FILAMENT WOUND BODY**

Henry H. Albro, Louisville, Ky., assignor to Cabot Corporation, Boston, Mass., a corporation of Delaware

Filed May 29, 1968, Ser. No. 733,041  
Int. Cl. F16k 27/06, 5/06

U.S. Cl. 251—315

5 Claims



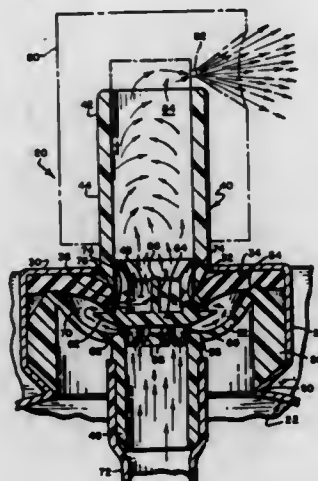
A valve having its movable valve member and the seals therefor encased in a valve body formed of a non-molded mass of cured resin-impregnated filaments and reinforced in the normally stressed portions of the valve body. A method for producing the valve employs inexpensive mandrels for making valves of different sizes by means of a conventional filament winding apparatus and without requiring valve body enclosing molds.



3,521,859  
VALVEErich W. Gronemeyer, 3430 Galt Ocean Drive,  
Fort Lauderdale, Fla. 33308  
Filed May 31, 1968, Ser. No. 733,701  
Int. Cl. F16k 31/58

U.S. Cl. 251—353

12 Claims



A valve for discharging the pressurized contents of a container including a valve part comprised of a tubular stem, a ring encircling the stem and a membrane interconnecting the stem and the ring. This valve part is preferably molded integrally from plastic material, but the ring may be a separate piece. The stem has a portion blocking the interior thereof and at least one opening on each side of the blocking portion. A sealing washer closes the opening or openings on one side of the blocking portion, and the other opening or openings communicate with a compartment formed between the sealing washer and the membrane. A cap with an exit aperture therein may be applied to the top of the valve stem, thus forming another compartment. The ring is affixed to an annular part of the container and sealingly contacts the washer. When the valve stem is depressed or tilted, the sealing washer bends to clear at least one of the associated openings, and this opens the valve to discharge some of the contents of the container. The contents may be discharged as an aerosol, foam or liquid stream depending on the application.

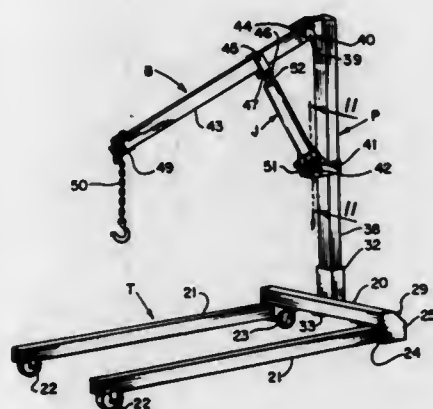
3,521,860

KNOCK-DOWN HOIST

Claude D. Zehrung, Jr., and Carl H. Kruger, Denver,  
Colo., assignors to Rental Equipment Manufacturing  
Corp., Denver, Colo., a corporation of Colorado  
Filed Mar. 18, 1968, Ser. No. 713,918  
Int. Cl. B60p 1/48

U.S. Cl. 254—8

6 Claims



The disclosure concerns a mobile knock-down hoist carried on a truck having a U-shaped frame. The hoist-supporting post upstands from the center of the base of the U-frame at the rear end of the truck. A hoist boom

cantilevers from the post for actuation in the vertical plane of longitudinal symmetry of the truck. The knock-down features of this hoist reside in socketing the side arms of the truck U-frame into the base thereof, socketing the hoist-supporting post at the center of the base and providing a removable boom at the top of the post. The boom is articulated by a hydraulic jack held in position on an abutment at the side of the post and in a socket on the boom.

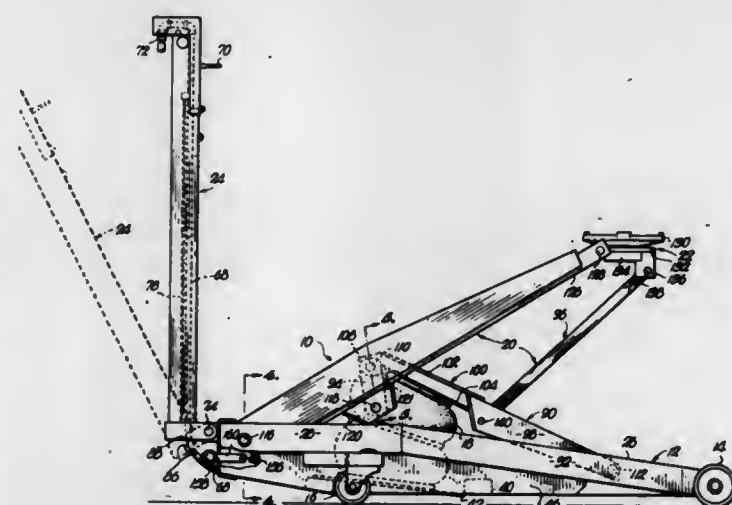
3,521,861

VEHICLE LIFT

Frank D. Freudenthal and Gilbert W. Gaarder, St.  
Joseph, Mo., assignors to Gray Manufacturing  
Company, Inc., St. Joseph, Mo., a corporation of  
MissouriFiled Nov. 3, 1967, Ser. No. 680,440  
Int. Cl. B66f 3/24, 5/04

U.S. Cl. 254—93

8 Claims



A low profile fluid operated lift for vehicles having a wheeled frame, the frame supporting a generally declining force fluid powered actuator in the nature of a flexible bellows, there being generally increasing force mechanical linkage coupled with the actuator whereby, when fluid is introduced into the bellows under substantially constant pressure the lift will be raised at a substantially constant load capacity. The mechanical linkage includes a pivot arm and a lifting arm, there being a link coupling said arms which is under tension during raising of the lift whereby the initial lifting capacity of the lift is essentially the same as the terminal lifting capacity, such lifting capacity being substantially constant during raising of the lift. A safety lock assembly is provided to retain the lift in a raised position for the safety of a user working under the lifted vehicle, there being means for releasing the safety lock whereby the lift may be brought to a fully lowered position.

3,521,862

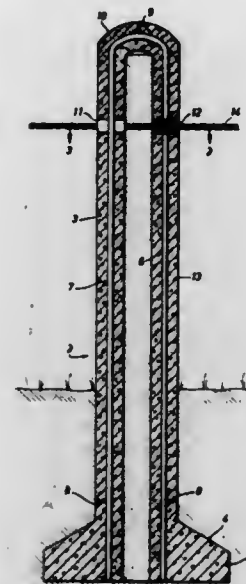
HIGHWAY BREAKAWAY GUARD  
Tim G. Curtner, Rte. 14, Box 1626-A,  
Houston, Tex. 77040Filed Oct. 15, 1968, Ser. No. 767,635  
Int. Cl. E01f 15/00; E04h 17/20

U.S. Cl. 256—13.1

7 Claims

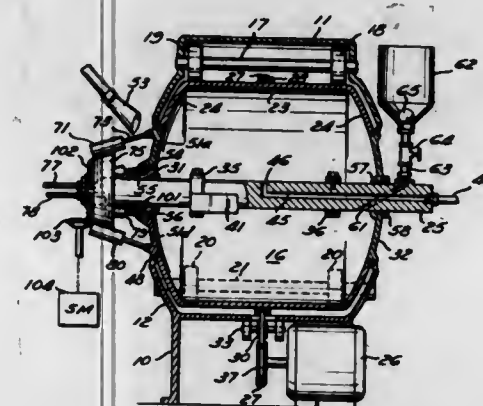
A highway guard post or fence post is provided which is preferably formed of impact molded concrete. The post is hollow, and has a closed and rounded upper end, and a flanged or bellbottom base. A single reinforcing rod, having an inverted U-shaped configuration, is provided for strength purposes, and a pair of cable-supporting sleeves are disposed in the walls of the post, diametrically

of the post and opposite each other, and fastened on opposite sides of the rod, whereby the cable passes dia-

3,521,863  
CENTRIFUGAL MIXER HAVING VACUUM MEANSRobert A. Graham, 2154 Dover Road,  
Westlake, Ohio 44145Filed Feb. 1, 1968, Ser. No. 702,343  
Int. Cl. B04b 11/00

U.S. Cl. 259—3

7 Claims



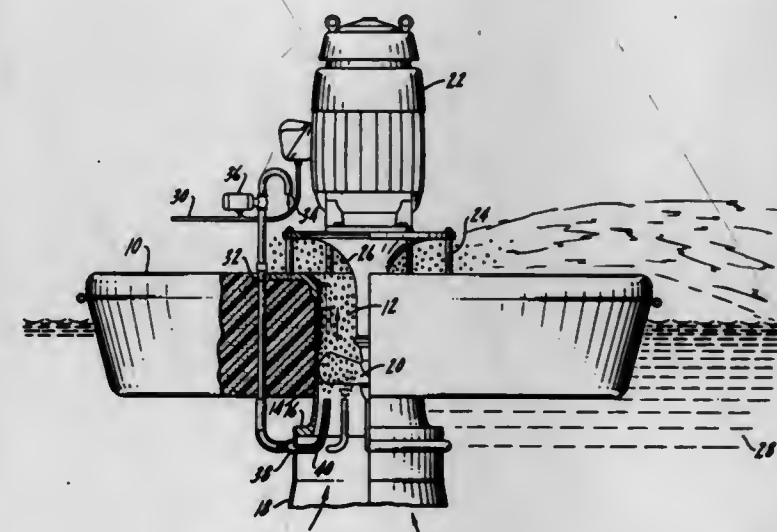
Disclosed is a centrifugal mixer and a method of mixing finely divided resins with a plasticizer to obtain plastisols of aliphatic vinyl and vinylidene compounds. Resin and other solid additives are added to a chamber which is rotated to place the resin under centrifugal force and to cause the resin to pass over a mixing bar and be deflected out of the centrifugal force field. The liquid additives and the plasticizer are added after a vacuum between 22 and 28 inches of mercury is obtained in the chamber. After the plasticizer and additional liquid additives are added to the resin in the chamber, mixing is continued until the stress point of the mixture is passed and the plastisol or paste is obtained. The chamber includes a drum driven about a fixed shaft and pressure plates mounted on the shaft to provide the closed chamber. The pressure plates pneumatically seal the chamber and rotate with the drum during mixing of the vacuum. The resin entry pressure plate is provided with a peripheral door to permit additions and removal while the drum rotates. The liquid additive line is provided with a check valve to maintain the vacuum during mixing. Paste is removed by suction below the mixing bar.

3,521,864

METHOD AND APPARATUS FOR CONTROLLING  
OXYGEN TRANSFER AND POWER REQUIRE-  
MENTS IN A WATER AERATION SYSTEM  
Donald P. Welles, Jr., Rockford, Ill., assignor to Welles  
Products Corporation, Roscoe, Ill., a corporation of  
IllinoisFiled Sept. 20, 1967, Ser. No. 669,209  
Int. Cl. B01d 47/02, 47/16

U.S. Cl. 261—77

3 Claims



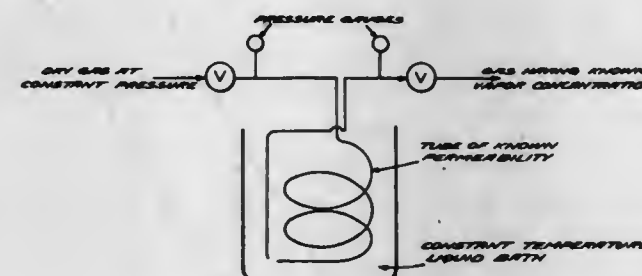
This invention relates to a method and apparatus for controlling oxygen transfer and power requirements in a water aeration system. In particular, the invention relates to a water aeration system in which water is drawn from beneath the surface of a body of water and is then discharged on top of the surface of the water, thereby increasing the oxygen content of the water. Conventionally, such water aeration systems use a propulsor mechanism mounted either beneath the surface of the water, at the surface, or at least partially submerged in the body of water. The propulsor mechanism is driven by a motor mounted either above or below the surface of the water. The present invention controls power requirements by adding air to the water being moved by the propulsor mechanism, thereby changing its density.

3,521,865

GENERATION OF ACCURATELY KNOWN VAPOR  
CONCENTRATIONS BY PERMEATIONJack Kertzman, Newark, Del., assignor to E. I. du Pont  
de Nemours and Company, Wilmington, Del., a cor-  
poration of DelawareFiled May 20, 1968, Ser. No. 730,487  
Int. Cl. G01n 1/22, 31/00

U.S. Cl. 261—95

11 Claims



Gas having a known vapor concentration is obtained by passing substantially dry gas through a tube of known permeability when the tube is immersed in a fluid of known temperature.



3,521,866

**COKING APPARATUS TUBE CONSTRUCTION**  
Johannes Knappstein and Friedrich Thiersch, Recklinghausen, Germany, assignors to Firma Carl Still, Recklinghausen, Germany

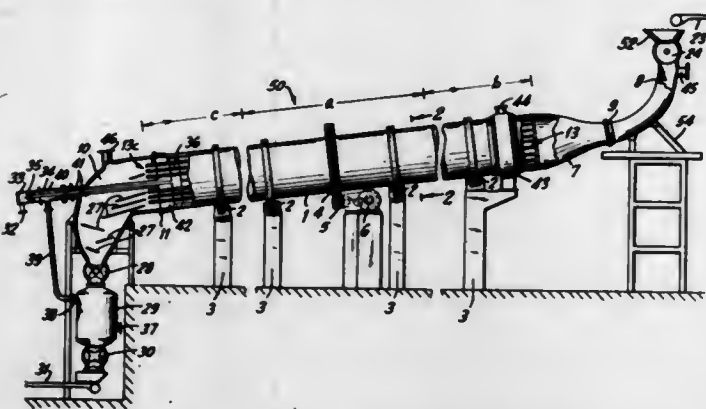
Original application July 6, 1965, Ser. No. 469,458, now Patent No. 3,461,037. Divided and this application Sept. 27, 1968, Ser. No. 794,812

Claims priority, application Germany, July 3, 1964, St 22,347

Int. Cl. F27b 7/00

U.S. Cl. 263—32

3 Claims



A tube wall of ceramic material includes a groove on its interior which extends axially therealong in the form of a spiral, a projection is formed on the exterior of the wall along its length at at least three equally spaced locations around its periphery. Recesses are formed between adjacent projections so that a plurality of tubes may be arranged together with the projections of one engaged in the recesses of the next adjacent tube, the projections are such that a passage is defined there-through. A baffle is arranged at fixed intervals along the length of the tube alongside the passage.

3,521,867

**HEAT RECUPERATOR STRUCTURE IN A ROTARY CEMENT KILN**

Renato Bucchi, Bergamo, Italy, assignor to S.p.A. "Italcementi" Fabbriche Riunite Cemento, Bergamo, Italy, a company of Italy

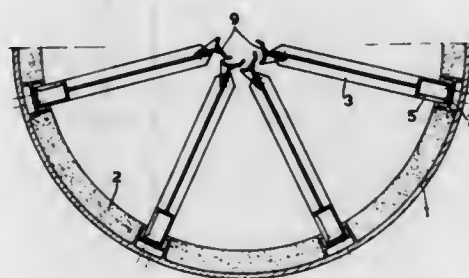
Filed Aug. 13, 1968, Ser. No. 752,336

Claims priority, application Italy, Aug. 18, 1967, 19,599/67

Int. Cl. F27b 7/00

U.S. Cl. 263—33

3 Claims



Heat recuperator structure in rotating kilns for manufacturing cement wherein are provided means for compensating the thermal expansion of the walls thereof.

3,521,868

**METHOD OF AND MEANS FOR CONSERVING HEAT RESIDENT IN HOT METAL BILLETS**

Joseph H. Engleman, P.O. Box 555, Seattle, Wash. 98111

Filed July 12, 1968, Ser. No. 744,480

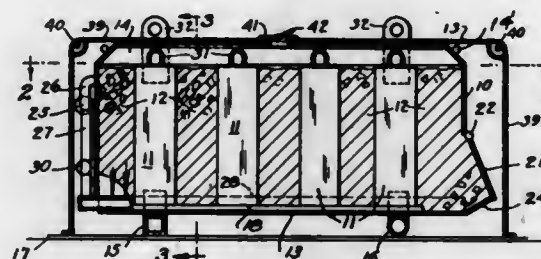
Int. Cl. F27b 21/04

U.S. Cl. 263—40

9 Claims

Most of the heat resident in the billets at the time they are removed from the billet molds is utilized to pre-heat metal scrap before placing the scrap in a melting furnace.

This is done by placing the hot billets in spaced apart relation in a receptacle, placing the metal scrap around them, maintaining a slow circulation of the air within the



receptacle while the scrap metal absorbs much of the heat from the billets and then removing the billets and transferring the pre-heated scrap to a melting furnace.

3,521,869

**APPARATUS FOR REMOVING SLAG AND SCALE FROM SOAKING PIT FURNACES**

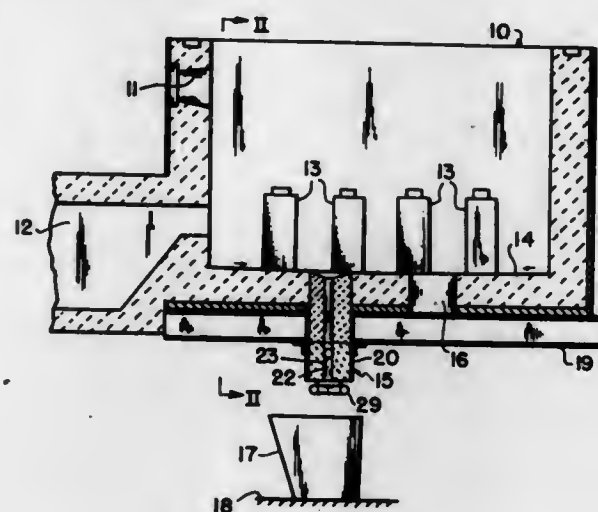
Walter Rudin, Pittsburgh, and Robert A. Shannon, Whitehall, Pa.; said Rudin assignor to Bloom Engineering Company, Inc., Pittsburgh, Pa.; said Shannon assignor to United States Steel Corporation, a corporation of Delaware

Filed Aug. 21, 1968, Ser. No. 754,200

Int. Cl. F27b 3/00

U.S. Cl. 263—40

7 Claims



Removal of slag and scale from soaking pit furnaces is accomplished by means of a duct depending from the lowest portion of the soaking pit floor, the passageway of said duct being maintained at a temperature above the melting point of the slag and scale by means of a burner which fires directly into the passageway and causes hot gases to pass throughout the passageway. Additional burners placed at the bottom of the duct provide heated gases at that point to insure the exiting of the slag and scale in the molten state.

3,521,870

**BASIC REFRACTORY MONOLITH**

Thomas W. Lewis II, and George R. Henry, Bethel Park, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Continuation-in-part of applications Ser. No. 627,972, Apr. 3, 1967, and Ser. No. 679,238, Oct. 30, 1967, which are the continuations-in-part of application Ser. No. 573,159, Aug. 10, 1966, which in turn is a continuation-in-part of application Ser. No. 530,630, Feb. 28, 1966. This application May 16, 1969, Ser. No. 825,186

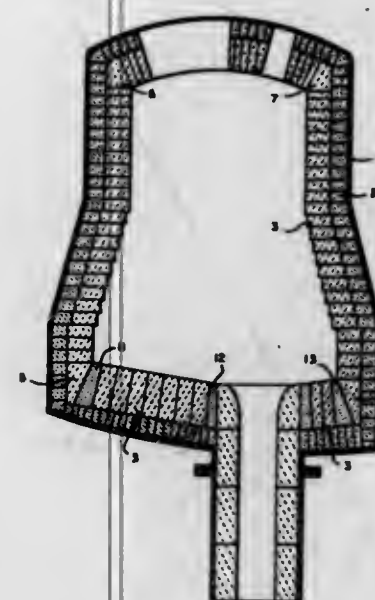
Int. Cl. F27d 1/00

U.S. Cl. 263—46

7 Claims

A vacuum degasser vessel having a lining comprised substantially of chemically basic brick shapes and mono-

lithic portions, the monolithic portions consisting essentially of fused magnesite chrome ore grain having a



magnesite chrome ore ratio between 30:70 and 70:30 and a suitable binder.

3,521,871

**LANCE FOR BLOWING GASES INTO CONTACT WITH MOLTEN METAL**

Rudolf Wurzbach, Dusseldorf, Germany, assignor to Gesellschaft zur Forderung der Eisenhütten-technik m.b.H., Dusseldorf, Germany, a corporation of Germany

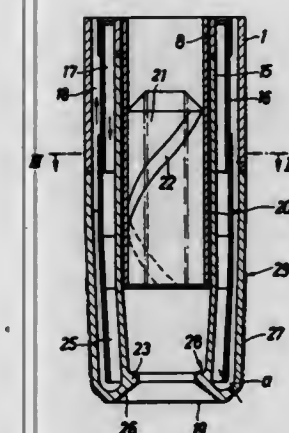
Filed Dec. 29, 1966, Ser. No. 605,918

Claims priority, application Germany, Dec. 30, 1965, G 45,602

Int. Cl. C21c 7/04

U.S. Cl. 266—34

15 Claims



A lance particularly adapted for use with converters to direct a gas such as oxygen, in which solid particles may or may not be suspended, onto or into a molten metal, the lance having a discharge nozzle through which the gas issues. At the discharge nozzle the lance has an inner constriction reducing the area through which gas issues and spaced inwardly from an extremity of the discharge nozzle at the end of the lance where the discharge nozzle is located, the lance having in its interior a gas-guiding means in the form of a body shiftable along the interior of the lance, spaced from the constriction, and formed at its exterior with helical grooves through which the gas flows to the nozzle so that the gas will spin substantially about the axis of the lance as it issues through the discharge nozzle, thus providing a substantially bell-shaped stream of gas flowing from the discharge nozzle beyond the latter to the molten metal.

3,521,872

**APPARATUS FOR CONTROLLING THE TEMPERATURE OF METAL LANCES IN MOLTEN BATHS**

Nickolas J. Themelis, Beaconsfield, Quebec, Canada, assignor to Noranda Mines Limited, Toronto, Ontario, Canada

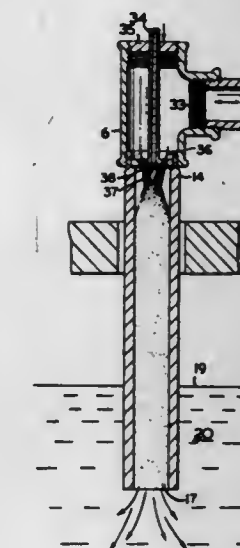
Filed Mar. 31, 1967, Ser. No. 627,466

Claims priority, application Great Britain, Apr. 13, 1966, 16,232/66

Int. Cl. C21c 7/00

U.S. Cl. 266—34

10 Claims



A water-cooled lance which may be used in the treatment of molten metal and which may be inserted beneath the surface of the metal. The lance structure provides a passage for gases and a passage for a coolant such as water. The water vaporizes as it contacts the hot lance body and so acts as a cooling medium and the gas and water vapour are admixed as they pass through the lance body and enter the molten metal as a gaseous mixture.

3,521,873

**PASSING TUBE FOR VESSEL FOR VACUUM-DEGASSING MOLTEN STEEL**

Kamematsu Matsuda, Kitakyushu, Japan, assignor to Nippon Steel Corporation, Tokyo, Japan

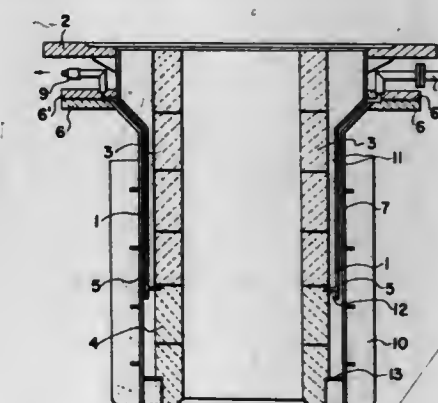
Filed Apr. 25, 1967, Ser. No. 633,778

Claims priority, application Japan, Apr. 28, 1966, 41/27,021

Int. Cl. C21c 7/06

U.S. Cl. 266—34

5 Claims



A passing tube fitted to the lower part of a molten steel degassing vessel, characterized by that said passing tube is made of a metal case composed of two tubular metals, inside core metal and outside core metal, having an air gap between them, and refractory linings are supported by each core metal and the lower part of the inside lining, the part most likely to be spalled and corroded, which is supported by the outside core metal, may be



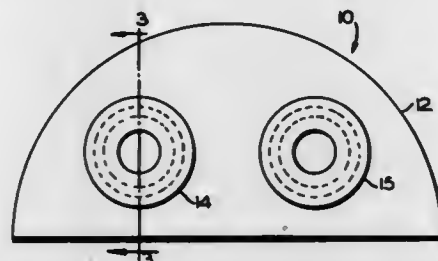
separately removed from the upper part thereof supported by the inside core metal to make partial replacement possible.

3,521,874

# GAS DIFFUSER UNIT FOR USE IN TREATING MOLTEN METAL

Eugene L. Warfield, Maywood, Ill., Charles M. Thompson, Hartford, Conn., and Gordon C. Johnson, Chicago, Ill., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware  
Filed May 12, 1967, Ser. No. 638,085  
Int. Cl. C21b 7/16; C21c 5/48  
U.S. Cl. 266—41

6 Claims



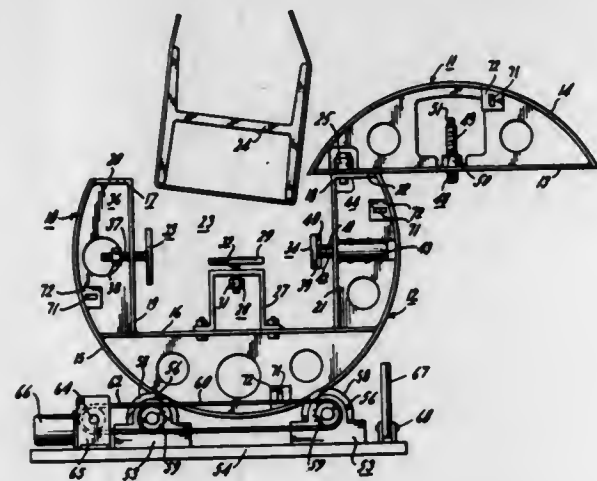
Apparatus for and method of treating molten metal by introducing gas into the molten metal through the wall of a porous graphite body immersed therein.

3,521,875

# ROTATABLE HANDLING DEVICE

Samuel D. Kapelsohn, Mount Vernon, N.Y., assignor to Grand Iron Works, Inc., Bronx, N.Y., a corporation of New York  
Filed Apr. 29, 1968, Ser. No. 724,897  
Int. Cl. B23q 3/10  
U.S. Cl. 269—58

12 Claims

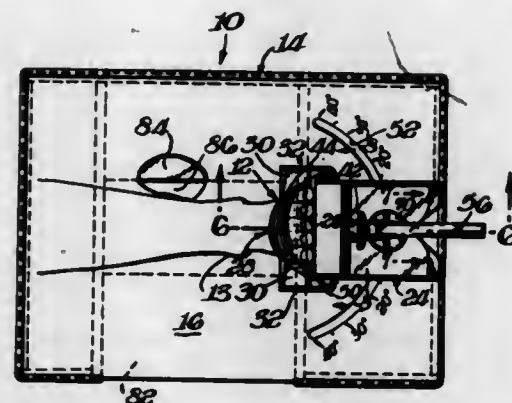


The invention is concerned with apparatus for positioning elongated workpieces, principally structural members such as columns, I-beams or the like, to permit ready access to a work-face for purposes of fabrication. The inventive apparatus comprises one or more cylindrical positioner units adapted to receive a workpiece in coaxial extension and provided with clamping means disposed radially inward for engaging the workpiece at a position along its length. Generally, in utilizing the invention, two positioner units will be employed, suitably at the ends of the elongated workpiece, although more positioner units may be employed depending upon length and weight of the workpiece. The curved surfaces of the cylindrical positioner units are set upon rollers or wheels to permit rotary positioning of the clamped workpiece and locking means may be provided to hold a positioner unit during loading or to fix the rotary position of the workpiece during fabrication.

# BODY MEMBER SUPPORT FOR X-RAY EXAMINATION

Jeffrey P. Smith, 2608 Whitman Drive, Wilmington, Del. 19808  
Filed Dec. 29, 1967, Ser. No. 694,665  
Int. Cl. A61g 13/00  
U.S. Cl. 269—328

8 Claims



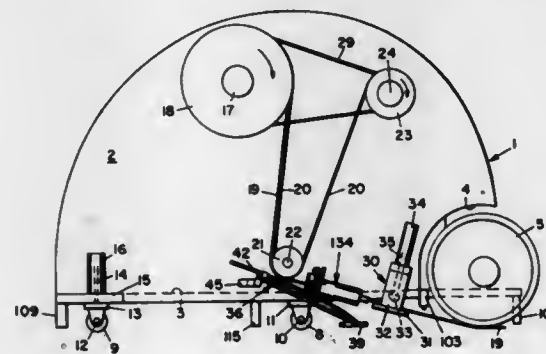
An arrangement for supporting a human body member in a variety of different positions to facilitate X-ray examination of the body member comprising a primary support and a secondary support having a body member supporting surface normal to the plane of the primary support. A securing assembly is connected to the secondary support for fastening a body member against the supporting surface thereof. A pivotal connection between the primary and secondary supports is provided for connecting the supports together so that the secondary support is movable relative to the primary support about an axis normal to the plane of the primary support to thereby locate a body member secured against the supporting surface of the secondary support in a variety of different positions relative to the primary support.

3,521,877

# APPARATUS FOR MAKING COMPOSITE FILAMENTARY STRUCTURES

Kevin E. Moran, Cumberland, Md., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware  
Filed July 18, 1968, Ser. No. 745,854  
Int. Cl. B65h 29/46; G01p 15/04  
U.S. Cl. 270—31

9 Claims



This invention relates to an apparatus for making composite structures by laying pre-impregnated filamentary tapes in a side-by-side relation on a pattern surface, the apparatus comprising a mobile unit adapted to traverse the pattern area while being steered by a control device that senses the edge of the previously laid tape to steer the unit along a path following the edge of that tape and including a tape-laying advance stroke and an idle reverse stroke. The apparatus includes a compensator for adjust-

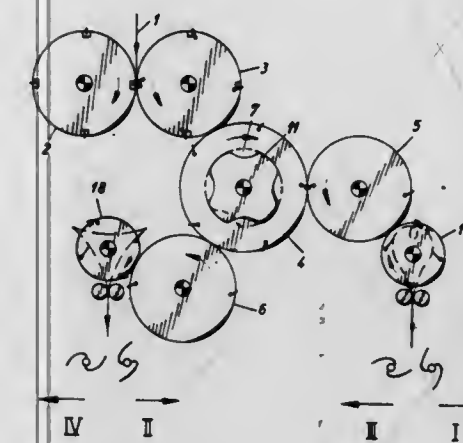
ing for the difference in the length of the path followed by the opposite edges of the tape as it is laid onto a contoured surface. The edge sensing device is adapted to float on an air bearing over the pattern surface so that it will not contact the tape, and senses the edge through variations in the pressure in a conduit for supplying a stream of fluid impinging upon the surface at the edge so that the volume of fluid and thus the pressure in the conduit varies with the position of the device laterally of the edge.

3,521,878

# FOLDING MECHANISM FOR ROTARY PRINTING PRESSES

Hans Bernhard Bolza-Schünemann, Würzburg, Germany, assignor to Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Würzburg, Germany  
Filed Oct. 4, 1968, Ser. No. 765,189  
Claims priority, application Switzerland, Sept. 11, 1968, 13,548/68  
Int. Cl. B65h 45/16  
U.S. Cl. 270—72

10 Claims



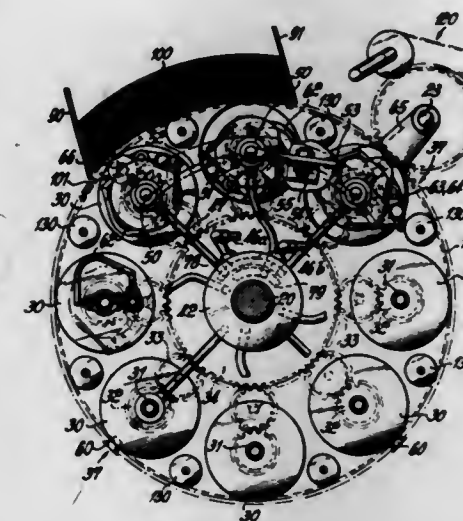
A grooved and cutting cylinder receive a web from a rotary printing press and feed the cut sheets to a five-section collecting cylinder. The collecting cylinder has a shaft carrying grippers and pins for each of its sections. A stationary cam having two cam recesses spaced 120° apart and an adjustably positionable disk-like cover member for covering one of the recesses is positioned at one end of the collecting cylinder. There is a lever connected to the adjacent end of each shaft having a cam follower riding on the stationary cam as the collecting cylinder rotates to actuate the pin and gripper shaft. At the other end of the collecting cylinder is a revolving cam having four cam recesses spaced 90° apart and a cover disk-like member adjustably mounted thereon so as to expose all four cam recesses or two opposite cam recesses 180° apart. There is a lever connected to the end of each pin and gripper shaft adjacent the revolving cam and a cam follower on the lever that is actuated by the revolving cam. There are two take-off or transfer cylinders positioned 120° apart as respects the collecting cylinder and cooperating therewith that each feed collected copies to respective gear folding cylinders. A modified cylinder arrangement has a five-section cylinder as a cutting die, folding blade and collecting cylinder. A 2/2 cutting cylinder with two knives cuts the paper web fed against the five-section cylinder, i.e., the 5/2 collecting cylinder. Two folding jaw cylinders, spaced 120° apart, take copies alternately from the 5/2 cylinder in double production. The pin and gripper control of the 5/2 cylinder is effected according to the firstly described collecting cylinder. It is possible to run non-collect, collect or if required double-collect production.

3,521,879

# APPARATUS FOR SINGLING STACKED TUBE SECTIONS OF PAPER OR PLASTICS MATERIAL SHEETING

Willy Niemeyer, Natrup-Hagen, Westphalia, Germany, assignor to Windmoller & Holscher, Lengerich, Westphalia, Germany  
Filed Jan. 24, 1968, Ser. No. 700,205  
Claims priority, application Germany, Feb. 13, 1967, W 43,347  
Int. Cl. B65h 3/08, 1/06  
U.S. Cl. 271—27

8 Claims



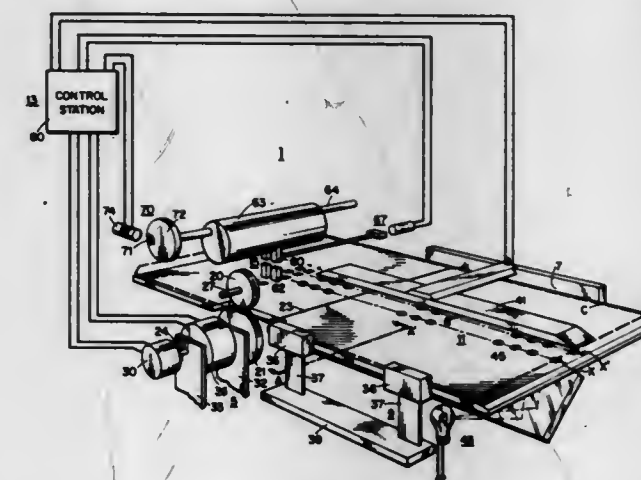
A stack of workpieces is supported by a set of rollers, which revolve along a cylindrical path about a common axis and have a common cylindrical envelope. At least one of the rollers has a circumference which is larger than the width of the widest tube sections to be singled and rotates about its own axis in a sense which is opposite to the sense of rotation of the rollers about the common axis. Said one roller is provided with at least one vacuum cup for sucking and entraining the lowermost tube section in the stack. The tube section is transferred at a transfer station to a forwarding device. The vacuum cups are movable in the withdrawing station to protrude from the cylindrical envelope of the revolving rollers.

3,521,880

# PROCESSING STATION WITH DOCUMENT HANDLING AND ALIGNING MEANS

Michael S. Shebanow, Frank A. Digillo, and Ronald F. Borelli, Medfield, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware  
Filed Dec. 30, 1968, Ser. No. 787,856  
Int. Cl. B65h 9/20; G01p 13/00  
U.S. Cl. 271—57

6 Claims



A high speed record handling and processing station for performing punching, read-write or other data operations. A low inertia fast response record transport means having a high mass, low spring rate card aligning means,

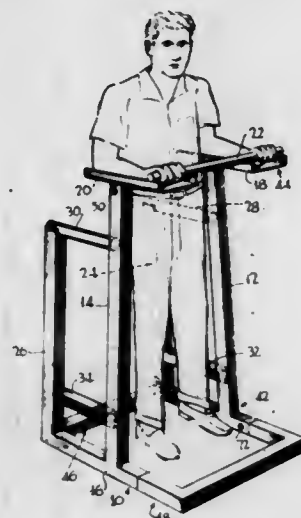


moves documents through a processing unit where data operations are performed thereon. A record tracking monitor indicates incremental progress of the documents along a predetermined path relative to the station; and a control unit, responsive to the tracking monitor output signals, coordinates the processing and transport operations in accordance with the incremental positions assumed by the document.

**3,521,881**  
**EXERCISING FRAME FOR STRENGTHENING THE SPINE**  
Herman Schaevitz, 226 Harding Ave.,  
Westmont, N.J. 08108  
Filed Mar. 16, 1967, Ser. No. 623,603  
Int. Cl. A63b 3/00

U.S. Cl. 272-63

2 Claims

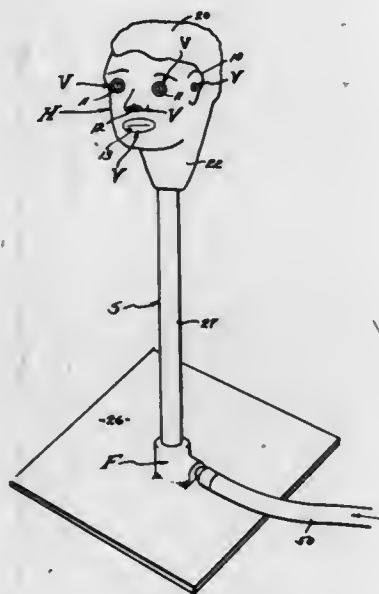


A frame device permitting a person to perform exercises to help strengthen his spine. The frame has a horizontal hand-gripping bar extending between the forward ends of a pair of horizontal arm rests allowing the user to project his body off the ground while resting his arms on the arm rests and gripping the bar with the hands.

**3,521,882**  
**FLUID DISCHARGING PUNCHING BAG**  
Bruce E. Kiernan, 13518 Tangier Ave.,  
Bellflower, Calif. 90706  
Filed Mar. 27, 1968, Ser. No. 716,561  
Int. Cl. A63b 69/22, 69/32

U.S. Cl. 272-78

14 Claims



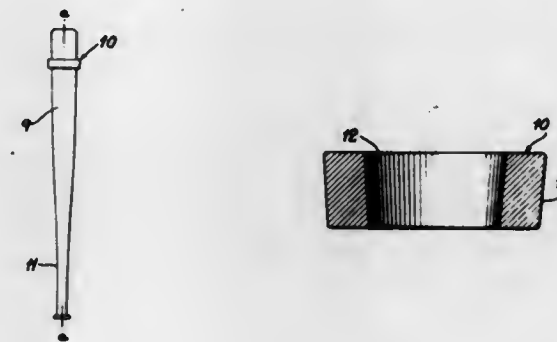
A punching bag, advantageously made as a toy, for stimulating play and/or practice of skills having to do

with boxing and the like. Fluid under pressure is usefully employed to operate the punching bag and to react under impacts to discharge fluid both in a bizarre fashion for excitement and in a practical manner for realism. The punching bag per se is preferably in the form of a pugilist's head and face, there being surge relief valves at the natural and appropriate openings in the head and face, and all of which is supplied by fluid under pressure, for example water from a control means supplied by a source of such fluid. As a result, the fluid water is discharged in streams from the said surge relief valves when the head and face is struck a blow and disfigured, and after which the fluid water from the control means enters into and restores the initial configuration of the head and face.

**3,521,883**  
**BASEBALL BAT WITH TRAINING WEIGHT**  
Frank G. Hamilton, Bergenfield, N.J., assignor of one-third each to Vincent H. Salvucci, Ridgewood, N.J., and Elston G. Howard, Teaneck, N.J.  
Filed Nov. 27, 1967, Ser. No. 685,938  
Int. Cl. A63b 59/06, 69/00

U.S. Cl. 273-26

9 Claims

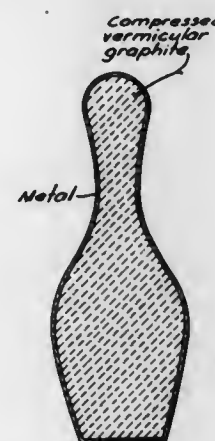


A training device in the form of a weight and adapted to be used with a baseball bat, the weight being substantially symmetrical about one axis and having a bore, the weight fitting around a section of the baseball bat near the baseball bat's widest section.

**3,521,884**  
**ARTICLE WITH AN EXPANDED VERMICULAR GRAPHITE CORE**  
Franciszek Olstowski and John G. Mezoff, Freeport, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
Original application Mar. 22, 1965, Ser. No. 445,834, now Patent No. 3,431,970. Divided and this application Aug. 8, 1968, Ser. No. 768,511  
Int. Cl. A63d 9/00

U.S. Cl. 273-82

3 Claims



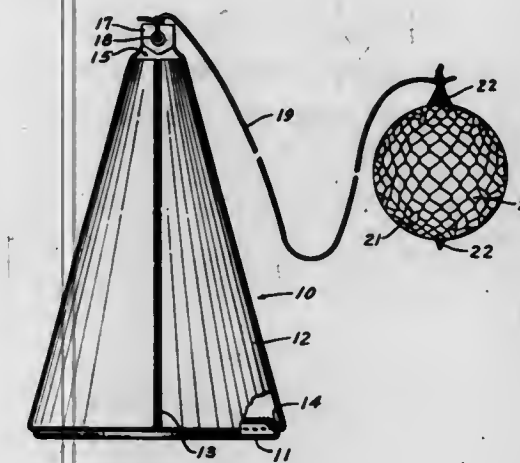
This invention relates to structures containing internal shaped voids and to a novel process for producing such structures. The invention relates more particularly to

structures containing shaped internal cavities filled with a form of expanded graphite and to the method of preparing such structures by employing preshaped cores of the expanded graphite.

**3,521,885**  
**TETHERED PLAY BALL DEVICE**  
Eli A. Robinson, Amsterdam, N.Y., assignor to Collette Manufacturing Company, Amsterdam, N.Y., a corporation of New York  
Filed Oct. 4, 1968, Ser. No. 765,261  
Int. Cl. A63b 67/00

U.S. Cl. 273-95

5 Claims

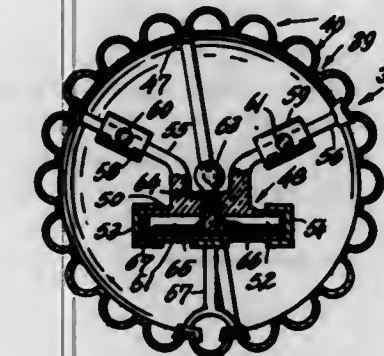


A tethered play ball device is disclosed using a casing as a base or anchor made of a crushable material with an opening through which weighting material may be inserted into the casing. The material of the casing is impervious to the weighting material. The casing is also conical in shape with sufficient angularity to the cone so that the ball tether which is secured to the top will not wrap or remain wrapped around the base but works upwardly when the ball is batted.

**3,521,886**  
**LIGHTED NUMBERS GAME BALL**  
Joseph Bosco, 31 Summer St., Everett, Mass. 02149  
Original application July 18, 1966, Ser. No. 566,188, now Patent No. 3,464,698, dated Sept. 2, 1969. Divided and this application July 19, 1968, Ser. No. 754,152  
Int. Cl. A63b 71/00

U.S. Cl. 273-138

2 Claims



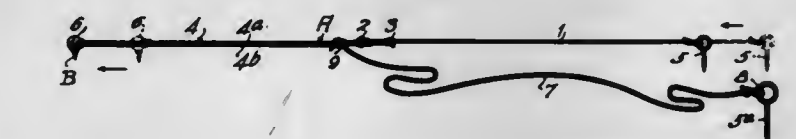
A pair of transparent semi-spherical shells are joined at their circular margins to form a spherical ball-shaped body. A tripod frame is mounted within the body. One leg of the tripod frame supports dry cell batteries and a light bulb electrically connected together. The other two legs of the tripod frame each include a weight, adjustably fastened by a screw to the respective leg for overall balancing of the body. The outer surface of the body consists

of a plurality of convex dome-shaped protrusions each having a numeral imprinted thereon. The dome-shaped protrusions may be pushed inwardly to keep track of the numerals associated therewith for scorekeeping. The semi-spherical shells can be separated so as to push out the indexed domed-shaped protrusions and rejoined in order to be utilized again as a scorekeeping device. A modification utilizes a hollow spherical body made in one piece which pushes out the indexed protrusions by applying air pressure from an external source.

**3,521,887**  
**GAME DEVICE HAVING A RESILIENTLY TETHERED BALL AND MULTIPLE TETHER ELEMENTS**  
Peter J. Butkus, 27 Burnet St., Maplewood, N.J. 07040  
Filed July 24, 1967, Ser. No. 655,467  
Int. Cl. A63b 69/36

U.S. Cl. 273-200

1 Claim

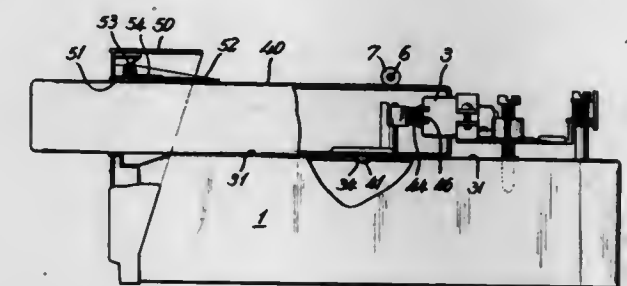


A ball tether cord is connected at its ends to a ball and to one element of a tethering means, respectively, and comprises a plurality of sections connected together end-to-end, one of which sections is longitudinally resilient, and a non-stretchable cord is connected to another element of the tethering means and to the tether cord beyond the end of said resilient section opposite the first-mentioned element, providing upon change of the relation of said elements to each other in the ground, variations in the extent of stretch of the resilient section and a positive limitation of the extent of such stretch.

**3,521,888**  
**CARTRIDGE HOLDER FOR TAPE PLAYER**  
Seiichi Kaneda, Tokyo, Japan, assignor to Teikoku Dempa Co., Ltd., Tokyo, Japan  
Filed Jan. 4, 1968, Ser. No. 695,593  
Claims priority, application Japan, June 15, 1967, 42/50,674  
Int. Cl. G11b 5/00

U.S. Cl. 274-4

1 Claim



In the present tape player there is provided means for pressing on the inserted end of a cartridge inserted in said tape player, an opening in the base of the tape player for receiving a roller carried by said cartridge to correctly position said cartridge in the tape player and a resiliently held door normally closing the cartridge receiving opening of the tape player and pressing on the inserted end of the inserted cartridge to hold the cartridge fixedly within said tape player.



3,521,889

## RECORDING APPARATUS

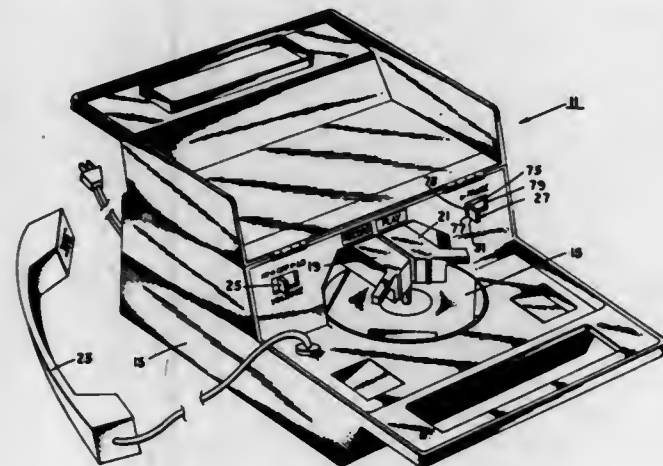
Jack L. Kelly and Ronald K. Wiandt, Decatur, Ill., assignors to General Electric Company, a corporation of New York

Filed Feb. 8, 1967, Ser. No. 614,585

Int. Cl. G11b 1/00, 3/00, 3/02

U.S. Cl. 274-9

3 Claims



A portable recording device with a one-piece multi-functional slidable control element. This element is structured for cooperation with a support so that it includes a first portion which is manually engageable, a second portion slidably cooperable with a support for guiding movement of the element, a third portion slidably coactable with a motion transmission means for controlling "pause" of the device, and a fourth portion slidably coactable with the motion transmission means for effecting a detent function of the element.

3,521,890

## QUICK CHANGE LIP SEAL CARTRIDGE DEVICE

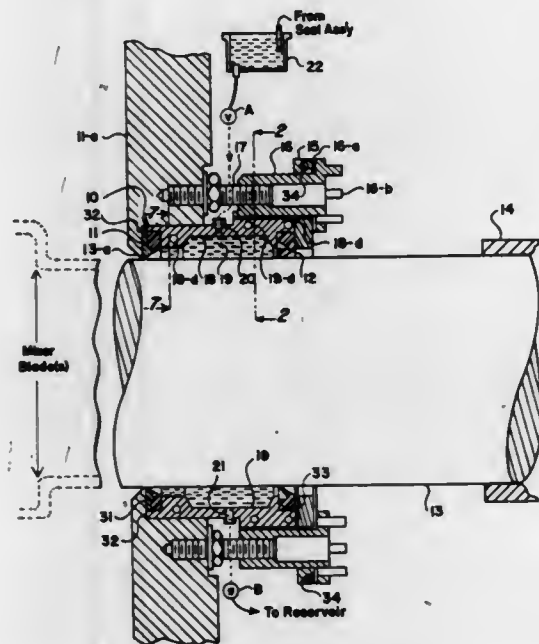
Robert E. Holmes, Marshall, Tex., and Robert O. Martin, Shreveport, La., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Continuation-in-part of application Ser. No. 536,105, Mar. 21, 1966. This application Oct. 7, 1968, Ser. No. 765,336

Int. Cl. F16l 15/40; F16k 41/00

U.S. Cl. 277-35

7 Claims



A seal assembly or a cartridge for the horizontal rotating shaft of a mixer or the like includes spaced apart inner

and outer lip seal elements disposed about the shaft and retained in a split sleeve shaped to receive the seal elements and a split retainer clamped to a portion of the mixer. The seal elements are resilient, circular in form with at least one discontinuity, and of a construction which induces low friction under run conditions. The space between the elements is provided with coolant from an external source.

3,521,891

## FLOW CONTROL SEALING CARTRIDGE

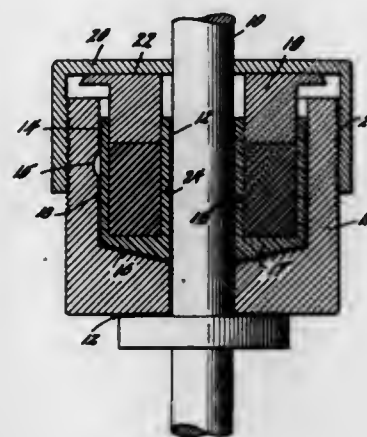
Joseph V. Tripoli, 329 Troy Del Way, Williamsville, N.Y. 14221

Filed July 11, 1967, Ser. No. 652,606

Int. Cl. B65d 53/02; F16k 41/00

U.S. Cl. 277-110

5 Claims



Valves for controlling a flow of fluid under pressure require hermetic seals against leakage around movable members. A cartridge that can be used about a valve stem to seal it off from leakage is provided with a sealing contact member in the form of an annular cup-shaped ring or shell formed of "Teflon" or other tough, flexible, wear-resistant material positioned between the rotatable stem and an outer fixed retainer body. Inserted into the cup-shaped ring to almost fill it, is a ring of substantially rectangular, cross-section rubber or similar resilient plastic material, leaving just enough room for insertion snugly in the shell to bear thereagainst a gland of metal or other hard substance. This is forced into the shell by adjustable means comprising a stuffing retainer and a threaded cap pushing the gland against the rubber insert to expand the shell radially into contact with the relatively movable valve surfaces and seal off the region about the movable stem from leakage.

3,521,892

## SEAL

John M. Sheesley, Houston, and Ronald A. Gulick, Sugarland, Tex., assignors to Research Engineering Company, Houston, Tex., a corporation of Texas

Continuation-in-part of application Ser. No. 685,888, Nov. 27, 1967. This application Jan. 3, 1968, Ser. No. 695,421

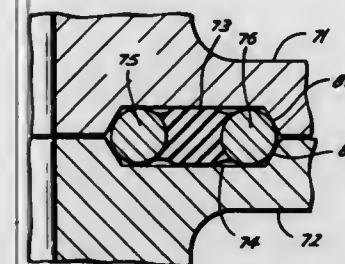
Int. Cl. B65a 53/00; F16j 15/00; F16k 41/00

U.S. Cl. 277-171

2 Claims

Seal having concentric rings interconnected by deformable sealing element having an undulating configuration.

Further, annular ring may be positioned intermediate the radially outermost of said concentric rings and the



bolts or fasteners used to join mated flanges. Flanges may be grooved or recessed to receive the seal.

3,521,893

## NONEXTRUSION RING

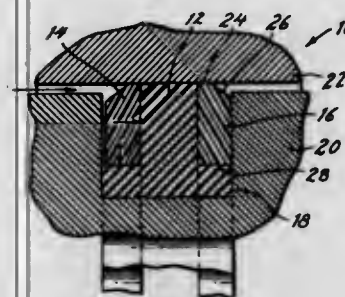
Walter S. Josephson, Skippack, Pa., assignor to Greene Tweed & Co., Inc., North Wales, Pa., a corporation of Pennsylvania

Filed May 14, 1968, Ser. No. 729,053

Int. Cl. F16j 15/00; F16l 21/02

U.S. Cl. 277-188

4 Claims



At least one non-extrusion ring is used in cooperation with an elastomeric ring in order to provide a seal between two relatively movable surfaces and prevent extrusion of the elastomeric ring. The non-extrusion ring has sufficient tensile strength so that it does not extrude into the clearance between the relatively movable surfaces. The area of contact of the non-extrusion ring with one of the relatively movable surfaces must be minimized in order to exceed the yield strength of the non-extrusion ring at the area of contact and thereby provide intimate contact between the non-extrusion ring and said one of the relatively movable surfaces. The relationship is defined by the equation:

$$T_1/T_2 = P/Y$$

wherein  $T_1$  is the thickness or axial length of one peripheral surface of the non-extrusion ring at the point of contact with one of the relatively movable surfaces;  $T_2$  is the thickness or axial length of the other peripheral surface of the non-extrusion ring;  $P$  is the fluid pressure; and  $Y$  is the yield strength of the material of the non-extrusion ring.

3,521,894

## AIR CHUCK HAVING AIR DISTRIBUTING VALVE

Girard S. Haviland, West Hartford, and Donald J. McCarthy, Wethersfield, Conn., assignors to The Jacobs Manufacturing Company, West Hartford, Conn., a corporation of New Jersey

Filed Oct. 21, 1968, Ser. No. 769,141

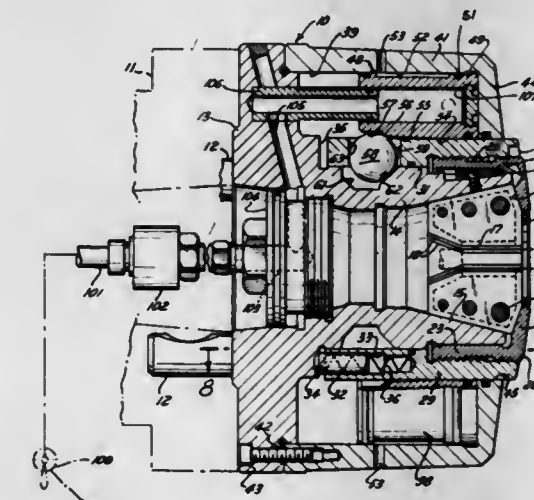
Int. Cl. B23b 31/30, 31/20

U.S. Cl. 279-4

10 Claims

This invention relates to an air chuck mountable to a hollow spindle of a lathe machine, having a pneumatically operable piston adapted when moved in one direction to shift a collet actuating sleeve to pressurize a collet into

gripping relation with a workpiece and to lock it in such condition, and adapted when moved in the opposite direction to shift the actuating sleeve to relaxed condition so as to release the gripping condition of the collet relative to the work. Operating air is selectively applied to one or the other ends of the piston through a distribution valve. The latter is pneumatically shiftable between a pair of stationary cam elements which cooperate with the valve each time it is shifted to angularly index the valve 45°. The valve has a return or normal position in which air-flow distribution ports are out of register with passages



3,521,895

## TOOL HOLDER

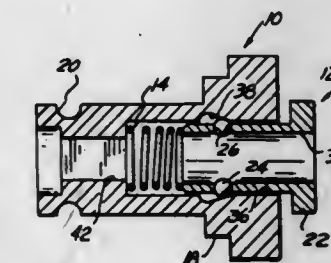
Theodore M. Smith, 14750 Puritan Ave., Detroit, Mich. 48227

Filed July 24, 1968, Ser. No. 747,155

Int. Cl. B23b 31/22

U.S. Cl. 279-22

1 Claim

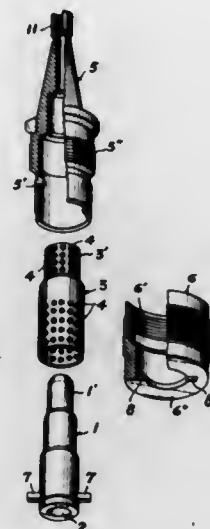


A tool holder which comprises an adapter and an axially slidable internal bushing which in turn receives and grips a tool to be driven. The tool is held within the bushing by a series of locking balls which are selectively cammed inwardly into the bushing bore by a tapered groove in the bore of the adapter. The tool is released by sliding the bushing against the compression of a spring to a point where the locking balls can move radially outwardly. The bushing is held within the adapter by an interference fit.



3,521,896  
CHUCKMasakazu Matsumoto, 1945 Ishikirimachi Higashi-  
Osaka-shi, Osaka-fu, Japan  
Filed May 28, 1968, Ser. No. 732,668  
Int. Cl. B23b 31/06, 31/20  
U.S. Cl. 279—91

1 Claim



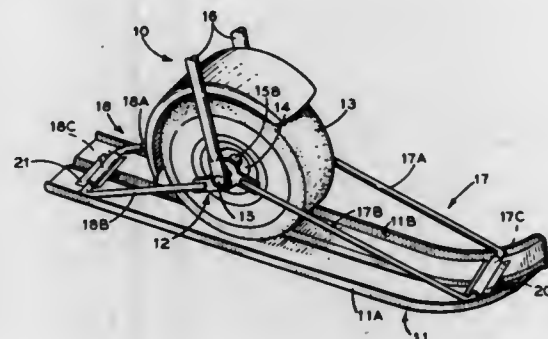
A chuck which is quickly interchangeable of tools in a machine tool, and comprises a collet whereby a tool shank is held and which has a plurality of lugs; a bearing holder set within the adaptor, supported by a spring at its end, shaped similar to the collet, and possessed of ball bearings; and a locking ring fitted outside of the adaptor and having notches through which the lugs of said collet may smoothly pass.

3,521,897

MECHANISM FOR DETACHABLY ATTACHING A  
RUNNER TO A VEHICLE WHEEL  
Edward R. Fester, St. Joseph, and Rudolph G. Lechner,  
Benton Harbor, Mich., assignors to Heath Company,  
Benton Harbor, Mich., a corporation of Delaware  
Filed Nov. 1, 1968, Ser. No. 772,680  
Int. Cl. B62b 19/02

U.S. Cl. 280—13

12 Claims



An attachment mechanism for detachably mounting a vehicle wheel to an elongated runner, such as a ski. Each mechanism comprises two U-shaped clamping and support members and each of such members comprises two coextensive, rigid side struts, a base rod which joins one end of each strut, and a jaw-like element affixed to the opposite end of each strut. The struts are pivotally connected together adjacent the opposite ends thereof, such that the jaws on one strut coact with the jaws on the other strut to open when the struts are pivoted toward one another and to close, and thereby clamp tightly about portions of the axle on each side of the vehicle wheel hub, when the struts are spread apart. With the struts spread apart and with the vehicle wheel in contact with the runner, the two base rods are clamped to the runner by

spring clips which are fixedly mounted at respective forward and rearward locations on the runner. To prevent relative lateral motion between the clamped wheel and the runner, especially when the wheel is being turned, the struts of one of the U-shaped members are positioned close enough to bear against opposite sides of the wheel.

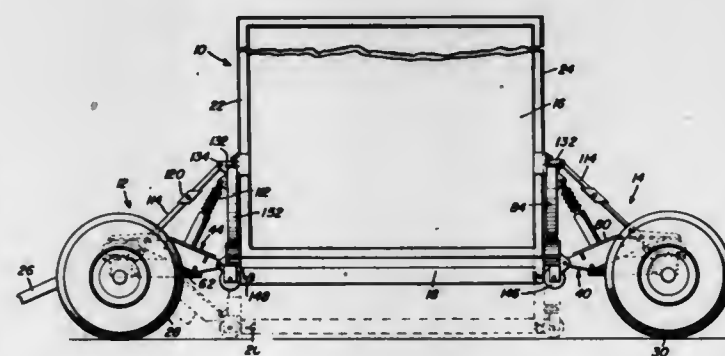
3,521,898

DEMOUNTABLE RUNNING GEAR WITH AIR BAG  
AND TORSION ARM SUSPENSION  
George M. Fulmer, Silver Spring, and Frank B. Lane,  
Annapolis, Md., assignors to Gichner Mobile Systems,  
Inc., a corporation of Maryland  
Continuation-in-part of application Ser. No. 596,567,  
Nov. 23, 1966. This application Nov. 22, 1967, Ser.  
No. 689,230

Int. Cl. B60g 9/00

U.S. Cl. 280—43.23

14 Claims



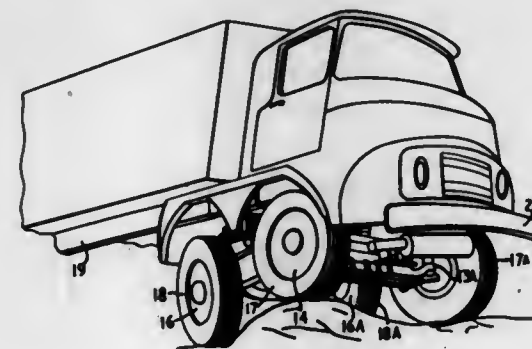
A running gear for detachable engagement with a load to enable the load to be towed from place to place including an air bag and torsion arm type suspension to enable limited twisting movement between the load and the axle of the running gear during movement over uneven terrain.

3,521,899

FRONT WHEEL MOUNTING FOR HEAVY  
ROAD VEHICLES  
Robert Frederick Whitehead, 56 Boundary Road, Chester  
Hill, near Sydney, New South Wales, Australia  
Filed May 22, 1968, Ser. No. 731,199  
Claims priority, application Australia, May 22, 1967,  
22,104/67  
Int. Cl. B62d 7/02

U.S. Cl. 280—81.5

20 Claims

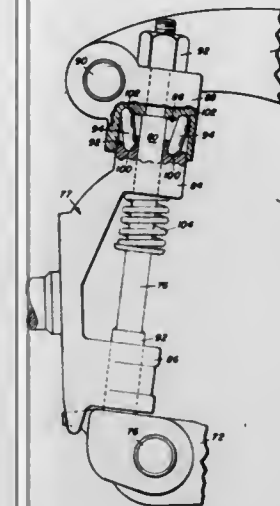


The invention relates to the steering of the front wheels of heavy vehicles having two axle beams mounting the wheel stub axles. The location of the steering mechanism relative to the intermediate trunnion permits maximum stability of the front wheel assemblies when travelling over irregularities of the ground surface.

3,521,900

DEVICE FOR REDUCING STEERING FORCE  
Yasuyuki Sakai, Tokyo, Japan, assignor to Nissan Jidosha Kabushiki Kaisha, Yokohama-shi, Kanagawa-ken,  
Japan, a corporation of Japan  
Filed Feb. 29, 1968, Ser. No. 709,255  
Int. Cl. B60g 7/00; B62d 7/18  
U.S. Cl. 280—94

12 Claims



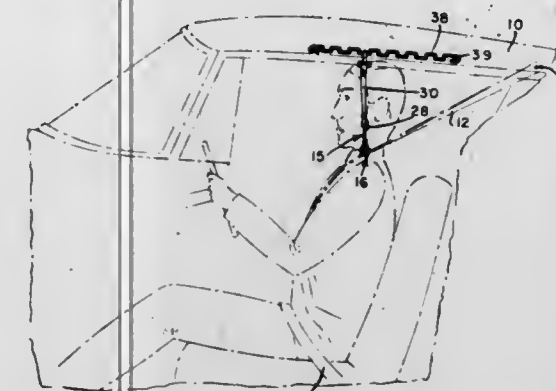
A device for reducing the forces necessary to steer a vehicle including a plurality of pins having opposite ends which are pivotally fitted between a control member and a steering member in such a manner that when the vehicle runs in a straight line direction the pins are in a first aligned or "on center" position and assume an "off center" position when the steering mechanism is subjected to a turning force in a manner to reduce these turning forces.

3,521,901

SHOULDER BELT COMFORT STRAP  
Mitchell A. Wackym, 3037 Hillbidge Drive,  
Montgomery, Ala. 36111  
Filed Aug. 14, 1968, Ser. No. 752,570  
Int. Cl. B60r 27/00

U.S. Cl. 280—150

7 Claims



Apparatus for relieving the shoulder strap of an automotive vehicle to prevent rubbing and irritating the skin of the user of the shoulder belt safety strap.

3,521,902

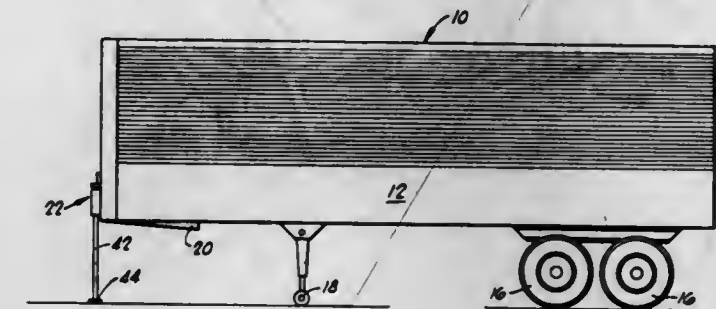
STABILIZING DEVICE FOR TRAILERS  
Robert M. Akers, 1300 S. Broadway,  
Oklahoma City, Okla. 73125  
Filed Feb. 26, 1968, Ser. No. 708,197  
Int. Cl. B60s 9/02

U.S. Cl. 280—150.5

13 Claims

An auxiliary supporting structure for stabilizing the forward end of double bottom transport trailers of the type having small dolly wheels disposed between the front and rear the trailer, such structure including a pair of horizontally spaced, horizontally extending arms each pivotally secured at one end to the forward end of

the trailer for pivotation about spaced, vertically extending axes, and each having a tubular socket at its opposite end slidably receiving an elongated, vertically extending stabilizer post. The arms are pivotal to a stabilizing first position in which they extend outwardly on each side of the trailer, at which time the stabilizer posts can be made to slide downwardly in their respective sockets until their lower ends contact the ground. Locking pins are extended



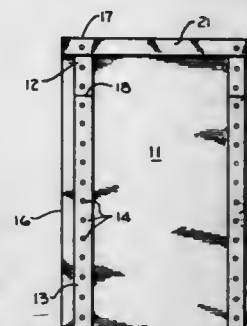
through mating apertures in the stabilizing posts and their respective tubular sockets to lock them in this position. When the trailer is to be transported by towing with a tractor, the arms are pivoted to a transporting second position in which they are folded inwardly against the forward wall of the trailer, and the stabilizing posts are moved upwardly in the sockets to a position where they clear the bottom of the trailer and allow the fifth wheel of the tractor vehicle to be moved under the forward end of the trailer.

3,521,903

FLEXIBLE SAFETY GUARD  
Dwight Rister, 1921 E. 12th St.,  
Indianapolis, Ind. 46201  
Filed Jan. 25, 1968, Ser. No. 700,476  
Int. Cl. B62d 25/16

U.S. Cl. 280—154.5

1 Claim



A safety guard or mudflap with spring steel strips molded in or fastened on a rubber sheet to provide a desired configuration and yet accommodate limited deformation to avoid damage and tearing. Brackets affixed to the strips and readily mountable and affixable to a vehicle for thereby supporting the sheets at the desired locations. Strips of highly reflective material extending on rear faces of the flaps from the lower margins thereof upward to points near the top margins thereof to alert following motorists.

3,521,904

VEHICLE STRUCTURE  
Lawrence E. Sheffer, R.R. 6, Portland, Ind. 47371  
Continuation-in-part of application Ser. No. 549,881,  
May 13, 1966. This application Mar. 20, 1968, Ser.  
No. 714,543

Int. Cl. B62k 25/60

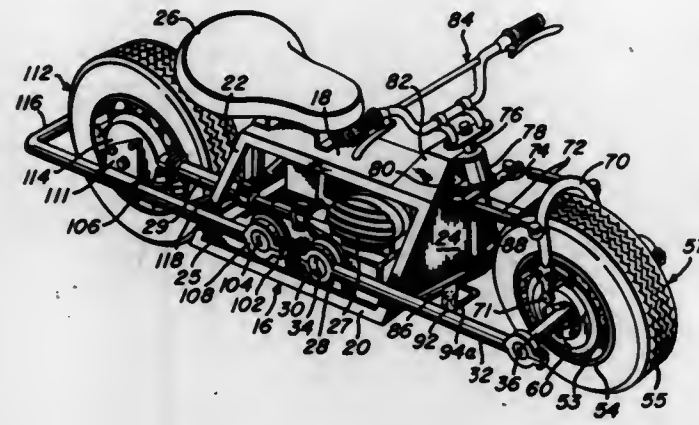
U.S. Cl. 280—270

15 Claims

Vehicle structure such as a motorcycle, bicycle or the like. The vehicle structure has a body member or frame member and comprises a suspension system which supports



the body member or frame member from the wheel members. Pivotal support means are attached to each of the



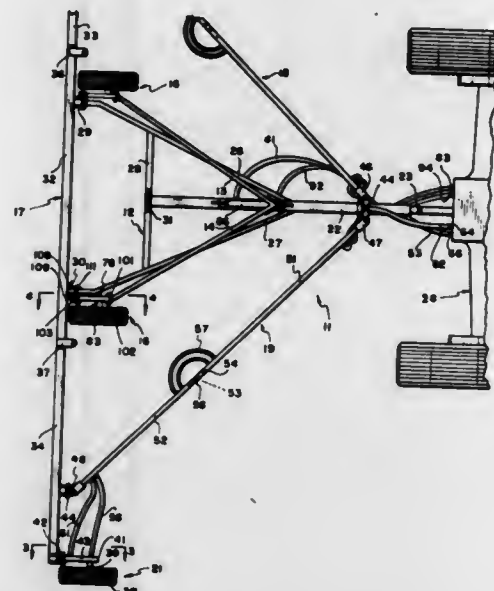
wheel members and to the body member. Torsion bar means join the body member to the pivotal support means.

### 3,521,905 WHEEL MOUNTING MEANS FOR A FOLDABLE FRAME STRUCTURE

Everett J. Tasset and Michael C. Hornung, both of  
Spearville, Kans. 67876  
Filed Oct. 9, 1967, Ser. No. 673,783  
Int. Cl. B62d 53/00

U.S. Cl. 280—411

3 Claims



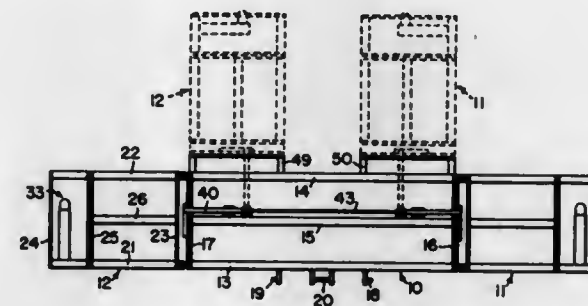
A foldable frame structure having a first wheel means pivotally connected to the frame member of the foldable frame structure operating in response to a linkage member and a first cylinder and piston means carried by the frame member wherein the linkage member in first cylinder and piston means are constructed and connected so that on operating the first cylinder and piston means the linkage member moves in response to raise and lower the first wheel means. A second wheel means is provided pivotally connected to the end portions of the support beam of the foldable frame structure. The second wheel means carries a second cylinder and piston means which operate to raise and lower the second wheel means independently of the movement of the first wheel means thereby facilitating movement of the foldable frame structure from one location to another when in the folded position and, at the same time, serving to support the support beam of the foldable frame structure when the foldable frame structure is in an extended working position.

### 3,521,906 FRAME FOR AGRICULTURAL IMPLEMENT

Jimmy Jay Parker, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware  
Filed Dec. 16, 1968, Ser. No. 783,847  
Int. Cl. B62d 53/00

U.S. Cl. 280—413

11 Claims



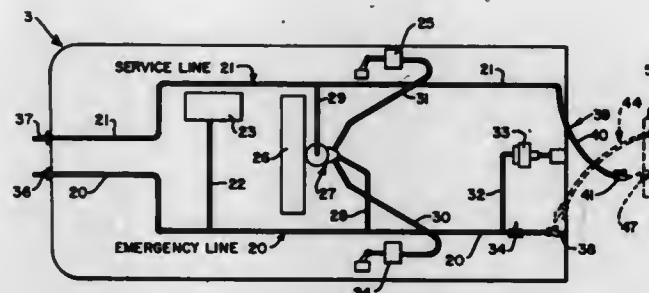
A flexible multiple section implement frame in which the outrigger sections can be folded around behind the main section for highway transport. The outrigger sections have horizontal hinge lines which permit flexibility and are also pivoted about vertical axes established on the main section inboard of the rear and ends of the main section. The outrigger sections are movable to a trailing transport position by disconnecting them from the main section in the proximity of the horizontal hinge lines, swinging them about the vertical axes, and connecting them to the rear of the main section.

### 3,521,907 AIR COUPLING ARRANGEMENT FOR TRAILER TRAINS

Ivan Pour, 56 Mountindale Road,  
Yonkers, N.Y. 10710  
Filed Aug. 22, 1968, Ser. No. 754,663  
Int. Cl. B60d 1/08

U.S. Cl. 280—421

3 Claims



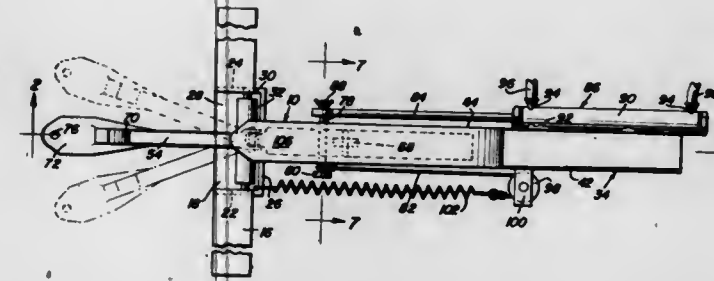
A trailer train (composed of a tractor, lead trailer, dolly and lag trailer) has, on each trailer, emergency and service air lines, which begin at the trailer's front end with a pair of short end-connections and terminate at the trailer's rear end in one short and one long end-connection, while, on the interposed dolly, such lines begin at the dolly's front end with one long and one short end-connection respectively complementary to and reversely duplicating the adjacent short and long end-connections on the lead trailer and terminate, at the dolly's rear end, in a pair of long end-connections for the lag trailer. Each short-end connection is in the form of a hoseless air coupler (or glad hand) fixedly mounted on the frame of its vehicle. Each long-end connection is in the form of a flexible hose mounted to project from the frame of its vehicle with its projecting end terminating in another glad hand.

### 3,521,908 SELF-ALIGNING TRAILER HITCH

Cyril L. Carter, Box 72A1, Rte. 1,  
Scottsbluff, Nebr. 69361  
Filed Mar. 21, 1969, Ser. No. 809,088  
Int. Cl. B62d 53/00

U.S. Cl. 280—479

11 Claims



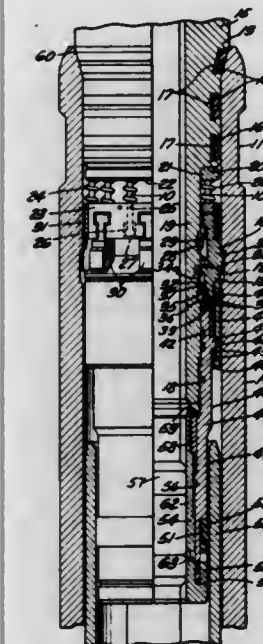
A tubular guide for support, in longitudinal disposition, from a towing vehicle with one end opening outwardly of the rear end of the vehicle. An elongated tension member including rigid front and rear sections swivelly joined together at adjacent ends is slidable longitudinally within the guide between a forward position with the rear section projecting only slightly rearwardly from the guide and guided against lateral movement in all directions and a rearward position with at least all but the forward terminal end of the rear section projecting rearwardly from the guide for at least limited lateral movement in all directions relative to the guide.

### 3,521,909 REMOTE UNDERWATER WELLHEAD CONNECTOR

Cicero C. Brown, Houston, Tex., assignor to Richfield Oil Corporation, Los Angeles, Calif., a corporation of Delaware  
Filed May 19, 1965, Ser. No. 456,968  
Int. Cl. E21b 33/00, 41/00; F161 25/00

U.S. Cl. 285—3

9 Claims



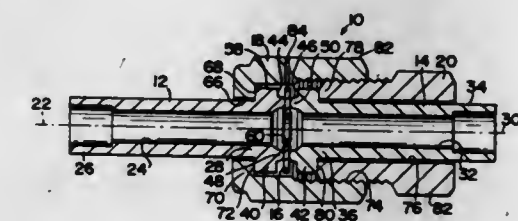
This invention relates to a mechanism for connecting a well tool such as a blowout preventer or a riser pipe to a tubular member in which the tool is supported. The mechanism is mechanically latched, unlatched, and packed off with a device which is operable internally of the well tool by rotating a translatable member.

### 3,521,910 TUBE COUPLING

Francis J. Callahan, Jr., Chagrin Falls, and Erling G. Wennerstrom, Mayfield, Ohio, assignors to Cajon Company, Solon, Ohio, a corporation of Ohio  
Filed Nov. 12, 1968, Ser. No. 775,017  
Int. Cl. F161 55/00

U.S. Cl. 285—14

7 Claims



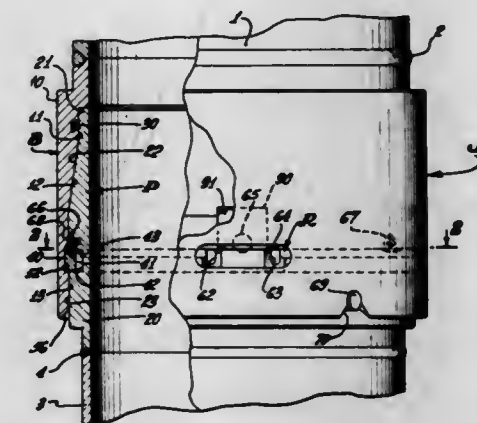
Disclosed is a coupling suitable for use on both pressure and vacuum applications. The coupling comprises a pair of coupling components each having a bore, an axis, a first end and a second end. The first end of each of the components is adapted to be secured to a fluid line. The second end of each component includes a radially extending flange having an end face. A generally annular rib, semicircular in cross section, extends from the end face of each such flange. The coupling components are adapted to be disposed in end-to-end relationship with the rib of one component opposed to that of the other. A generally annular sealing gasket is disposed between the ribs, and a coupling nut and gland nut cooperate to draw the respective flanges together whereby the ribs of each of the components are brought into sealing engagement with the gasket.

### 3,521,911 LOCKABLE AND UNLOCKABLE, RELEASABLE TOOL JOINTS

James W. E. Hanes, Ventura, Calif., and Ernst Leonhardt, Celle, Germany, assignors to Vetco Offshore Industries, Inc., Ventura, Calif., a corporation of California  
Filed Mar. 6, 1968, Ser. No. 711,039  
Int. Cl. F161 55/00

U.S. Cl. 285—27

18 Claims



A releasably connectible tool joint including a pin member and a complementary box member connectible together by a split latch ring, the latch ring being releasable by a tool for changing the latch ring diameter, the tool being automatically disconnected from the latch ring upon separation of the pin and box members, and a releasable lock for preventing inadvertent change in the latch ring diameter.



3,521,912

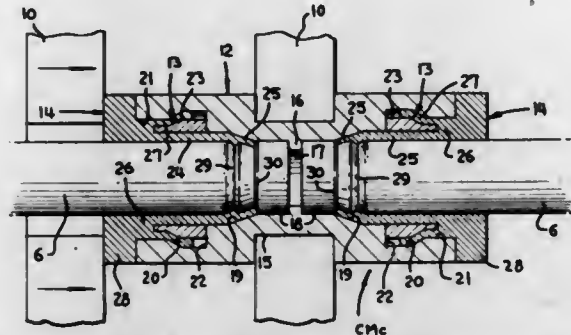
**TUBE COUPLING HAVING DEFORMABLE GRIPPING MEANS**

John Franklin Maurer, Camp Hill, Pa., assignor to AMP Incorporated, Harrisburg, Pa.  
Original application Oct. 18, 1966, Ser. No. 587,944.  
Divided and this application Aug. 26, 1968, Ser. No. 777,525

Int. Cl. F16l 19/08

U.S. Cl. 285—39

5 Claims



A tubular connection member comprises a tubular body member provided with an interior surface having axially-spaced camming surfaces, the end of the tubular member being disposed within the interior surface. An insert is disposed on the end of the tubular member and having an annular section, and a ring is provided with a camming area positioned on the insert with the camming area facing the annular section. The insert is forcefully driven within the interior surface of the body member with the leading end of the insert being driven against the tubular member by the inner camming surface, and the annular section being flared by the camming area into engagement with the outer camming surface and secured between the outer camming surface and camming area.

3,521,913

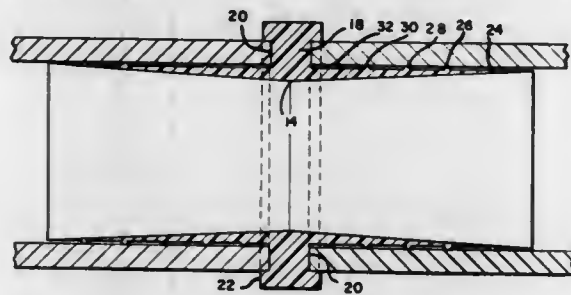
**TUBE COUPLING**

Donald Verhein, 2116 N. Peninsula Road, Oconomowoc, Wis. 53066, and Gene D. Verhein, 150 Main St., Wales, Wis. 53183  
Continuation-in-part of application Ser. No. 595,519, Nov. 18, 1966. This application Aug. 26, 1968, Ser. No. 755,106

Int. Cl. F16l 17/00, 27/10

U.S. Cl. 285—109

8 Claims



A tube coupling comprising a tubular plastic housing with a radially extending flange, the internal diameter of the housing increasing in diameter from the center outwardly toward its ends and the external surface of the housing having a number of annular ridges.

3,521,914

**ELECTRICAL PLASTIC CONDUIT END FITTING AND ASSEMBLY**

Richard J. Delahunty, Chester, N.J., assignor to Co-Operative Industries, Inc., Chester, N.J., a corporation of New Jersey

Filed Sept. 19, 1968, Ser. No. 760,754

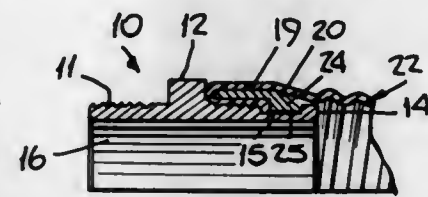
Int. Cl. F16l 33/20; H02g 15/02

U.S. Cl. 285—240

6 Claims

A sleeve with a counterbore fits within the end of a thin-walled plastic conduit, the end of the conduit being

cuffed inwardly about the end of the sleeve and extending into the counterbore. A tubular body fits within the sleeve and has at least a portion expandable to interlock there-



with for preventing axial separation. At the same time, the body member confines the end of the conduit within the counterbore of the sleeve.

3,521,915

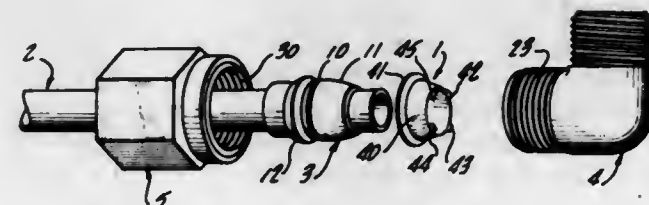
**FLARELESS CONNECTION AND SEALING ELEMENT FOR SUCH A CONNECTION**

William James Scott, Costa Mesa, Calif., assignor to VSI Corporation, Pasadena, Calif., a corporation of Illinois  
Filed Jan. 24, 1968, Ser. No. 700,225

Int. Cl. F16l 17/00

U.S. Cl. 285—341

11 Claims



An annular tapered sealing element is disposed between a convexly cusped, truncated annular male mating surface of a first conduit and a conical, truncated female mating surface of a second conduit. The shape of the sealing element conforms to the contour of the female mating surface. A transverse flange extending around the larger end of the sealing element seats on a transverse annular surface at the base of the female mating surface. Four inwardly directed, elastically deflectable tabs are distributed around the smaller end of the sealing element to engage the first conduit.

3,521,916

**UNITARY KEYED INSERT BUSHING**

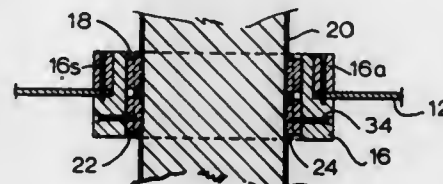
George F. Hitt, Eureka, and Neal M. Renfro, Arcata, Calif., assignors to Humboldt Machine Works, Inc., Arcata, Calif.

Filed Nov. 18, 1968, Ser. No. 776,499

Int. Cl. F16d 1/06

U.S. Cl. 287—52.05

1 Claim



A bushing that has circumferential integrity so that it extends a full 360°. The bushing has at least one axially extending excision for permitting a key to extend from a keyway in a part within the bushing to a keyway in a part without the bushing. The excision does not extend throughout the entire axial extent of the bushing so that a web is formed to preserve the circumferential integrity, and installation and fitting of the bushing is simplified. A key having an excision that corresponds to the web in the bushing so as to retain the bushing in proper position.

3,521,917

**POSITIVE ACTION CLAMP**

Charles E. King, 104 N. Genesee St., Blue Rapids, Kans. 66411  
Filed May 20, 1968, Ser. No. 730,543

Int. Cl. F16b 7/04

U.S. Cl. 287—111

9 Claims



A breakaway signpost has an upright post which includes a lowermost anchor section and an uppermost breakaway section separate from and resting on the upper end of the anchor section. The butt joint between the sections is overlapped by opposed plates held against the post by two spring-loaded bolts, by a top rigid bolt, by ball and socket interlocks with the anchor section, and by an optional shear pin. Impact with the post causes its upper section to completely separate from its lower section.

3,521,918

**FISHLINE KNOTTING FIXTURE AND CUTTER**

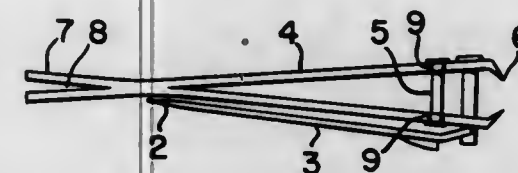
Richard L. Hammond, P.O. Box 129, Lakeside, Calif. 92040

Filed Aug. 14, 1968, Ser. No. 752,661

Int. Cl. D03j 3/00

U.S. Cl. 289—17

2 Claims



The combination of a fisherman's line and hook tying aid and means for cutting the free end of the line near the knot tied thereon.

3,521,919

**LOCKABLE LATCH MECHANISM**

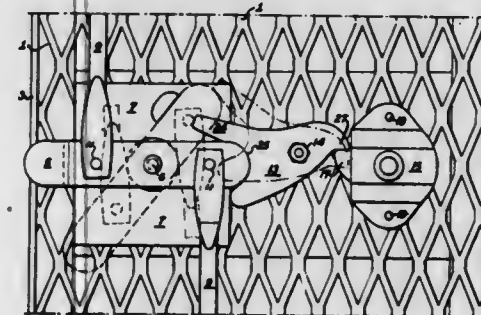
Robert D. W. Berg, Bloomington, Minn., assignor to De Bourgh Manufacturing Company, Minneapolis, Minn., a corporation of Minnesota

Filed June 11, 1968, Ser. No. 736,232

Int. Cl. E05c 5/00

U.S. Cl. 292—7

3 Claims



A locking mechanism including a handle coupled with a turnable locking bar which cooperates with an inter-

mediate pivotable dog. The locking bar interfits in a recess in one end of the dog. The other end of the dog is held by a projecting latch when the latter is locked.

3,521,920

**CASKET LOCK STRUCTURE**

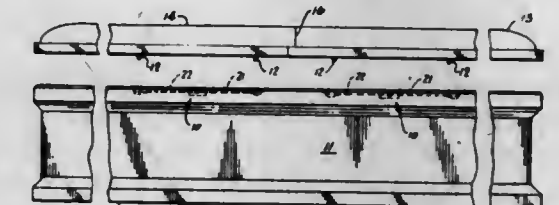
Donald A. Morand, Danville, Ill., assignor to Estad Products, Inc., Danville, Ill., a corporation of Oregon

Filed Oct. 10, 1968, Ser. No. 766,479

Int. Cl. E05c 9/04, 9/12

U.S. Cl. 292—39

4 Claims



Disclosed is a burial casket lid locking mechanism which is operated from a single, central point along the length of the casket, rotation of the single operator serving to draw two, spaced, inclined cam surfaces toward each other and thereby drawn down and lock the casket lid without any tendency to laterally shift or displace the lid during its final closing movement.

3,521,921

**ELECTRIC LOCK OR ELECTRIC DOOR OPENER**

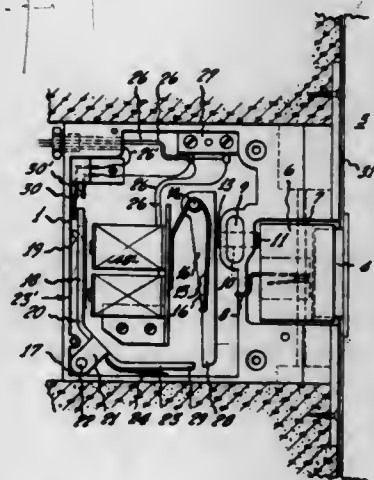
Nagao Miyazaki, Sakai, Japan, assignor to Japan Electronics Industry, Limited, Osaka-fu, Japan, a Japanese corporation

Filed July 31, 1967, Ser. No. 657,207

Int. Cl. E05c 3/00; E05b 15/02

U.S. Cl. 292—201

2 Claims



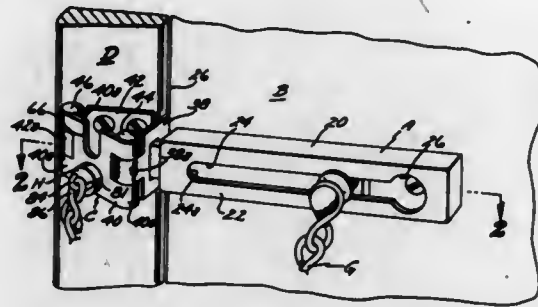
Electric locks for doors and the like embody electro-mechanical locking and unlocking mechanisms combined with electromagnetic circuits and electric signalling means. A novel recessed rotary keeper slidably receiving a portion of a lock bolt is associated with a novel reciprocating latch pressure member engages the outer plural-angled periphery of the keeper and is operatively connected with an electromagnetic armature circuit with electric switches directly manually actuated, or activated upon manual opening and/or closing the door or the like. The electric signal is incorporated in the circuitry.



**3,521,922**  
**LOCK ASSEMBLY**  
 Dan P. Bowling, 2625 Colt Road,  
 San Pedro, Calif. 90732  
 Filed Dec. 9, 1968, Ser. No. 782,143  
 Int. Cl. E05c 17/36

U.S. Cl. 292—264

5 Claims

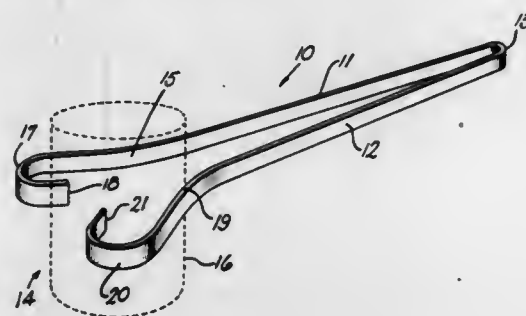


A lock comprising a pivotally connected multiple plate keeper assembly that is attachable to a door jamb, which assembly includes a chain that is connected to an actuator, with the actuator being adapted to be removably supported in a predetermined position on the assembly. The lock further includes an elongate longitudinally slotted housing secured to a door in horizontal alignment with the keeper assembly. A slidable bolt is contained in the housing, and may be moved by the actuator to engage the keeper assembly and positively lock the door. The actuator is also capable of removably engaging the slotted housing to hold the door in a locked position, but one in which the door may be partially opened.

**3,521,923**  
**TONGS**  
 Leon L. Noel, R.R. 3, Box 285,  
 Battle Creek, Mich. 49017  
 Filed Feb. 15, 1968, Ser. No. 705,838  
 Int. Cl. A47j 45/10

U.S. Cl. 294—33

6 Claims



The present invention deals with a special form of tongs or receptacle holder, having a pair of handles each having a wedging cam portion opposite the other, with the handles extending beyond said cam portion and turning outwardly and then inwardly and back substantially symmetrically to a pair of substantially parallel gripping ends, so that by tightly gripping the handles the cam portions will firmly push the receptacle up against the gripping ends for improved holding capacity.

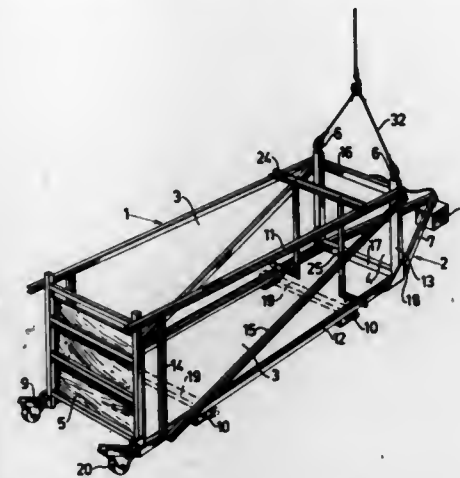
**3,521,924**  
**CARRIER**  
 Lars Gustav Wallenius, Ostra Agatan 11,  
 Uppsala, Sweden  
 Filed May 17, 1968, Ser. No. 730,095  
 Claims priority, application Sweden, May 18, 1967,  
 6,989/67  
 Int. Cl. B66c 1/00

U.S. Cl. 294—67

6 Claims

Carrier to be suspended from a crane for receiving and lifting bulk material. The carrier includes a cradle which is unsymmetrically suspended relative to its center of

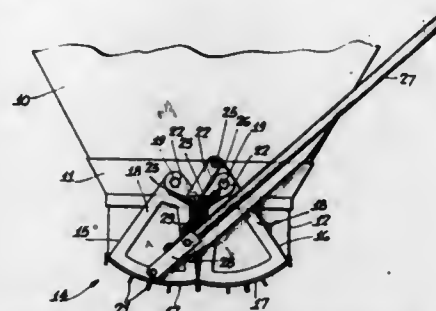
gravity when loaded and a counterweight means which extends from the cradle in such a direction relative to its



**3,521,925**  
**GATE OPERATING MECHANISM FOR CONVEYING BUCKETS**  
 Gerald R. Heal, Scarborough, Ontario, Canada, assignor to Dominion Magnesium Limited, Toronto, Ontario, Canada  
 Filed June 24, 1968, Ser. No. 739,350  
 Int. Cl. B66c 3/00

U.S. Cl. 294—71

4 Claims

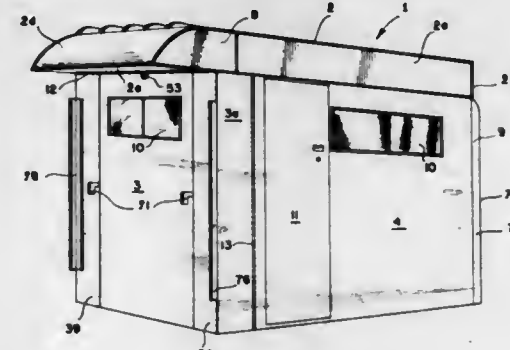


The invention relates to a gate operating mechanism for buckets of the concrete conveying type. The gate comprises a pair of pivotally suspended sections connected by a linkage. An operating handle and a spring are associated with the linkage to provide easy and effective opening and closing movement of the gate sections and whereby movement of the sections is under the control of the operator at all times.

**3,521,926**  
**FOLDING RIGID-WALLED CABIN**  
 Glendon C. Brewin, 262 W. Mill Road, Northfield, N.J. 08225, and Peter M. Brewin, 2400 Queens Chapel, Apt. 810, Hyattsville, Md. 20782  
 Filed Oct. 31, 1968, Ser. No. 772,309  
 Int. Cl. B60p 3/34

U.S. Cl. 296—27

7 Claims



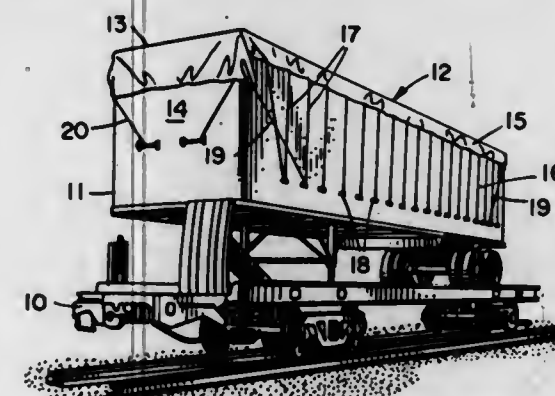
A foldable rigid-walled cabin capable of being transported atop the roof of a standard-sized automobile when

in a folded state. The cabin is folded in such a manner as to permit lateral unfolding thereof subsequent to detachment from the automobile roof.

**3,521,927**  
**OPEN-TOPPED TRAILER COVER**  
 James S. Barry, Omaha, Nebr., assignor of one-half interest each to International Paper Company, New York, N.Y., a corporation of New York, and The Stanley Works, New Britain, Conn., a corporation of Connecticut  
 Filed Feb. 28, 1968, Ser. No. 708,940  
 Int. Cl. B60p 7/04

U.S. Cl. 296—100

3 Claims

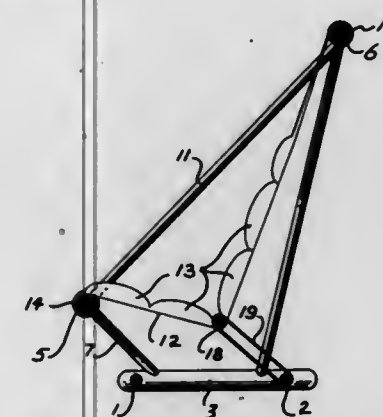


A flexible polyethylene cover of lightweight construction (approximately 10-25 mils thick) for an open-topped piggyback trailer (approximately 40 feet long x 8 feet wide) wherein the cover has draped portions along the four sides, the cover being supported by straps running transversely of the trailer and extending beyond the cover for tie-down connection on the vertical side. The straps are connected to the cover by means of polyethylene strips, each strip sealed along its side to the cover and confining a given strap, each strap being bonded to its associated strip, the area of heat sealing in the draped portion being, for each strap, at least about 5 square inches for each foot of strap in the draped portion.

**3,521,928**  
**SLING SETTEE**  
 Keith F. Nissen, 503 Galer St., Seattle, Wash. 98109  
 Filed June 27, 1968, Ser. No. 740,663  
 Int. Cl. A47c 4/02

U.S. Cl. 297—441

2 Claims



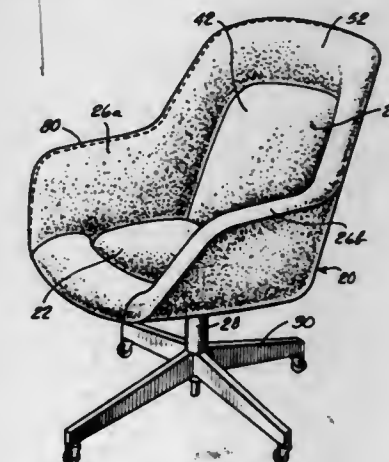
A settee frame includes spaced fore-and-aft base bars threaded on front and rear spacer bars, an upper rear rail carried by upwardly divergent struts inclined upwardly and rearwardly from the rear portions of the base bars, a lower front rail supported by upwardly divergent struts inclined forwardly and upwardly from forward portions of the base bars, and side struts inclined forwardly and downwardly and connecting the opposite end portions respectively of the upper rear rail and the lower front rail. Chain cushion seat slings hang between the upper rear rail and the lower front rail and are held with their back and seat portions in angular relationship by straps con-

necting the rear spacer bar of the frame base and a bar cradled by the chain cushion sling or slings between the adjacent seat and back cushions.

**3,521,929**  
**FURNITURE CONSTRUCTION**  
 Maxwell E. Pearson, East Greenville, Pa., assignor to Art Metal-Knoll Corporation, a corporation of Delaware  
 Filed Nov. 9, 1967, Ser. No. 681,803  
 Int. Cl. A47c 1/12; 7/02

U.S. Cl. 297—454

20 Claims



A chair or similar article of furniture employing molded shells which mate to complete an integral shell. Two shells are employed: a perimeter shell having an aperture therein and a center shell that mates with the perimeter shell so as to close off the aperture in the perimeter shell. The two shells are advantageously molded first as one piece which is then cut into the two shells. Each shell is separately upholstered with upholstery connections being located along an edge portion of the shell. The two shells are thereafter joined together along the edge portions; upholstery connections along the edge portions are concealed between the joined-together portions.

The mating shells may incorporate flanges along the edges thereof which abut in joining the shells together. In such a case, and when one flange presents an outwardly exposed surface, a doubled-over piece of upholstery may be employed to cover the exposed surface. The doubling over of the upholstery conceals the upholstery connections into the exposed surface as well as the fastening elements used to join the two shells together. A free edge of the doubled-over upholstery is then tucked between the abutting flanges to complete the upholstery. Alternatively, an extrusion may be employed as a spacer between the abutting flanges of the two shells, with a portion thereof extending over the outwardly exposed flange surface. The extrusion may have upholstery adhered thereto, and thus conceals the upholstery connections and the fastening elements used to join one shell to the other.

The upholstery for the perimeter shell is a machine-sewed fabric envelope, eliminating all hand-stitching except for the sewing of a small flap under the front of the shell.

**3,521,930**  
**VEHICLE GRAVITY BED**  
 Bobbie R. Tucker, Jefferson, Iowa, assignor to Parker Industries, Inc., Silverlake, Ind., a corporation of Indiana  
 Filed Nov. 29, 1967, Ser. No. 686,472  
 Int. Cl. B60p 1/56

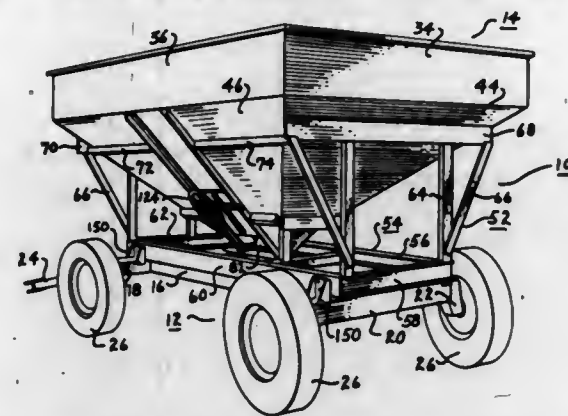
U.S. Cl. 298—24

10 Claims

A gravity bed for a vehicle in which the two side walls and two end walls slope toward the center of the bed and openings are provided in the side walls near the bottom thereof for discharging the contents of the bed. The



openings are closed with plate-like doors which slide parallel to the sloping sides. One of the openings may be



used to discharge the contents by gravity and the other of the doors used to connect an auger or other type of conveyor means to the bed for discharging the contents.

3,521,931

**FILLER TOOL FOR A BRUSHMAKING MACHINE**  
William Eric Mortimore Smith, Havant, England, assignor to J. Evans & Son (Portsmouth) Limited, Portsmouth, England, a British company

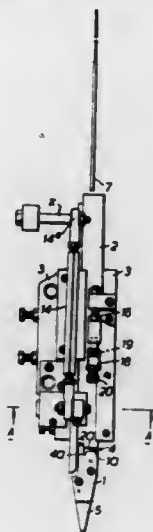
Filed July 10, 1967, Ser. No. 652,315

Claims priority, application Great Britain, July 18, 1966, 32,151/66

Int. Cl. A46b 3/00

U.S. Cl. 300—8

3 Claims



Filler tool of brushmaking machine comprises two tool slides having surfaces defining a tuft receiving slot which is opened and closed by relative movement of the slides, a cropping tool cuts off slug from a metal strip and delivers it into a channel to be driven by a driver onto an inserted tuft and insert it into a hole in a brush stock.

3,521,932

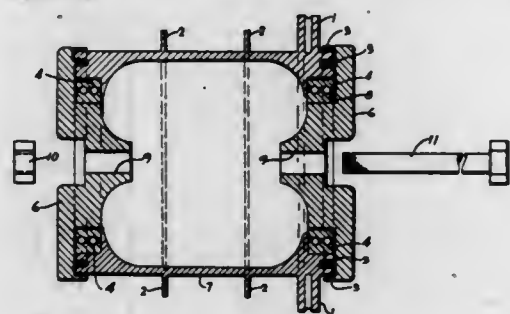
**JUMBO HUB FOR MOTORCYCLES**  
Calvin E. Beebe, R.R. 3, Linesville, Pa. 16424

Filed Oct. 29, 1968, Ser. No. 771,487

Int. Cl. B60b 27/02

U.S. Cl. 301—6

4 Claims



An enlarged hub for motorcycle wheels which is integral with a disc brake drum, is provided with double row

ball bearing races and double weather seals for preventing water and dirt from entering the bearings.

3,521,933

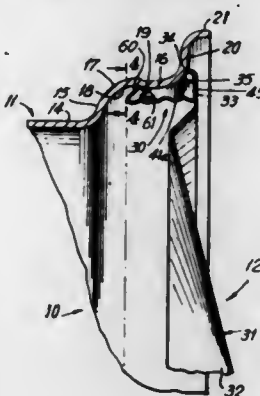
**WHEEL RIM MOUNTED DEVICES**  
Herbert Buerger, Walton, N.Y. 13856

Filed Aug. 7, 1968, Ser. No. 750,974

Int. Cl. B60b 7/06

U.S. Cl. 301—37

10 Claims



This device can be mounted on different types of wheel tire rims and has two different levels of spring pressure. A wheel cover is assembled with an annular ring provided with shorter less flexible spring fingers alternating with longer more flexible spring fingers. The longer fingers project beyond the shorter fingers and act as guides for the trim as the device is assembled and to hold the wheel cover on the wheel. The shorter fingers enter recesses formed on the inner surfaces of the tire rim and prevent rotation of the trim. This device is universal for all wheels on the market.

3,521,934

**APPARATUS FOR PREVENTING LOSS OF BRAKING FORCE IN A HYDRAULIC BRAKE SYSTEM HAVING A BRAKE CONTROL SYSTEM FOR PREVENTING WHEEL LOCKING**

Heinz Leiber, Leimen, Germany, assignor to Teldix Gesellschaft mit beschränkter Haftung, Heidelberg, Germany

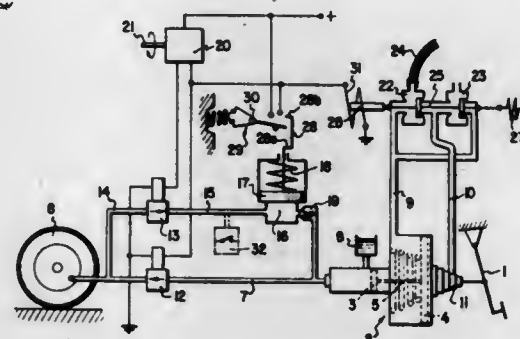
Filed Apr. 8, 1968, Ser. No. 719,446

Claims priority, application Germany, Apr. 8, 1967, T 33,620

Int. Cl. B60t 17/18

U.S. Cl. 303—21

36 Claims



Apparatus for preventing loss of braking force in a hydraulic brake system having a brake control system for preventing wheel locking which temporarily reduces the braking force by drawing brake fluid from the brake fluid pressure system. The apparatus includes means for sensing the amount of brake fluid in the brake pressure system and means responsive thereto for automatically refilling the pressure system with brake fluid in dependence on that amount.

3,521,935

**MOUNTING ASSEMBLY**

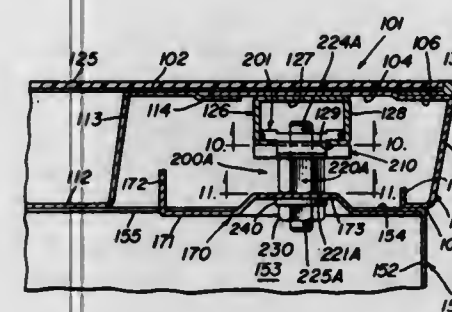
Robert A. Studinski and Florian A. Walter, Aurora, Ill., assignors to Lyon Metal Products, Incorporated, Aurora, Ill., a corporation of Illinois

Filed Jan. 12, 1968, Ser. No. 697,490

Int. Cl. A47b 17/00

U.S. Cl. 312—194

18 Claims



The mounting assembly is used for attaching a member to a mounting channel including inwardly directed retaining flanges disposed on the lower edges of a pair of downwardly extending side walls. The assembly comprises a threaded nut positioned on the upper surfaces of the retaining flanges, the distance between a pair of longer sides of the nut being less than the distance between the retaining flanges to permit insertion of the nut in the channel, a washer positioned against the lower surfaces of the retaining flanges, the nut and the washer each having abutment surfaces spaced apart a distance slightly less than the distance between the retaining flanges to limit rotation of the nut and the washer, a fastener including a spacer portion and a threaded shank extending therefrom and through the washer and engaging the nut, and an attachment device engaging the fastener for holding the member against the spacer portion.

3,521,936

**DRUG AND MEDICINE CONTAINER**

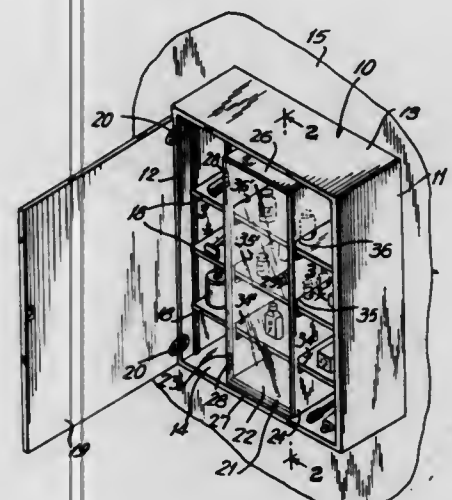
Frederick T. Coker, Jr., Boylston, Mass., assignor to Ilco Corporation, Fitchburg, Mass., a corporation of Massachusetts

Filed Oct. 25, 1968, Ser. No. 770,676

Int. Cl. A47b 81/00

U.S. Cl. 312—209

7 Claims



A universal medicine safe for use in conjunction with conventional medicine cabinets of a variety of sizes, the safe having means for preventing access to the contents while permitting visual inspection thereof.

3,521,937

**LOCK ARRANGEMENT FOR OFFICE FURNITURE AND THE LIKE**

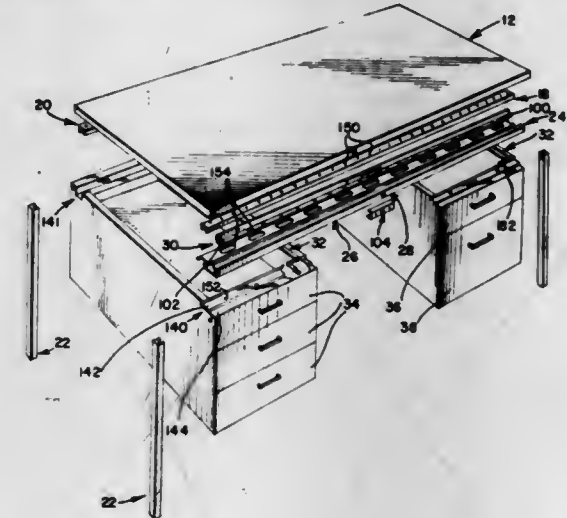
Bruce O. Buhrmaster, Oswego, and John P. Ericson, St. Charles, Ill., assignors to All-Steel Equipment Inc., a corporation of Illinois

Filed July 15, 1968, Ser. No. 744,782

Int. Cl. E05b 65/46

U.S. Cl. 312—217

7 Claims



The disclosure relates to a lock filler and lock arrangement for office furniture units such as desks, credenzas, and the like, arranged so that the office furniture unit can be made up of various possible combinations of matched subassemblies in the form of shelf and drawer space providing pedestals, center drawers, and the like, and yet provide a single lock to simultaneously lock and unlock all such subassemblies for which locking is desired. The filler extends the length of the unit on the front side of same and includes a slide bar of comparable length that is operated by a single lock at the center of the unit. The filler and unit are arranged for ready connection to the slide bar of the latch devices of the respective subassemblies regardless of the order in which they may be present lengthwise of the unit.

3,521,938

**ASH RECEPTACLE FOR AUTOMOBILES**

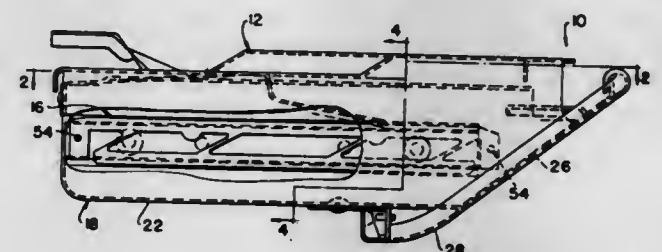
Thomas H. Emaus, Grand Rapids, Mich., assignor to F. L. Jacobs Co., Detroit, Mich., a corporation of Michigan

Filed Mar. 18, 1968, Ser. No. 713,590

Int. Cl. A47b 88/00; B60n 3/08

U.S. Cl. 312—246

11 Claims



The ash receptacle comprises a stamped sheet metal housing structure which slidably receives and houses a stamped sheet metal ash box or tray. The mounting structure is in the general form of an inverted U-shaped housing, which is suitably affixed rigidly within the dashboard of an automobile, behind the latter's instrument panel; and this mounting structure carries an elongated non-metallic integral one-piece guide unit on each of its parallel, laterally spaced and depending side walls. Each guide unit includes a pair of elongated, generally vertically spaced guide or rail members which are connected



together at longitudinally spaced points by a plurality of relatively thin resilient or spring-like elements. The uppermost rail member is fixedly secured to the inner surface of a side wall of the mounting structure while the lowermost member, with the tray removed, is free to move, the amount of movement depending to some degree upon the flexibility and construction of the resilient elements.

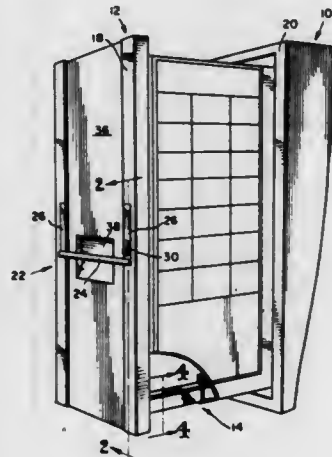
3,521,939

## STOP SYSTEM

Herbert S. Fall, 6248 E. Iona St., Indianapolis, Ind. 46203, and Lawrence M. Vaughn, Acton, Ind.; said Vaughn assignor to said Fall  
Filed Feb. 23, 1968, Ser. No. 707,759  
Int. Cl. A47b 88/16

U.S. Cl. 312-348

4 Claims



For use with a drawer or platform assembly slidably mounted in a cabinet or support structure, which assembly includes a handle movable between an assembly-arresting position and an assembly-releasing position, means for stopping such an assembly in any position along its path of movement, the stopping means comprising first means adapted to be connected to such a cabinet or support structure and second means adapted to be connected to such an assembly for movement therewith, the second means being movable in a predetermined path relative to the first means, and third means for preventing relative movement between the first and second means thereby to stop such an assembly, the third means being operatively connected between the first and second means and effective, when actuated, to stop the second means in any position along its path. Means for actuating the third means to stop the second means is provided, the actuating means being adapted to be operatively connected to such a handle so that, only when said handle is in its arresting position, the third means will stop the second means.

3,521,940

## ADJUSTABLE ATTENUATION LASER SAFETY WINDOW

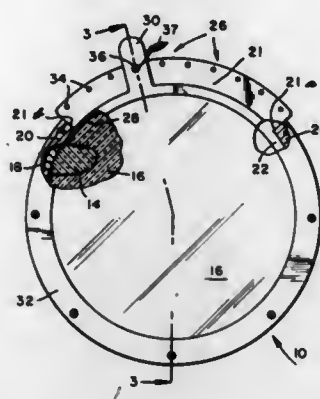
Paul J. Heckman, Jr., Pasadena, Calif., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Oct. 31, 1967, Ser. No. 679,313  
Int. Cl. G02b 5/30

U.S. Cl. 350-148

3 Claims

An adjustable laser protection window is of special utility as a viewing window for the helmet of a diver who must take sightings upon a laser beam. The window comprises a fixed lens and a partially rotatable lens in optical series. The fixed lens is a substrate of transparent plane polarizing sheet material, having a monochromatic re-

jection filter formed on one face. The partially rotatable lens is of like plane polarizing material. A manual adjust-



ment permits adjusting the relative angular displacement of the axes of polarizations of the two lenses.

3,521,941

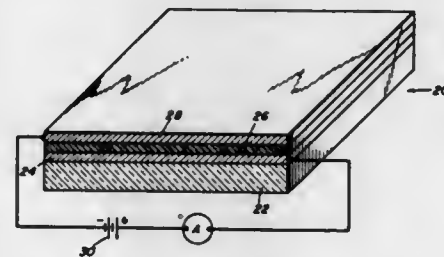
## ELECTRO-OPTICAL DEVICE HAVING VARIABLE OPTICAL DENSITY

Satyendra Kumar Deb, Stamford, Conn., and Robert Frank Shaw, Cambridge, England, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Continuation-in-part of applications Ser. No. 567,764, July 25, 1966, and Ser. No. 607,116, Dec. 7, 1966.  
This application Feb. 7, 1967, Ser. No. 622,862  
Int. Cl. G02f 1/28

U.S. Cl. 350-160

22 Claims



Electro-optical device useful in data display, electro-photography, and the like, typically comprising in sandwiched arrangement a pair of transparent electrodes, and a film of a transition metal compound and an insulating film disposed between the electrodes. The device exhibits coloration and bleaching thereof at ambient temperature by control of the polarity of an applied electric field.

3,521,942

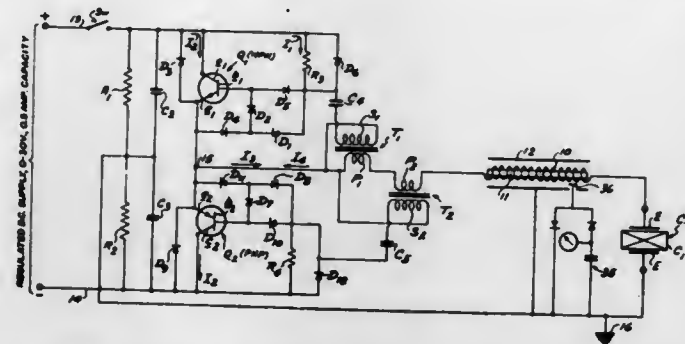
## HIGH FREQUENCY, HIGH VOLTAGE POWER SUPPLY TO ELECTRO-OPTICAL CRYSTAL

Trevor Temple, Boulder, Colo., assignor, by mesne assignments, to Alexander Dawson, Inc., Mahwah, N.J., a corporation of Delaware

Filed Aug. 31, 1967, Ser. No. 664,860  
Int. Cl. G02f 1/28

U.S. Cl. 350-160

9 Claims



A high frequency, high voltage power supply for driving an electro-optical crystal constituting a capacitance in association with a power dissipation factor includes

an external shielded coil having a ferrite core and being connected with such capacitance to constitute a series resonant circuit therewith which is driven in a resonant mode by a low voltage switching circuit having transistors used in a switching manner to provide fully conducting or fully open circuits for dissipating very little power and a network of diodes around each transistor to prevent saturation thereof and permit their required high frequency operation.

3,521,943

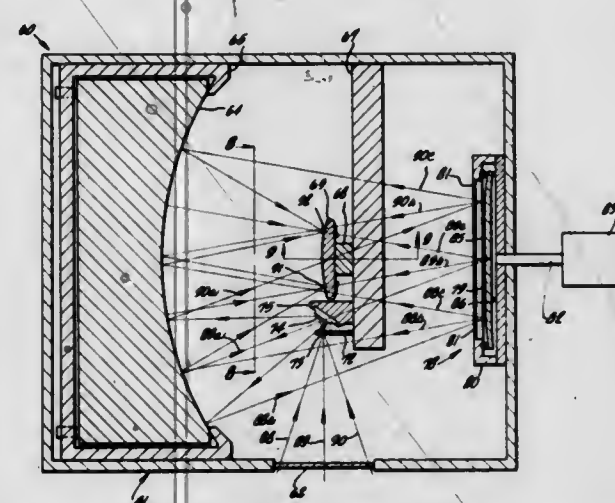
## APPARATUS FOR GENERATING ASPHERIC REFLECTING SURFACES USEFUL FOR CORRECTING SPHERICAL ABERRATION

Herman F. Kelderman, 890 S. Rosemead Blvd., Pasadena, Calif. 91107

Filed Sept. 30, 1966, Ser. No. 583,397  
Int. Cl. G02b 5/18, 17/00

U.S. Cl. 350-162

12 Claims



A flexible member having a spherical reflecting surface when the member is unstressed. The surface is converted to an aspheric reflector by mounting the member free of radial or edge constraints and imposing a differential pressure across opposite faces of the member. Aspheric reflecting surfaces generated by this technique find particular utility in the correction of spherical aberration introduced in optical systems having a spherical mirror with a finite radius of curvature. A diffraction grating can be formed on the surface of the aspheric correcting mirror, and a spectrograph using this form of the invention is described.

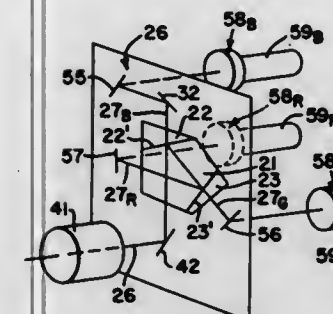
3,521,944

## RELAY OPTICAL SYSTEM FOR COLOR TELEVISION CAMERA HAVING FOUR LIGHT PATHS

Toshiro Kishikawa, Saitama-ken, Japan, assignor to Fuji Shashin Koki Kabushiki Kaisha, Saitama-ken, Japan  
Filed June 14, 1967, Ser. No. 645,967  
Int. Cl. G02b 27/10

U.S. Cl. 350-173

2 Claims



A compact relay optical system for color television camera having arranged in its light path of color channel

a compound prism composed of a pentagonal prism and prisms attached to two surfaces of said pentagonal prism through the intermediary of an interference film having beam splitting power.

3,521,945

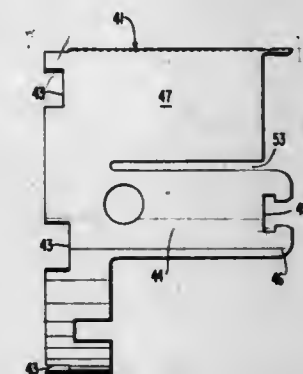
## INSTRUMENT LENS SUPPORT

David A. Bristol, Lynnfield, and Frank A. Ferren, Marblehead, Mass., assignors to General Electric Company, a corporation of New York

Filed Aug. 7, 1968, Ser. No. 804,723  
Int. Cl. G02b 7/02

U.S. Cl. 350-257

4 Claims



A support for removably supporting a lens or face plate of a condition-responsive indicating instrument. The support comprises, basically, a hollow cylinder formed of sheet metal at a diameter slightly smaller than the lens to be supported. The front end of the cylinder receives the lens, and the back end attaches axially to the instrument mechanism. Various cutouts in the cylinder facilitate its assembly to the instrument and its supporting function. At the front end of the cylinder, the cutouts receive a spacer which acts as a shelf to support the lens under axial loads; while cutouts at the back provide three rearwardly extending legs notched at their extremities for attachment to cooperating tabs on one of the mechanism support plates. Two rearwardly extending "skirts" located between the extended legs prevent stray light from falling upon the internal mechanism of the instrument.

3,521,946

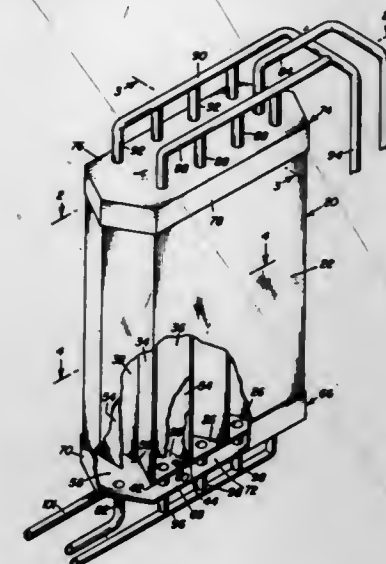
## OPTICAL PANEL

Edwin H. Wrench, 411 Archer St., La Jolla, Calif. 92037

Filed Nov. 10, 1966, Ser. No. 593,523  
Int. Cl. G02f 1/30

U.S. Cl. 350-267

8 Claims



The present invention relates to optical panels, and more particularly to optical panels having chambers



which, when filled with a light refractive liquid, operates to impede or prevent the passages of light rays there-through, but which is transparent to light rays when the liquid is removed.

### 3,521,947 RELIEF PHOTOGRAPH CAMERA CONSTRUCTION

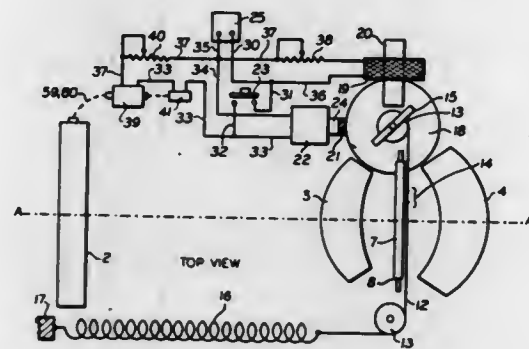
Harry S. Jones, Monmouth Beach, N.J., assignor to Chrom-Tronics, Inc., New York, N.Y., a corporation of New York

Filed June 27, 1967, Ser. No. 649,306

Int. Cl. G03b 35/00

U.S. Cl. 352—58

14 Claims



Camera apparatus for securing normal three-dimensional photographic images wherein a portion of the aperture of a relatively large lens is traversed by a relatively small scanning aperture coincident with effecting displacement between the film emulsion and an adjacent fixed multi-element lens overlay to effect deposition of the scanned images on the photosensitive film through said multi-element lens overlay.

### 3,521,948 EXPOSURE CONTROL FOR PHOTOGRAPHIC CAMERAS

Johann Roth, Schwabhausen, Germany, assignor to Niezoldi & Kramer G.m.b.H., Munich, Germany

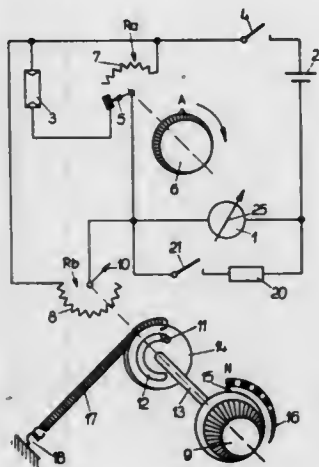
Filed Jan. 11, 1968, Ser. No. 697,182

Claims priority, application Germany, Jan. 12, 1967, N 29,817

Int. Cl. G01j 1/44; G03b 7/00

U.S. Cl. 352—141

16 Claims



Exposure control for photographic cameras wherein the needle of an exposure meter adjusts the diaphragm. The exposure meter is connected in series with a light-sensitive resistor and the latter can be connected in parallel with a variable resistor which is normally open but can be manipulated by hand and/or by a motor. A fixed or variable shunt resistor can be connected in parallel

with the exposure meter when the scene light is full of contrasts so as to cause the diaphragm to define a larger aperture.

### 3,521,949 SMALL MICROFILM READER

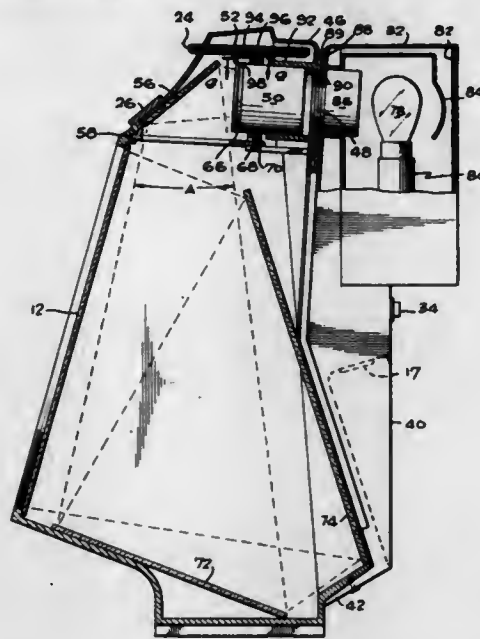
William E. Karow, Los Angeles, and Lewis E. Simpson, Wilmington, Calif., assignors to Data Reproduction Systems, Inglewood, Calif., a corporation of California

Filed Sept. 21, 1967, Ser. No. 669,587

Int. Cl. G03b 21/28

U.S. Cl. 353—78

3 Claims



A microfilm reader of small size with a folded optical path wherein a microfilm-receiving slot is positioned near the top and rear of the reader to provide an optical path extending toward the front, down to the bottom, toward the back and thence toward the front to the viewing screen. A microfilm-holding plate mounted at the rear of the reader is spring biased toward the reader to enable the holding of microfilm without a carrier.

### 3,521,950 XEROGRAPHIC REPRODUCING APPARATUS

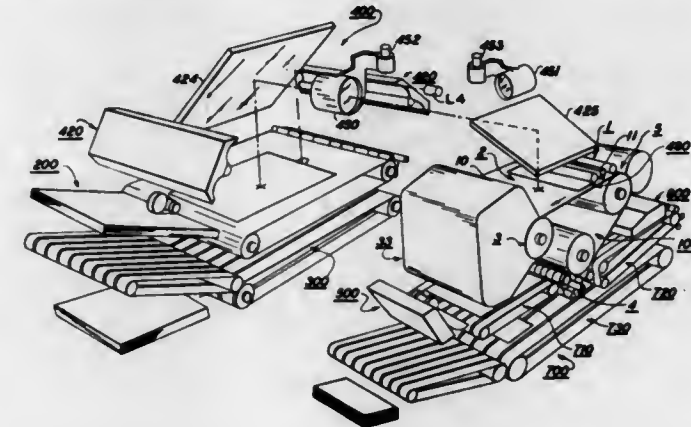
John F. Gardner, Penfield, and Thomas B. Michaels, Gordon P. Taillie, and Donald W. Gouldsmith, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Apr. 21, 1967, Ser. No. 632,662

Int. Cl. G03g 15/00

U.S. Cl. 355—3

4 Claims



Apparatus for xerographically creating a facsimile of various sized original documents onto data processing cards and duplicating the cards so produced wherein a document feeder serially forwards documents through an exposure station to be illuminated by a flash of light which may be repeated intermittently if multiple copies of the document are desired. The image of the document

is projected through an appropriate lens system which projects a full or reduced size image of the document onto a xerographic belt forming an electrostatic latent image. The latent image is subsequently developed by application of xerographic toner powder which is then transferred from the belt to an electrical data processing machine card fed to the transfer station in timed relationship with the powder image on the xerographic belt. At the transfer station the powder image is transposed and permanently fixed onto the data processing card by means of intermittent flashes of radiant energy.

### 3,521,951 APPARATUS FOR EXPOSURE THROUGH A SLIT

Yutaka Koizumi, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, a corporation of Japan

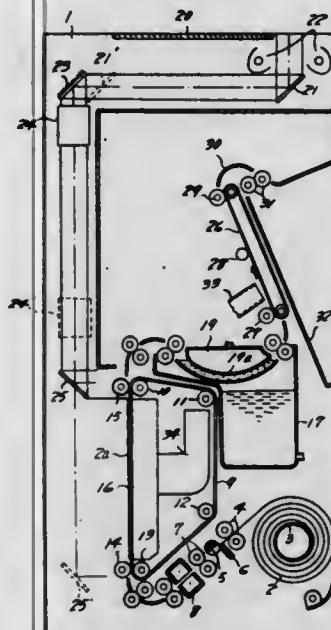
Filed May 24, 1967, Ser. No. 640,964

Claims priority, application Japan, May 26, 1966, 41/49,129

Int. Cl. G03g 15/00

U.S. Cl. 355—11

1 Claim



An electric photographic device having a fixed planar document supporting window and a pair of lamps mounted on either side of a first reflector beneath the window and inclined at a 45° angle relative to the window. The first reflector and lamps are movably mounted to provide linear scanion of a document placed face-down on the window. A second fixed and a third movably mounted reflector are separated by a movably mounted lens system to receive the image of the document reflected by the first reflector and direct it in a folded, generally U-shaped path onto photosensitive paper which has been severed from a roll. The lenses and the first and third reflectors are interconnected to maintain a constant ray path distance from the fixed second reflector. A suction fan holds the photosensitive paper on a movable belt and dries the exposed paper after development in a liquid bath.

### 3,521,952 LIGHT EXPOSURE CONTROL UNIT

Robert H. Nelson, 8 Plover Court, Brookmeade, Wilmington, Del. 19808, and Ronald P. Schwenker, Wilmington, Del.; said Schwenker assignor to said Nelson

Filed July 13, 1967, Ser. No. 653,255

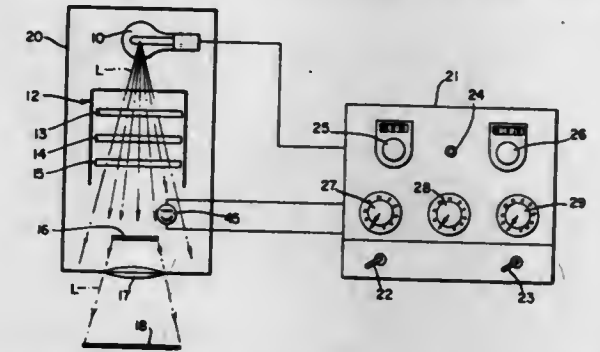
Int. Cl. G03b 27/76

U.S. Cl. 355—38

10 Claims

A photographic light-exposure control unit controls the printing exposure for desired differences in magnification, density, color balance, and speed factor of the printing paper, relative to a reference print. A photo-sensitive cell is mounted, after the color filter but before

the negative, to receive color-filtered light from the light source unchanged by the negative. Prior to the beginning of the exposure period, a capacitor network (the total capacitance of which is adjusted according to the desired density) is charged to an adjustable fraction of a regu-



lated voltage according to adjustments to a magnification control and a speed-factor control. The length of the exposure period is controlled automatically by the amount of the charge in the capacitance network and its rate of discharge through the variable resistance of the photo-conductive cell as determined by the amount of light received by the cell from the source through the color filter.

### 3,521,953 ADJUSTABLE SEPARATION WAFER CLAMP

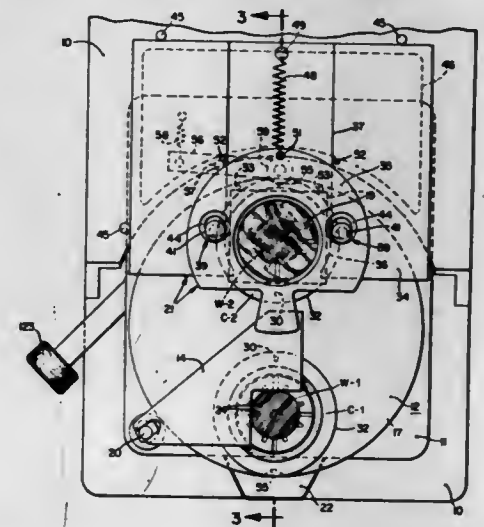
Henry J. Tancredi, Philadelphia, Pa., assignor to Kulicke and Soffa Industries, Inc., Fort Washington, Pa., a corporation of Pennsylvania

Filed Mar. 13, 1968, Ser. No. 712,754

Int. Cl. G03b 27/20

U.S. Cl. 355—78

10 Claims



In a mask alignment machine an apparatus for engaging semiconductor wafers of random thickness with a mask exerting a predetermined force to establish a reference plane between the top of the wafer and the bottom of the mask. The apparatus also includes a manually operable selector for predetermining the amount of separation to be imparted between the wafer and the mask for orientation of the wafer to the mask.

### 3,521,954 ELECTRO-OPTIC APPARATUS AND METHOD FOR MODIFYING CONTRAST IN PHOTOGRAPHIC IMAGES

Hollis Edward French, North Chelmsford, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware

Filed Apr. 8, 1968, Ser. No. 719,588

Int. Cl. G03b 27/72

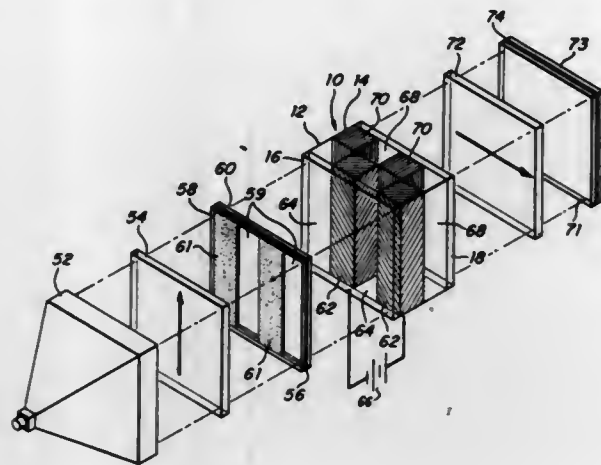
U.S. Cl. 355—80

25 Claims

Apparatus is disclosed for modifying the contrast of a photographic image during printing by irradiating a photo-conductive material through an image-bearing



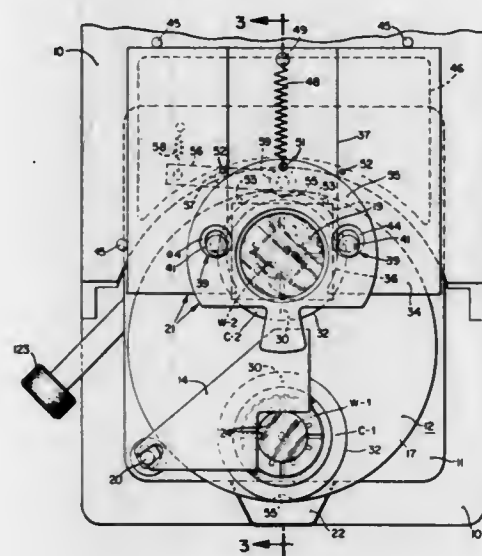
transparency to be printed, applying an electric field across the photoconductive material and an electro-optic material to vary a characteristic of the electro-optic material in a pattern corresponding to the density distribution



**3,521,955**  
**CHUCK ASSEMBLY AND MASK HOLDER FOR AN IMPROVED MASK ALIGNMENT MACHINE**  
Henry J. Tancredi, Philadelphia, Pa., assignor to Kulicke and Soffa Industries, Inc., Fort Washington, Pa., a corporation of Pennsylvania

Filed Mar. 13, 1968, Ser. No. 716,270  
Int. Cl. G03b 27/04  
U.S. Cl. 355—85

14 Claims



A mask alignment machine for photographically contact printing a pattern from a mask onto a photoresist coated semiconductor wafer. The machine includes a rotatory serving device having a plurality of removable chucks thereon. Semiconductor wafers are placed on each chuck and the rotatory serving device is rotated to present each chuck supported wafer beneath and opposed the mask. A chuck carrier lifts the chuck from the server and positions the wafer closely adjacent and below the mask, permitting the wafer to be moved relative to the mask until the wafer is aligned with the pattern on the mask. The aligned wafer is then engaged with the mask and a resilient seal, preferably carried on the chuck, is engaged between the chuck and the mask surrounding the wafer to form a plenum therewith. The plenum is connected to a source of partial pressure causing the wafer to be engaged between the chuck and the mask by uniform

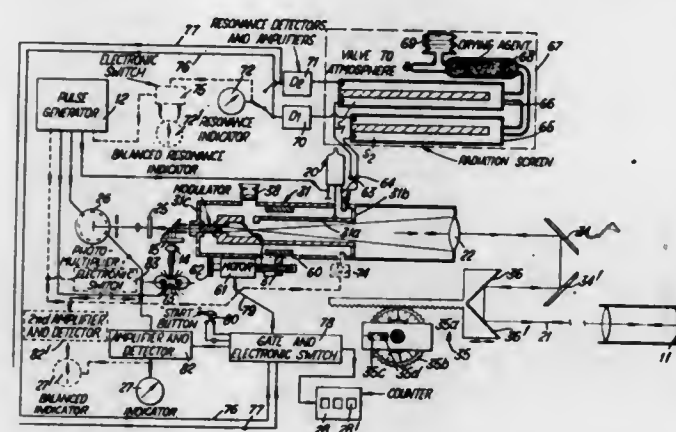
atmospheric pressure so that the mask lies flat on the wafer during the contact printing operation. The chuck carrier is lowered replacing the chuck supported wafer in the server and the server is rotated to present another chuck supported wafer opposite the mask.

**3,521,956**  
**DISTANCE MEASURING APPARATUS WHICH COMPENSATES FOR AMBIENT ATMOSPHERIC REFRACTIVE INDEX**  
Keith Davy Froome and Robert Howard Bradsell, Teddington, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain

Filed Nov. 9, 1964, Ser. No. 409,844  
Claims priority, application Great Britain, Nov. 11, 1963, 4,480/63; Feb. 3, 1964, 4,565/64; Feb. 21, 1964, 7,473/64; Feb. 24, 1964, 7,687/64; Feb. 25, 1964, 7,858/64

Int. Cl. G01c 3/08  
U.S. Cl. 356—5

18 Claims

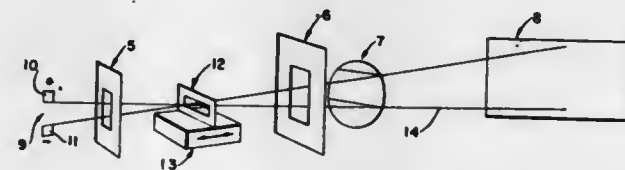


A distance measuring apparatus for determining the length of a path comprises a modulated electro-magnetic radiation transmitter, a cavity resonator which monitors the wavelength of the modulated electro-magnetic radiation before transmission over the path, a temperature and pressure equalizing device within the cavity resonator so that the temperature and pressure within the cavity resonator is substantially equal to the ambient atmospheric temperature and pressure along the path, and a wavelength changer for changing the resonant wavelength of the cavity resonator between two known values so as to determine the number of modulation wavelengths in the path. Physical dimensions of the cavity resonator, at resonance, determine the modulation wavelength.

**3,521,957**  
**GRAZING INCIDENCE SPECTROSCOPIC METHODS AND APPARATUS**  
Benjamin Seev Fraenkel and Uri Feldman, Jerusalem, Israel, assignors to Yissum Research Development Company, Jerusalem, Israel, a company of Israel  
Filed Sept. 1, 1965, Ser. No. 484,354  
Int. Cl. G01j 3/40

U.S. Cl. 356—79

5 Claims



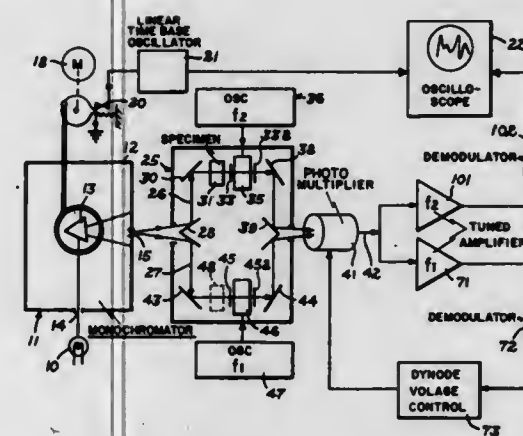
A real and inverted image of every spectral line recorded upon the film plate of a grazing incidence spectrometer is provided by viewing the complete length of

the light source employed and including an adjustable slit perpendicular to the main slit of the spectrometer between the main slit and a diffracting unit.

**3,521,958**  
**RAPID SCANNING SPECTROPHOTOMETER**  
Richard W. Trehan, Xenia, Ohio, assignor to Kettering Scientific Research, Inc., Yellow Springs, Ohio, a corporation of Delaware  
Continuation-in-part of application Ser. No. 522,673, Jan. 24, 1966. This application Jan. 30, 1969, Ser. No. 801,227

Int. Cl. G01j 3/42  
U.S. Cl. 356—84

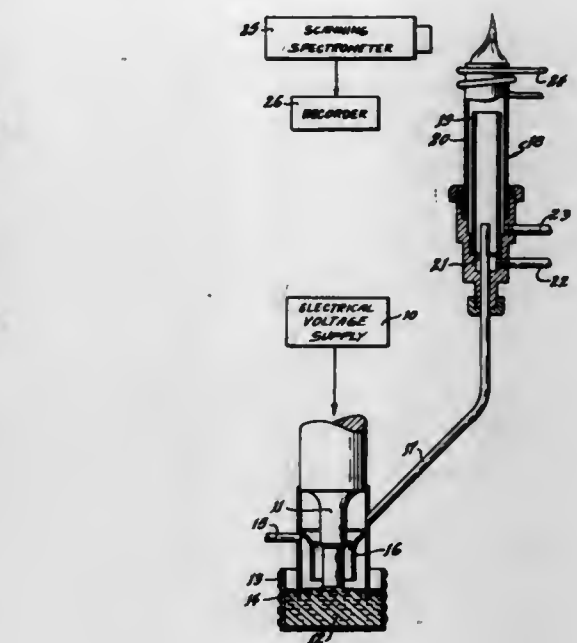
19 Claims



A rapid scan spectrophotometer includes a monochromator, beam splitting means to divide the output of the monochromator into a reference beam and a specimen beam, a light modulator for modulating the reference beam, a second light modulator for modulating the specimen beam to impart thereto a characteristic by which it may be distinguished from said reference beam, said characteristic either being a difference in phase or a difference in frequency, and a single photoelectric transducer positioned to receive both the sample and the reference beams and to provide electrical output signals representing the intensity of both beams. A control circuit, sensitive only to the output signal from the photoelectric transducer which represents the intensity of the reference beam, adjusts the output of the photoelectric transducer in such a way that that portion of its output representing the reference beam is held at a constant level therefore rendering the transducer output independent of variations in the intensity or wavelength of the monochromator output or its own wavelength response characteristics. Another circuit is connected to the output of the photoelectric transducer to detect the signal representing the specimen beam, and the output of this circuit is connected to a device where the absorption characteristics of the specimen may be displayed as a function of wavelength.

**3,521,959**  
**METHOD FOR DIRECT SPECTROGRAPHIC ANALYSIS OF MOLTEN METALS**  
Velmer A. Fassel and George W. Dickinson, Ames, Iowa, assignors to the United States of America as represented by the United States Atomic Energy Commission  
Filed Aug. 29, 1967, Ser. No. 664,225  
Int. Cl. B05b 17/06; G01n 21/56

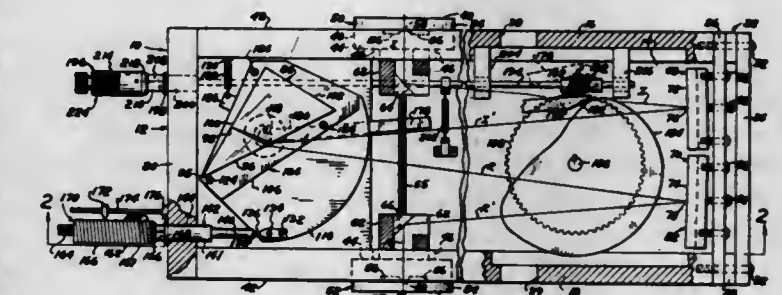
U.S. Cl. 356—85  
Method and apparatus for direct spectrographic analysis of molten metals. The molten metal is nebulized by an ultrasonic transducer provided with a probe which is in contact with the surface of the molten metal. The droplets of molten metal are carried to a plasma torch



graphic equipment is employed to obtain the spectrum of the metal.

**3,521,960**  
**MONOCHROMATOR**  
Harry S. Newcomer, P.O. Box 340, Cape May, N.J.  
Filed Jan. 20, 1964, Ser. No. 338,761  
Int. Cl. G01j 3/14, 3/18  
U.S. Cl. 356—101

5 Claims



This monochromator has a housing or "box" with the entrance and exit slit units disposed in lateral alignment with one another with their slit openings disposed substantially in the planes of the outer surfaces of their respective opposite side walls of the housing so that two such monochromators may be placed side by side in juxtaposition and coupled to form a double monochromator after one of the slit units in the abutting side walls has been temporarily removed.

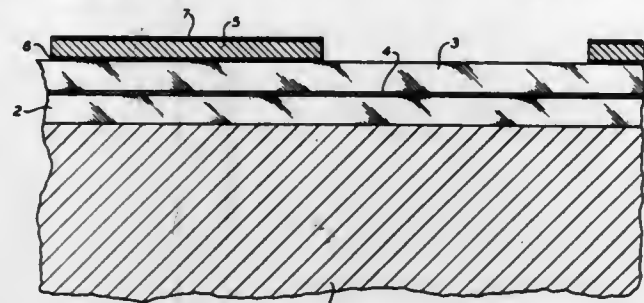
**3,521,961**  
**MEASURING DIVISION FOR PHOTOELECTRIC POSITION INDICATORS**  
Johannes Heidenhain, Egerer, near Chieming, and Erhard Conrath, Traunreut, Germany, assignors to Dr. Johannes Heidenhain, Traunreut, near Traunstein, Germany, a corporation of Germany  
Continuation of application Ser. No. 577,019, Sept. 2, 1966. This application May 27, 1969, Ser. No. 830,580  
Claims priority, application Germany, Sept. 15, 1965, W 39,912  
Int. Cl. G01b 11/04

U.S. Cl. 356—170  
A measuring division for photoelectric position indicators including a photoelectric element which comprises a

8 Claims



carrier and means including at least one mark forming a reflecting metal layer and reflex-reducing interference layers supported by the carrier for increasing the contrast



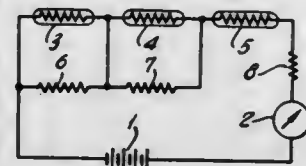
between the layers of the measuring division for that wavelength, for which also the photoelectric element has the maximum of its spectral sensitivity.

3,521,962

**LIGHT RESPONSIVE AND MEASURING DEVICE**  
Kenichi Tashiro and Hirokazu Tanaka, Tokyo-to, Japan, assignors to Stanley Denki Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan  
Filed June 19, 1964, Ser. No. 376,477  
Int. Cl. G01j 1/42, 1/46

U.S. Cl. 356-222

8 Claims



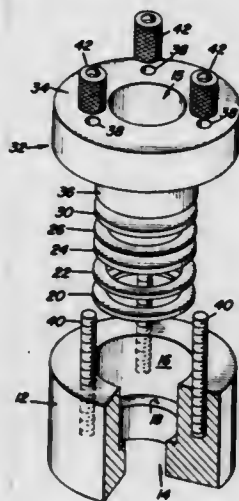
A light measuring system includes at least a pair of series connected photoconductors of different characteristics connected through a current meter to a battery, one of the photoconductors being resistor shunted, the photoconductors facing a common direction and being exposed to different angular fields so that the overall response is optimally related to the measured light to compensate for counter-light conditions. The plurality of photoconductors is formed as a unit including a plurality of spaced concentric electrodes engaging the corresponding contiguous edges of respective intermediate photoconductive elements, the assembly being positioned on a common base.

3,521,963

**RADIATION ABSORPTION TEST CELL**  
Morris Bader, 1402 Lorain Ave.,  
Bethlehem, Pa. 18018  
Filed Aug. 25, 1965, Ser. No. 482,513  
Int. Cl. G01n 21/16, 1/10

U.S. Cl. 356-244

1 Claim



A radiation absorption sample cell having windows formed of pressure-coalesced alkali halide, silver halide

and the like, received within the bore of an annular window holding base wherein an annular resilient gasket and a rigid washer are interposed between the lowermost window and the holding base, a rigid spacer ring rests on the lower window with the uppermost window resting thereon, and the gasket, washer, ring and windows are compressed by an adjustably and removably secured compression member.

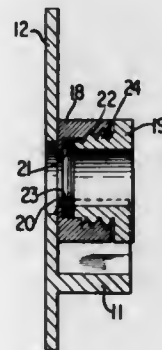
3,521,964

**SELECTIVELY ASSEMBLABLE ABSORPTION CELL**  
Paul A. Wilks, Jr., Darien, Conn., assignor to Wilks Scientific Corporation, South Norwalk, Conn., a corporation of Connecticut

Filed Oct. 27, 1967, Ser. No. 678,669  
Int. Cl. G01n 1/10, 21/00

U.S. Cl. 356-246

3 Claims



A liquid sample holder for spectrophotometers wherein a pair of optically transparent windows, each having a depression in one face thereof, may be assembled in any one of several positions in a two-piece separable holding unit to provide various pathlengths.

3,521,965

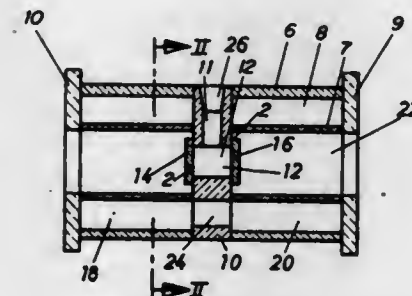
**LIQUID SAMPLE CELL FOR POLARIMETERS**  
Gerhard Podschadly, Überlingen (Bodensee), and Peter Mayer, Mühlheim, Baden, Germany, assignors to Bodenseewerk Perkin-Elmer & Co. G.m.b.H., Überlingen (Bodensee), Germany

Filed Dec. 20, 1965, Ser. No. 514,946  
Claims priority, application Germany, Dec. 28, 1964,  
B 79,915

Int. Cl. G01n 21/40, 1/10

U.S. Cl. 356-246

4 Claims



A sample cell for a polarimeter includes a thick strong plate having a central aperture, partially defining the sample-holding compartment. A pair of transparent windows are attached at the opposite surfaces of the thick plate in such a manner as to avoid developing internal stresses in the windows. For moderate length sample paths (i.e., about 1 centimeter) the windows are attached directly to the external surfaces of the thick plate by means of a low melting point glass. For shorter sample path lengths (e.g., from 1 to 5 mm.) washer-like intermediate rings are attached to the external surfaces of the somewhat thinner main plate; and smaller diameter windows are

attached to the inside confronting surfaces of the rings (i.e., inside the plate aperture). In both embodiments a thermostating annular water jacket surrounds the periphery of the sample compartment.

3,521,966

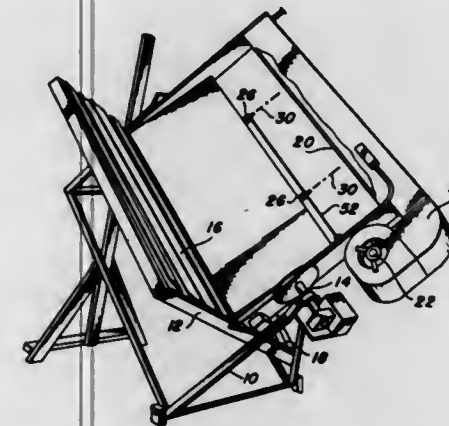
**DEVICE FOR TESTING A SAMPLE WITH SOLAR RADIATION INCLUDING MEANS TO DAMPEN THE SAMPLE**

Jermiah L. Archer, Phoenix, Ariz., assignor to Coleman R. Caryl, doing business as Desert Sunshine Exposure Tests

Filed Feb. 14, 1968, Ser. No. 705,357  
Int. Cl. G02b 27/32

U.S. Cl. 356-256

4 Claims



A machine for solar radiation testing of materials, including an improved means for spraying materials being tested by means of pivoted nozzles which are motorized to oscillate back and forth, and to cast water spray on samples being tested in an elongated radiation target area.

3,521,967

**MIRROR PROTECTOR MEANS FOR SOLAR RADIATION TESTING MACHINES**

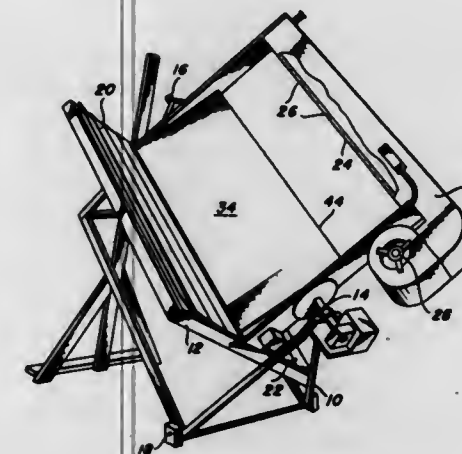
Jermiah L. Archer, Phoenix, Ariz., assignor to Coleman R. Caryl, doing business as Desert Sunshine Exposure Tests

Filed Feb. 14, 1968, Ser. No. 705,358

Int. Cl. G02b 27/32

U.S. Cl. 356-256

9 Claims

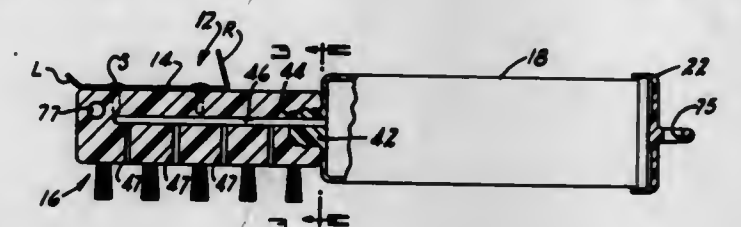


A mirror protector means for solar radiation testing machines comprising a movable cover means adapted to be moved into position over solar radiation mirror means to protect the mirror means and to prevent damage to the mirror means, as well as to interrupt radiation of the sun's rays onto the mirror means and reflection thereof

3,521,968  
**BRUSH CONSTRUCTION**  
Robert Wise, 15640 Puritan Ave.,  
Detroit, Mich. 48227  
Filed Aug. 11, 1967, Ser. No. 660,130  
Int. Cl. A46b 11/02

U.S. Cl. 401-186

8 Claims



A brush construction, wherein the brush is secured to a hollow, resilient container, with a valve intermediate the resilient container and brush to control the flow of liquid in said container when said container is squeezed and the liquid is exhausted through a plurality of openings in said brush onto the surface to be cleaned. Additionally, scraper means are provided to assist in the cleaning operation after the debris has been softened by the liquid.

3,521,969

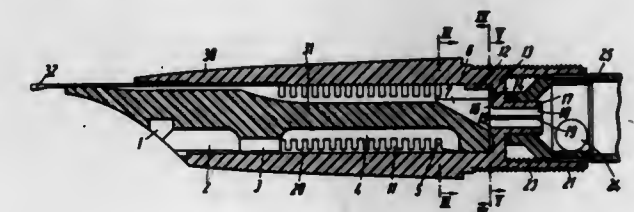
**FRONT END ASSEMBLY FOR A FOUNTAIN PEN**  
Otto Mutschler, Angelweg 29, Heidelberg, Germany

Filed Dec. 27, 1968, Ser. No. 787,434  
Claims priority, application Germany, Feb. 3, 1968,  
M 61,289

Int. Cl. B43k 5/18

U.S. Cl. 401-225

14 Claims



The front end assembly for a fountain pen normally supplied with ink in cartridges has a tubular point holder whose axial passage is divided into front and rear compartments by an apertured radial partition. A feed bar in the front compartment abuts against the raised rim of the aperture orifice, and its rotation is prevented by a rib on the point holder projecting into a notch in the rear end of the feed bar. Ink from a cartridge is supplied from the aperture to a writing point at the front end of the point holder through a capillary slot whose radial depth increases from the point to the aperture orifice and which intersects annular grooves in an intermediate portion of the feed bar. Air is supplied to the grooves through an axial duct in the feed bar surface extending inward from the front end.

3,521,970

**SUBMERSIBLE PUMP**

Elmer M. Deters, Muscatine, Iowa, assignor to Red Jacket Manufacturing Company, Davenport, Iowa,  
a corporation of Iowa

Filed Dec. 30, 1968, Ser. No. 787,655

Int. Cl. F04d 1/06, 13/02

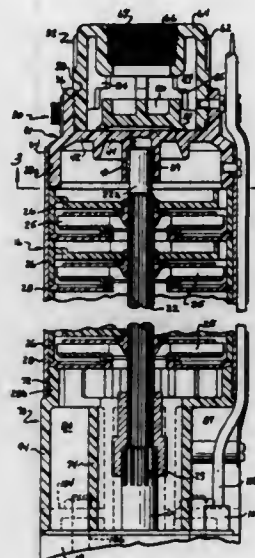
U.S. Cl. 103-87

12 Claims

A cylindrical casing, which houses the impellers, is threaded at its upper and lower ends. A plastic suction manifold is attached at the lower end and a motor is



bolted thereto. The plastic suction manifold is of cellular construction and has strainers molded integral therewith. A two-piece plastic discharge head is attached at the



upper end and has a check valve therein. A re-entrant portion of the discharge head provides a connection to a delivery pipe.

3,521,971

#### METHOD AND APPARATUS FOR CONTROLLING AIRCRAFT

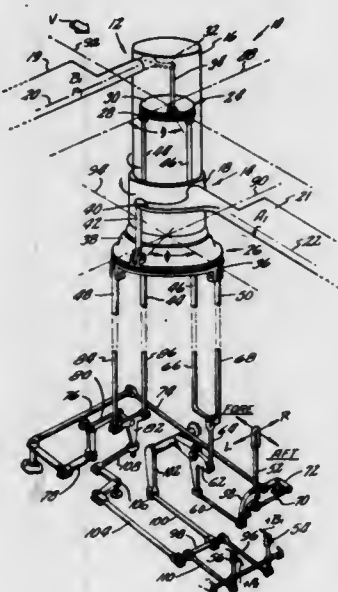
Marvin C. Cheney, Jr., Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 17, 1968, Ser. No. 745,641

Int. Cl. B64c 27/10

U.S. Cl. 416-1

24 Claims



This invention relates to aircraft, particularly helicopters, having two counterrotating thrust producing rotors with rigidly mounted blades. The blades of these rotors are subjected to gyroscopic precession moments during aircraft attitude changes which tilt the rotor axes. In order to reduce blade stress and blade tip deflection during maneuvers, a cyclic pitch variation is imposed on the blades of each rotor to generate an aerodynamic moment on the rotors which will oppose and preferably cancel the gyroscopic precession moments. The opposing cyclic pitch command can be coupled with a primary cyclic pitch command, which causes the attitude change, by means of the rotor control mechanisms.

#### 3,521,972 EQUIPMENT FOR THE INTRODUCTION OF GASES INTO FLUIDS

Karl Zurell, Bad Swalbach, Germany, assignor to Passavant-Werke, near Michelbach, Nassau, Germany, a corporation of Germany

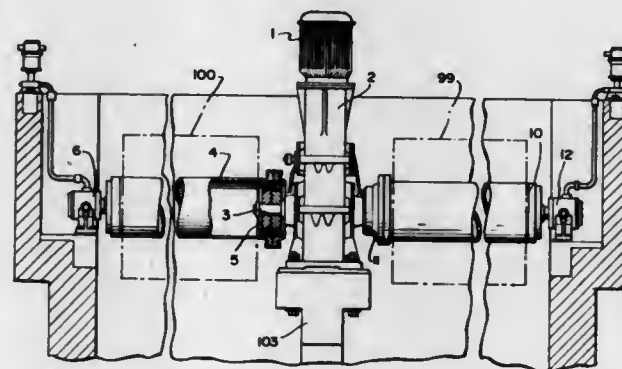
Continuation of application Ser. No. 554,178, May 31, 1966. This application Oct. 12, 1967, Ser. No. 674,987

Claims priority, application Germany, May 28, 1965, P 36,927

Int. Cl. B01f 7/04

U.S. Cl. 416-134

1 Claim



A horizontally mounted rotor aerating sewage or waste liquid which includes a hollow shaft having a plurality of radially extending beater elements mounted thereon and shock absorbing coupling mounted within the hollow shaft.

3,521,973

#### FAN CONSTRUCTION

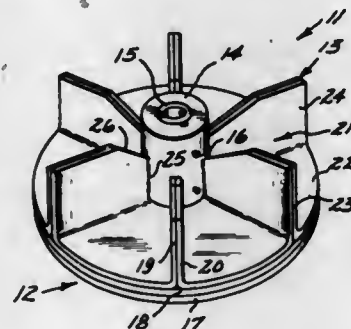
Arthur C. Schouw, Corunna, Mich., assignor to Anpol Research Corporation, Owosso, Mich., a corporation of Michigan

Filed Aug. 16, 1968, Ser. No. 753,142

Int. Cl. F04d 29/02, 29/28; B23p 15/04

U.S. Cl. 416-185

4 Claims



A fan construction particularly for centrifugal blowers and the like for left and right rotation in which the material comprising the fan, base, blade and hub are of resin materials, so laminated as to provide excellent strength and to make available a fully corrosion resistant structure for handling contaminated gases and the like and where the resin in motion contributes an electrostatic charge to contaminant particles.

3,521,974

#### TURBINE BLADE CONSTRUCTION

Ferdinand Zerlauth, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company

Filed Sept. 11, 1968, Ser. No. 759,111

Claims priority, application Switzerland, Mar. 26, 1968, 4,461/68

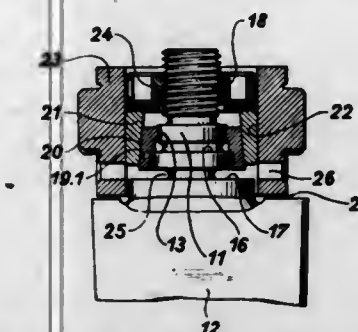
Int. Cl. F01d 5/10, 5/26, 5/30

U.S. Cl. 416-220

7 Claims

There is disclosed a turbine blade whose root includes a cylindrical portion and a plurality of spaced plane surfaces against one or another of which a suitably selected

clamping ring can be brought to bear in order to detune the natural frequency of oscillation of the blade from



oscillation frequencies to be encountered by the blade in service.

3,521,975

#### CONTROL APPARATUS FOR A MOTOR-DRIVEN COMPRESSOR SYSTEM ADAPTED FOR USE IN SPRAY APPARATUS

Roman A. Sicho, Petersburg, N.Y., assignor to

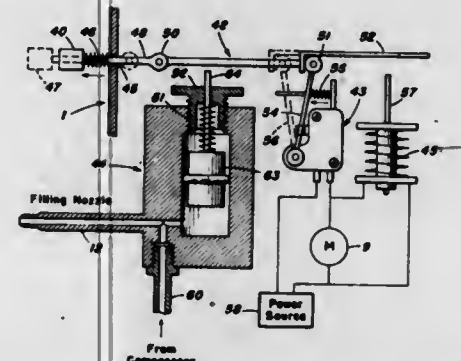
E. C. Smith, Jr., Lexington, N.C.

Filed Feb. 7, 1968, Ser. No. 703,697

Int. Cl. F04b 35/04; G02h 7/08

U.S. Cl. 417-17

5 Claims



Control apparatus for a motor-driven compressor system adapted for use in spray apparatus is provided in accordance with the teachings of the present invention. The control apparatus according to the present invention includes motor actuating means, ratchet arms means, switch means and sensing means. The motor actuating means has first and second portions wherein the first portion is adapted to be depressed to thereby energize a motor. The ratchet arm means has an engaging portion thereon and is pivotally connected to the second portion of the motor actuating means. The switch means is connected to energize the motor and includes an enabling arm for controlling the state thereof. The engaging portion of the ratchet arm means is operable to engage the enabling arm of the switch means when the motor actuating means is depressed to close the switch and energize the motor. The sensing means is positioned in an operative relationship with the ratchet means and is responsive to the detection of a selected condition to disengage the ratchet arm means and the enabling arm to thus open said switch.

3,521,976

#### METHOD OF AND APPARATUS FOR LIQUID HANDLING AND DIALYSIS

Mathew G. Boissevain, Los Altos Hills, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Original application Jan. 15, 1968, Ser. No. 697,837.

Divided and this application Apr. 14, 1969, Ser. No. 840,872

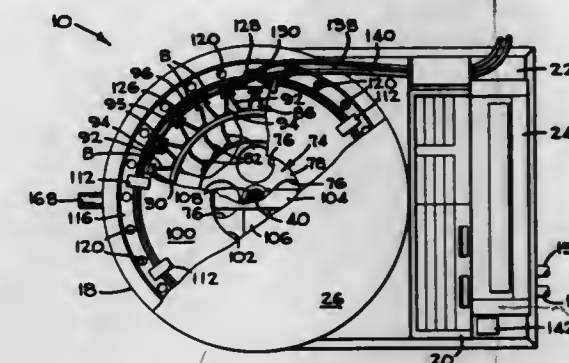
Int. Cl. F04b 9/10, 43/8; B01d 13/00

U.S. Cl. 417-53

2 Claims

An elongated rectangular conduit, made of a colloidal semipermeable membrane, is connected in flow communication with a source of liquid to be treated and positioned

in a tank. Nozzles within the tank direct a pair of jet streams of dialysate against one side of the conduit, forcing the conduit against a backup support and pinching off a vertical pocket of liquid therein. These dialysate jet streams slowly move from the inlet to the outlet of the



conduit, forcing the liquid within the pocket to travel through the conduit. The dialysate, after impinging against the conduit, is circulated thereabout so that dialysis takes place through the conduit membrane as the liquid travels through the conduit.

3,521,977

#### DIFFERENTIAL CONTROL GAS LIFT SYSTEM

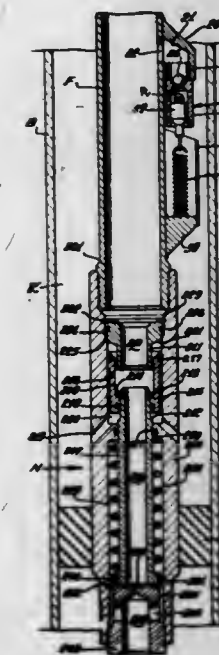
David V. Chenoweth, Houston, Tex., assignor to Baker Oil Tools, Inc., Commerce, Calif., a corporation of California

Filed Oct. 3, 1968, Ser. No. 764,739

Int. Cl. F04f 1/12, 1/00, 1/08

U.S. Cl. 417-115

13 Claims



Apparatus for lifting well bore liquid through a tubing string, a differential control valve preventing the liquid level in the tubing string from rising above a predetermined height, while a differential gas lift valve controls the injection of gas under pressure from the tubing-casing annulus into the tubing string to aerate the liquid column and lift it to the top of the well bore, the differential gas lift valve being so related to the differential liquid level control valve that the differential control valve remains open during normal operation of the system, since the differential gas lift valve will open to lift the liquid column before it rises to a height at which the differential control valve closes. The differential control valve will close in the event the well is shut in or shut down to prevent the liquid level from rising above a predetermined level, so that the differential gas lift valve can begin functioning promptly when production from the well is restarted, and without aid from outside equipment, for the purpose of unloading the liquid in the tubing string above the gas lift valve.



### 3,521,978 ELECTRIC MOTOR, PUMP AND BLOWER OIL BURNER UNIT

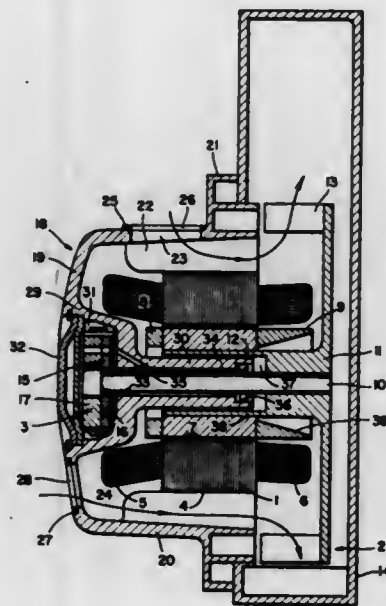
Arne F. Enemark, Sonderborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark

Filed Sept. 5, 1968, Ser. No. 757,710

Claims priority, application Germany, Sept. 6, 1967, 1,551,653

Int. Cl. F04b 13/02; F04d 27/00, 25/06  
U.S. Cl. 417—201

10 Claims



The invention relates to an electric motor, pump and blower oil burner unit having a simple casing design which provides several advantages. A cup shaped casing is provided for the electric motor which is recessed at the closed end thereof to provide a housing for the pump unit. A blower housing attaches directly to the open end of the casing. The casing is provided with air openings through which air is drawn by the blower to cool the motor and to provide preheated air for the blower. The motor stator is spaced from the internal wall of the casing so that air drawn into the casing completely surrounds the stator to provide more efficient cooling. The casing an integral hub portion which rotatably supports a shaft to which the pump means, the blower wheel and motor rotor are attached.

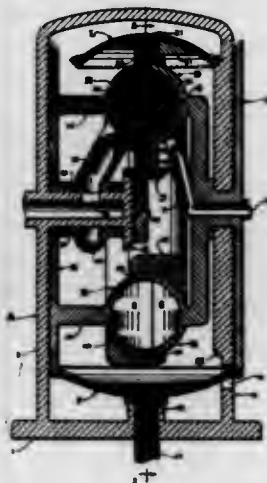
### 3,521,979 DUAL-DRIVE ROTARY ENGINE

Tallmon E. Horst, Box 377, Boulder Creek, Calif. 95006  
Filed Nov. 25, 1968, Ser. No. 778,392

Int. Cl. F01c 1/00; F02b 53/00

U.S. Cl. 418—34

7 Claims



A dual-drive rotary engine comprising two oppositely rotating rotors forming the greater part of a toroidal

chamber assembly therebetween such that the near-toroidal assembly is parted into two lateral halves or rotors, each rotor carrying a thrust head slidably received in the opposite semi-toroidal chamber and constituting a sliding closure therein, each thrusthead being rotatable on an axis that extends radially from the common axis of the rotors, the shapes of the two thrustheads and the speed of their rotations on their own radial axes being such that they are able to pass each other during the counter rotation of the rotors. The engine can be used as a pump or for producing mechanical torque.

### 3,521,980 ROTARY PISTON INTERNAL COMBUSTION ENGINE OF MULTI DISK CONSTRUCTION

Willi Springer, Faurndau, Kreis Goppingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

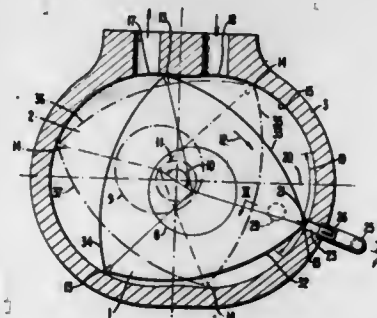
Filed Oct. 31, 1968, Ser. No. 772,207

Claims priority, application Germany, Oct. 31, 1967, 1,576,198

Int. Cl. F02b 53/06

U.S. Cl. 418—60

14 Claims



A rotary piston internal combustion engine of multi-disk construction, especially of trochoidal type of construction, in which several polygonal pistons are rotatably supported within a housing on respective eccentrics provided on an eccentric shaft; the housing includes lateral parts, at least one intermediate part and at least two housing casings provided with multi-arched internal cam surfaces; apertures are also provided in the internal casing surfaces and/or in the surfaces adjoining the pistons of the intermediate part within the area of the major axis in the relatively cold arc; these apertures are connected with each other by lines, channels or the like which are opened during the operation of the engine during idling speed and smaller partial loads but are closed during higher partial loads and full load; the lines, channels, etc. interconnect with each other at least two of the apertures so that a part of the compressed air or of the compressing fuel-air mixture flows over through these channels, lines or the like from one disk to at least another disk.

### 3,521,981 PUMP OR COMPRESSOR

Edward Krzyszczyk, 2452 N. Spanling Ave., Chicago, Ill. 60647

Filed Aug. 30, 1968, Ser. No. 756,632

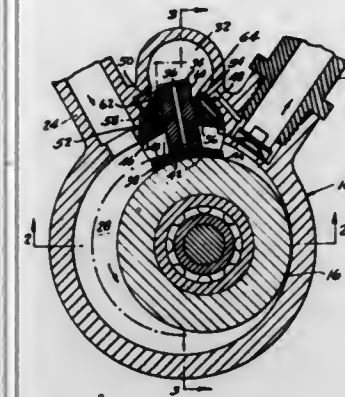
Int. Cl. F04c 17/02; F16c 7/04; F01c 1/06

U.S. Cl. 418—63

9 Claims

A pump or compressor comprising a housing with inlet means and outlet means in communication therein, and an eccentrically disposed rotor in said chamber driven by a drive shaft with the rotor maintaining sealing contact with the wall of the cylinder housing in its movement over or around the same, and with blade means in the housing maintained in sealing contact with the surface

of the rotor, and compressed air means for maintaining in the fulminating material to improve sensitivity toward the blade means in sealing relationship with the rotor impact ignition and reliability while at the same time re-



and with said compressed air means further providing air lubrication for the blade means.

### 3,521,982 PILOT BURNER

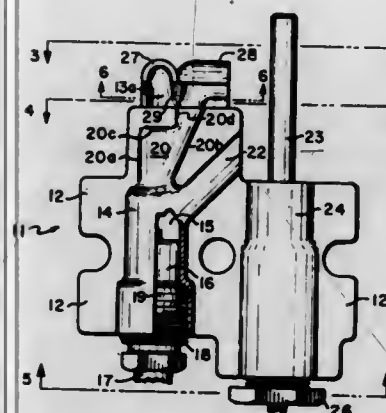
William R. Dunn, Los Angeles, Calif., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Nov. 22, 1968, Ser. No. 778,039

Int. Cl. F23n 5/10

U.S. Cl. 431—80

6 Claims



A pilot burner-flame sensor combination wherein the pilot burner has body and head configurations that divides a burner flame into two distinct flames, one for igniting a main burner and the other for heating a flame sensor in the form of a thermocouple. The outlets of the burner have baffles that cause substantially all of the gas and air mixture and, therefore the flame supported thereby, to flow in the direction of the main burner when the gas pressure becomes so low as to not normally provide a suitable flame for igniting the main burner.

### 3,521,983 PHOTOFLASH LAMP

William C. Fink and John W. Shaffer, Williamsport, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 21, 1968, Ser. No. 730,803

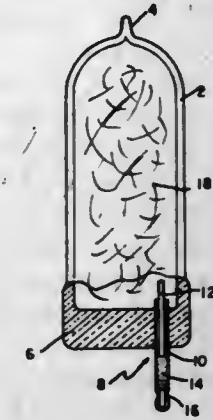
Int. Cl. F21k 5/02

U.S. Cl. 431—93

5 Claims

A percussive-type photoflash lamp in which a quantity of powdered boron instead of powdered zirconium is used

A gas fueled lighter comprising a housing having a burner and an ignitor projecting longitudinally from one



ducing the detrimental effect of shred compaction generally experienced with highly sensitive compositions.

### 3,521,984 PHOTOFLASH LAMP

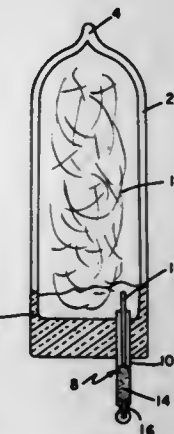
William C. Fink and John W. Shaffer, Williamsport, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Aug. 28, 1968, Ser. No. 756,027

Int. Cl. F21k 5/02

U.S. Cl. 431—93

7 Claims



A percussive-type photoflash lamp in which the powdered metallic combustible component of the fulminating material thereof comprises zirconium and boron.

### 3,521,985 GAS FUELED LIGHTER

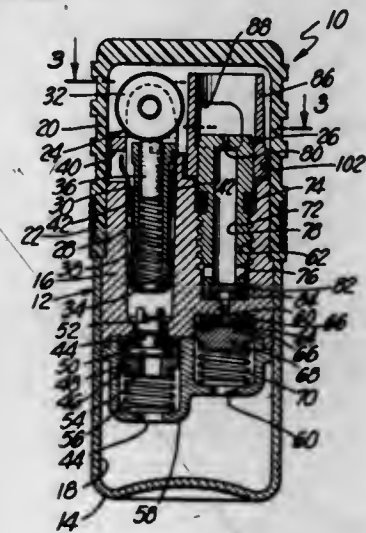
John L. Chrisman, Los Angeles, Calif., and Gene W. Goble, 1931 Clover Way, Escondido, Calif. 92025; said Chrisman assignor to said Goble

Filed July 23, 1968, Ser. No. 746,970

Int. Cl. F23q 2/16

U.S. Cl. 431—151

9 Claims





end thereof in side-by-side relation. The burner is threadedly connected to the housing and carries a valve which opens and closes a fuel outlet passage in response to rotation of the burner in opposite directions by means of a handle connected thereto. A wind guard is connected to the burner and has a spark aperture which registers with the ignitor upon rotation of the burner into a position to open the valve. A removable cover telescoped over one end of the housing encloses the burner and the ignitor and engages the handle on the burner to prevent opening of the valve. The ignitor, comprising a flint and striker wheel, is removably disposed in a socket in the housing. At the inner end of the socket is a check valve through which gaseous fuel of the liquefied petroleum type may be introduced into a reservoir within the housing upon removal of the ignitor from its socket.

3,521,986

### ASPIRATED RADIANT TUBE COMBUSTION APPARATUS

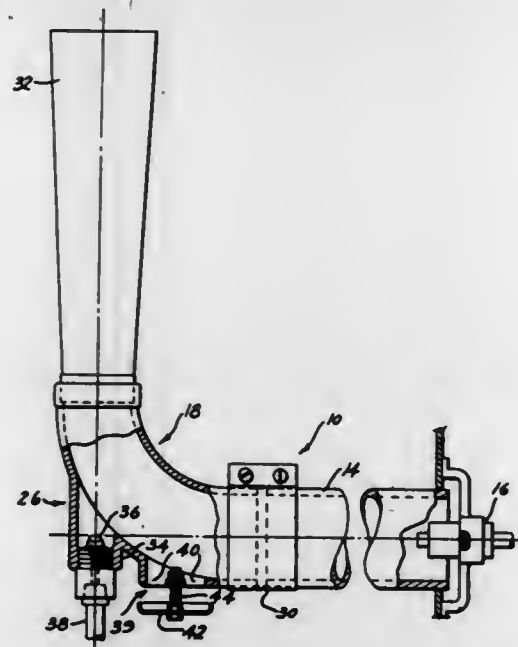
Peter M. Eckstrom, Toledo, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio

Filed Aug. 23, 1968, Ser. No. 754,876

Int. Cl. F231 17/00

U.S. Cl. 431-157

3 Claims



This invention relates to a tube type combustion apparatus having an eductor at one end of the tube and a burner at another end thereof. An ambient air inlet opening is provided adjacent the upstream end of the eductor. The opening has a valve means for varying its effective size so that the apparatus internal operating pressure and the analysis of its flue gas may be adjusted to desired levels, even though constant input burners and eductors are used. Ambient air drawn through the opening dilutes the hot combustion gases and maintains the eductor at a cooler temperature.

3,521,987

### ELECTRIC GAS LIGHTER WITH MANUALLY OPERABLE PIEZOELECTRIC IGNITION DEVICE

Kenjiro Goto, Tokyo, Japan, assignor to Mansei Kogyo Kabushiki Kaisha, Kamiaoki-cho, Kawaguchi, Saitama Prefecture, Japan, a company of Japan

Filed Aug. 5, 1968, Ser. No. 750,279

Claims priority, application Japan, Aug. 3, 1967, 42/66,975; Aug. 26, 1967, 42/73,107

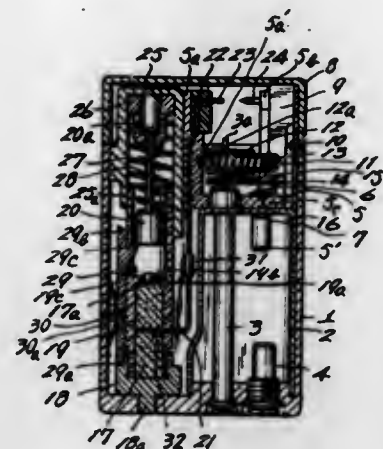
Int. Cl. F23g 2/28, 3/01

U.S. Cl. 431-255

12 Claims

A liquefied gas-fueled lighter for cigarettes, cigars and the like having a piezoelectrically-energized high voltage

generation device as the fuel ignition source in which a fuel tank is located within a casing and a fuel gas discharge valve device is disposed within said tank in fuel transfer relation thereto. A fuel gas injection valve is disposed in a spaced relation to said discharge valve device within said tank in fuel transfer relation to the tank and a cap is pivotally secured to said casing. A spouting



valve control device operates in response to the pivotal movement of said cap to control the nozzle of said discharge valve device. A high voltage generation device having piezoelectric elements and electrodes adapted to provide a spark to ignite the fuel gas which, is adapted to discharge from said tank through said discharge valve device upon the operation of said cap.

3,521,988

### PILOTED MAIN FLAME BURNER WITH BURNER RIBBONS

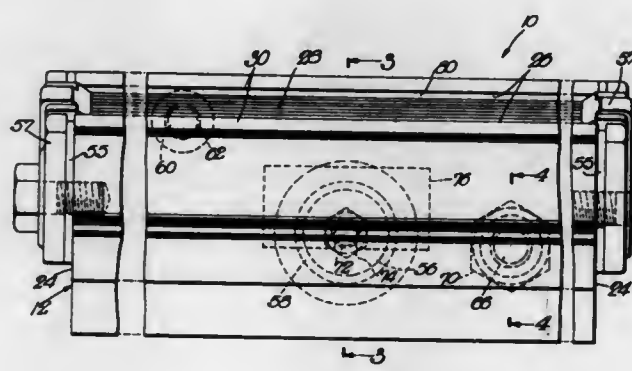
John H. Flynn, 234 Elk Ave., New Rochelle, N.Y. 70804

Filed Mar. 14, 1968, Ser. No. 713,174

Int. Cl. F23q 9/00

U.S. Cl. 431-284

1 Claim



A longitudinal burner casing has a peripheral wall of which adjacent wall parts diverge substantially rectangularly from a longitudinal corner of the casing, and a longitudinal partition in the casing dividing it into main and pilot gas compartments. Machined into the casing corner is a longitudinal, diagonally inwardly directed, groove extending through the pilot compartment and having in the partition a bottom with a median longitudinal through-slot to the main compartment. Inserted in the groove and seated on the remaining bottom thereof are two spaced U-channels with pilot flame ribbons therein and main flame ribbons clamped between the channels, with these channels dividing the pilot compartment into sections with which they are in communication through spaced holes in the respective channels.

## CHEMICAL

3,521,989

### METHOD OF DYEING WOOL AND COMPOSITION THEREFOR

Ian Bruce Angliss and Jack Delmenico, Belmont, Geelong, Victoria, Australia, assignors to Commonwealth Scientific and Industrial Research Organization, East Melbourne, Victoria, Australia, a body corporate

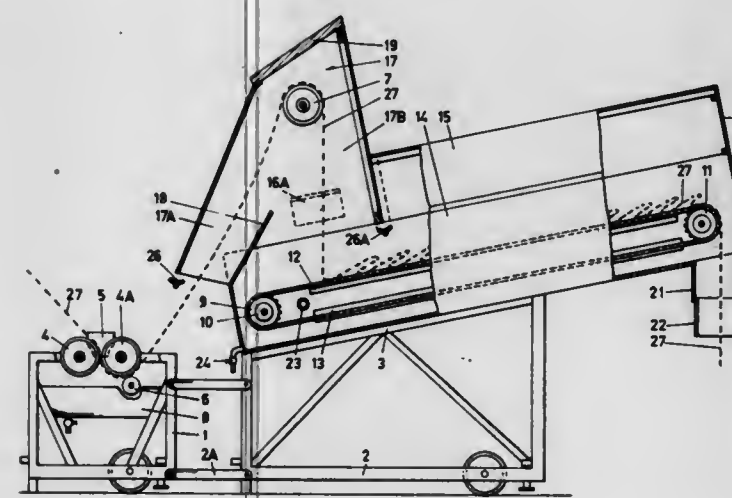
Continuation-in-part of application Ser. No. 476,700, Aug. 2, 1965. This application Sept. 27, 1967, Ser. No. 670,886

Claims priority, application Australia, Oct. 4, 1966, 12,006/66

U.S. Cl. 8-54

Int. Cl. D06p 3/14

3 Claims



Wool is dyed by treatment with a solution containing 30-35% by weight of urea, diethylsulphosuccinate as the detergent and a dyestuff followed by steaming.

Wool can also be treated with a solution containing at least 20% by weight of urea and steamed prior to dyeing.

3,521,990

### PROCESS FOR THE RAPID TANNING OF LEATHER

Helmut Schmid and Wolfhard Luck, Leverkusen, Bruno Zinz, Cologne-Flittard, Ernst Komarek, Leverkusen, and Ernst Loderhose, Stuttgart, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 8, 1966, Ser. No. 525,839

Claims priority, application Germany, Feb. 26, 1965, F 45,369

Int. Cl. C14c 3/28, 1/08

U.S. Cl. 8-94.17

12 Claims

Process for tanning leather without chromium tanning agents, in which pelts from the lime-house are acidified without substantial amounts of water with a mixture of (1) a mineral acid or an organic sulfonic acid and (2) ammonium salt alone or in combination with a carboxylic acid, a salt of a sulfurous acid, or a water-soluble inorganic alkali metal salt, until the pH is less than 4; followed by pretanning the acidified pelts without substantial amounts of water with 5-15% by weight of the pelt of an auxiliary syntan or sulfite waste liquor, until the cross-section of the pelt is tanned completely through; and final tanning of the leathers with vegetable tannin or syntan.

3,521,991

### PROCESS OF TREATING JUTE FOR IMPARTING IMPROVED LIGHT-FASTNESS

Anil Bhusan Sen Gupta and Sachindra Kumar, Calcutta, West Bengal, India, assignors to Indian Jute Industries' Research Association, West Bengal, India

No Drawing. Continuation-in-part of application Ser. No. 706,647, Feb. 19, 1968. This application Mar. 4, 1969, Ser. No. 804,317

Int. Cl. D061 3/06

U.S. Cl. 8-108

5 Claims

Improving the light-fastness of jute and reducing surface hairiness by contacting the jute with moist chlorine gas, aqueous chlorine solution or aqueous solution of hypochlorous acid and thereafter extracting the jute with aqueous solution of alkali metal hydroxides, phosphates, sulphites or bisulphites.

3,521,992

### METHOD FOR BLEACHING WITH PEROXYACIDS

Bernard K. Easton, Pennington, N.J., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 13, 1967, Ser. No. 682,557

Int. Cl. D061 3/02

U.S. Cl. 8-111

5 Claims

Polyester fibers can be bleached with peracetic acid without developing dark stains by carrying out said bleaching in the presence of at least about 0.025% by weight of either hexamethylenetetramine or trioxane.

3,521,993

### SOIL RELEASING TEXTILES

Ronald Swidler, Pasadena, Calif., Ray S. Smith, Greensboro, N.C., and Harry A. Miller, Altavista, Va., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 645,599, June 13, 1967. This application Nov. 15, 1967, Ser. No. 683,139

Int. Cl. D06c 29/00

U.S. Cl. 8-115.6

10 Claims

An improved process for the treatment of textiles preferably to provide durable press and soil release properties. The fabrics are treated with a durable crease resin and a soil release polymer, in the presence of an aryl stearic acid, and cured. The soil release resin is one which absorbs at least five times its weight of water when immersed in an aqueous detergent solution for 2 minutes at 140° F.

3,521,994

### PROCESS FOR MANUFACTURING DURABLE PRESS GARMENTS

Francis S. Moussalli, Charlotte, N.C., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 8, 1968, Ser. No. 719,481

Int. Cl. D06m 9/00

U.S. Cl. 8-115.7

2 Claims

A process for the preparation of durable press polyester fiber containing fabrics and the shaped articles produced therefrom, said process involving applying to said fabric aqueous solutions of nitrogen containing resin formers, precuring said resin formers by drying the resin treated fabric to substantially zero moisture regain while



minimizing cross-linking, forming a creased garment from the fabric and subsequently or simultaneously fully curing the resin.

### 3,521,995 TENSILE PROPERTIES OF CROSS-LINKED WOVEN CELLULOSIC FABRICS

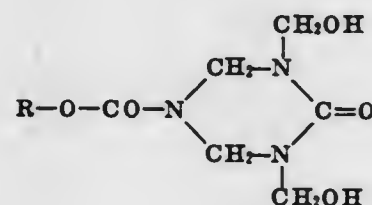
Joseph Harold Smith, Amherst, Mass., assignor to Johnson & Johnson, a corporation of New Jersey  
Filed Aug. 27, 1965, Ser. No. 483,043  
Int. Cl. D06m 13/14

U.S. Cl. 8—116.3 3 Claims  
A method of improving the tensile strength of cross-linked cellulose fabrics by treating the fabric with a swelling agent and applying tension in the filling direction of the fabric and removing the swelling agent from the fabric while under tension. The fabric is then dried and treated with a cross-linking agent to cross-link the cellulose.

### 3,521,996 TEXTILE FINISHING TREATMENT WITH TRIAZINE DERIVATIVES

Jean Bouvet, Vernon, and Gilbert Cousserans, Toulouse, France, assignors to Azote et Produits Chimiques S.A., Toulouse, France  
No Drawing. Filed July 12, 1966, Ser. No. 564,540  
Claims priority, application France, July 19, 1965, 25,073  
Int. Cl. D06m 13/12

U.S. Cl. 8—116.3 13 Claims  
Textiles, especially cellulosic textiles, are rendered crease-proof by treatment in a bath containing a compound of the formula:



wherein R is alkyl from 1 to 8 carbon atoms and an acid catalyst. The thus treated textile is then thermofixed at 140 to 180° C. for one to five minutes.

### 3,521,997 CONTINUOUS PROCESS FOR TREATING WOOL WITH CHLOROCYANURATE

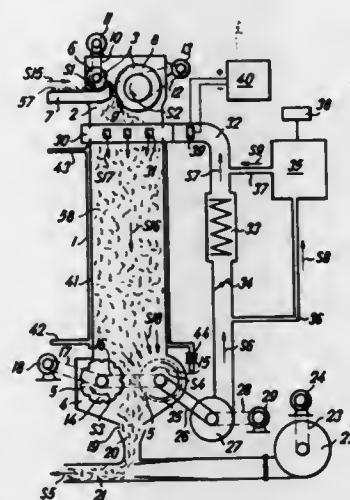
Ronald N. Barber, Bingley, and James E. Madden, Baildon, England, assignors to I.W.S. Nominee Company Limited, London, England  
Filed Apr. 7, 1967, Ser. No. 629,321  
Claims priority, application Great Britain, Apr. 15, 1966, 16,742/66; Sept. 6, 1966, 39,835/66  
Int. Cl. D06m 3/02, 13/34

U.S. Cl. 8—127.6 6 Claims  
A high degree of shrink resistance is conferred on wool fibres, and other desirable properties achieved or preserved, by continuous treatment of wool fibres with alkali metal salts of chlorocyanuric acids under carefully selected and controlled conditions. The fibres are first impregnated with an aqueous solution of at least 1% of such salt at a pH of 5-7, then continuously transferred to a residence zone for at least one half minute and thereafter treated with a dechlorinating agent. Especially valuable results are achieved if the fibres in the residence zone are kept in contact with air.

### 3,521,998 METHOD OF AND APPARATUS FOR TREATING FIBROUS MATERIALS

Pavel Gruner and Jaroslav Janousek, Dvur Kralove nad Labem, and Zdenek Jelinek, Perduvice, Czechoslovakia, assignors to Vyzkumny Ustav Zslechtovaci, Dvur Kralove nad Labem, Czechoslovakia  
Filed Mar. 26, 1968, Ser. No. 716,010  
Claims priority, application Czechoslovakia, Mar. 31, 1967, 2,316/67  
Int. Cl. B08b 5/00; D06c 1/00

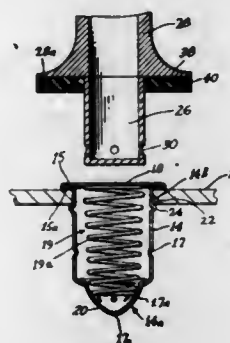
U.S. Cl. 8—149.2 15 Claims  
A method of and apparatus for treating fibrous materials provides an upright treating chamber filled with fibrous material. Additional fibrous material is continuously added at one end of the treating chamber, and a corresponding quantity of fibrous material is continuously withdrawn at the other end of the treating chamber so that new fibrous material added advances through the treating chamber from one to the other end thereof. An aerosol is introduced into the treating chamber for passage through the fibrous material therewithin either in concurrent flow with the fibrous material, or in counter-



flow thereto. At the respectively opposite end of the treating chamber the aerosol is withdrawn.

### 3,521,999 SANITATION DEVICE

Donald A. Gauck, 4 Falcon Lane, Cincinnati, Ohio 45218  
Filed Feb. 21, 1968, Ser. No. 707,168  
Int. Cl. A61l 1/00, 3/00, 3/02  
U.S. Cl. 21—61 3 Claims

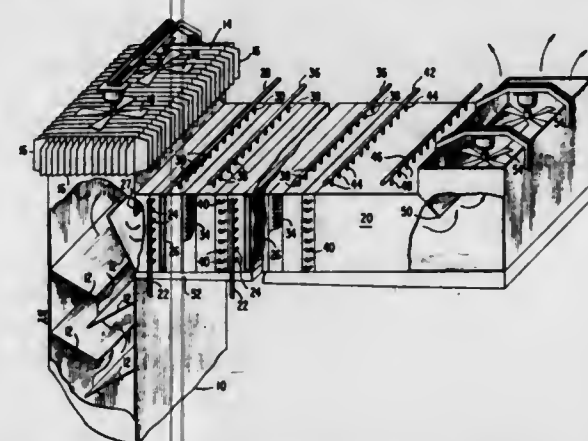


A sanitation device for injecting disinfectant into heretofore inaccessible areas beneath and behind counter tops, cabinets and appliances and between walls in bathrooms, kitchens and the like, which comprises a control valve, normally closed against the premature entry of foreign elements, and an injector, whereby when the injector is pressed into the control valve, disinfectant may be directed through the valve and into the heretofore inaccessible areas.

### 3,522,000 METHOD AND APPARATUS FOR COOLING AND PURIFYING GASEOUS PRODUCTS OF COMBUSTION

Leslie Junior Kinney, Chillum, Md., assignor to Chillum Sheet Metal, Inc., Bladensburg, Md., a corporation of Maryland  
Filed Sept. 6, 1967, Ser. No. 665,890  
Int. Cl. B01d 47/00

U.S. Cl. 23—2 10 Claims



The present invention discloses a method and apparatus for removing ash and other particles suspended in a moving stream of hot gases, such as smoke, as well as cleansing these gases of any noxious, toxic or otherwise undesirable pollutants by means of treating the gases with a series of cleansing and cooling steps including water sprays, screens and baffles, and additionally includes as one of the final steps a spray of a chemical reagent such as ammonium hydroxide for combining with any of the remaining pollutants such as sulfur dioxide to form water soluble components which are then removed by means of a final water spray.

### 3,522,001 RECOVERY OF METALS FROM CARBONACEOUS MATERIAL

Kenneth D. Vesely, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
Filed Jan. 22, 1968, Ser. No. 699,432  
Int. Cl. C22b 59/00; C01g 31/00, 53/04

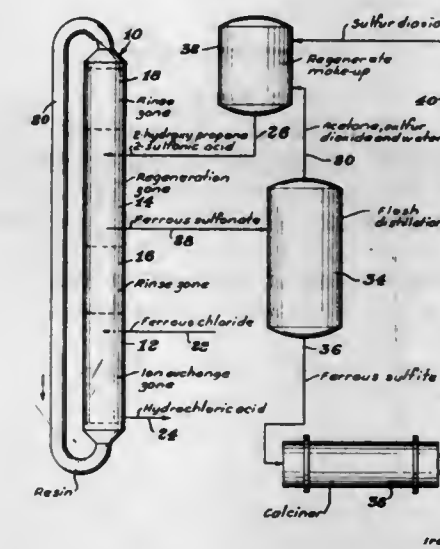
U.S. Cl. 23—15 7 Claims  
A process for recovering metals from coal and/or hydrocarbonaceous coke. Particular metals are nickel and vanadium, being found in the greatest concentration in coal and petroleum crude oils; these are recovered in a readily marketable form as nickel oxide and vanadium pentoxide. Salt, preferably sodium chloride, is admixed with coke and the coke is burned at temperatures which allow the salt and metals to fuse to nickel chloride and sodium vanadate. Subsequent treatments result in substantially pure nickel oxide and vanadium pentoxide products. Where the source of the metals in a petroleum crude oil, or heavy hydrocarbonaceous fraction derived therefrom the salt resulting from an initial desalting operation is utilized within the metals recovery process.

### 3,522,002 TREATMENT OF SPENT HYDROCHLORIC ACID PICKLE LIQUOR FOR RECOVERY OF HYDRO- CHLORIC ACID

Leonard J. Lefevre, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
Filed Dec. 26, 1967, Ser. No. 693,540  
Int. Cl. C01b 7/08

U.S. Cl. 23—154 9 Claims  
An ion exchange process is provided for the recovery of hydrochloric acid from spent hydrochloric acid pickle

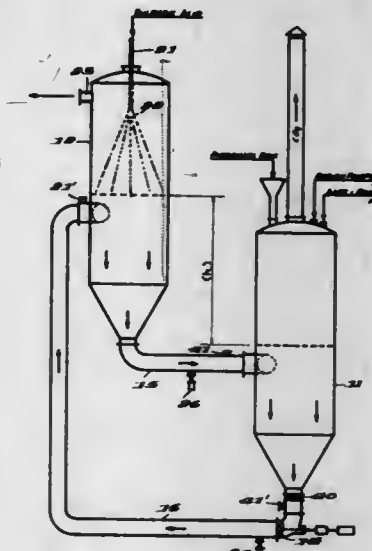
liquor. The process includes regeneration of the ion exchange material with a complex sulfonic acid, and treat-



ment of the regenerant effluent to recover the complex sulfonic acid regenerant and to produce iron oxide suitable for use in steel making.

### 3,522,003 PROCESS AND APPARATUS FOR PRODUCING PHOSPHORIC ACID FROM PHOSPHATE ROCK

Edwin B. Lopker, Fort Lauderdale, Fla., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware  
Continuation-in-part of application Ser. No. 518,229, Jan. 3, 1966. This application Apr. 19, 1966, Ser. No. 543,648  
Int. Cl. C01f 1/46; C01b 25/22  
U.S. Cl. 23—165 19 Claims



The invention concerns a process for the manufacture of phosphoric acid (and calcium sulfate by-product) by the reaction of calcium phosphate and sulfuric acid which includes circulating the entire reactant mass at a high rate of circulation within the reactant system and adding controlled quantities of calcium phosphate rock, sulfuric acid and recycle phosphoric acid reactants separately from one another into the reactant system in a manner controlled as to location of the points of addition and/or the time sequence of addition of each reactant so as to control calcium sulfate concentration gradients and thereby prevent

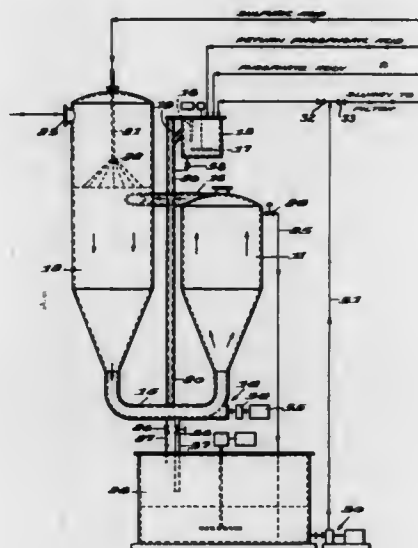


excessive formation of fine calcium sulfate crystals. Cooling of the reactant system is carried out by evaporative cooling of the entire recirculating reactant mass so that the temperature gradients resulting from removal of the heat of reaction are not so large as to occasion excessive fine crystal formation.

3,522,004

**PROCESS AND APPARATUS FOR PRODUCING PHOSPHORIC ACID FROM PHOSPHATE ROCK**  
Edwin B. Lopker, Fort Lauderdale, Fla., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware  
Continuation-in-part of application Ser. No. 518,229, Jan. 3, 1966. This application Apr. 19, 1966, Ser. No. 543,723

Int. Cl. C01f 1/46; C01b 25/22  
U.S. Cl. 23—165 25 Claims



The invention concerns a process for the manufacture of phosphoric acid and calcium sulfate by the reaction of calcium phosphate and sulfuric acid which includes circulating the entire reactant mass at a high rate of circulation within the reactant system and adding controlled quantities of calcium phosphate rock, recycle phosphoric acid, and sulfuric acid reactants into the reactant system in a manner controlled as to location of the points of addition so as to control calcium sulfate concentration gradients and thereby prevent excessive formation of fine calcium sulfate crystals. Cooling of the reactant system is carried out by evaporative cooling of the entire recirculating reactant mass so that the temperature gradients resulting from removal of the heat of reaction are not so large as to occasion excessive fine crystal formation.

3,522,005

**PROCESS AND APPARATUS FOR MANUFACTURE OF CARBON BLACK**  
Charles E. Braddock, El Dorado, Ark., assignor to Cities Service Company, a corporation of Delaware  
Filed Feb. 28, 1968, Ser. No. 709,038

U.S. Cl. 23—209.4 16 Claims  
A liquid feedstock hydrocarbon is atomized into hot combustion gases contained by a furnace chamber for vaporization and subsequent thermal decomposition of the hydrocarbon, thus forming carbon black. More specifically, the liquid feedstock hydrocarbon is injected into the furnace chamber by means of a rotating atomizer which considerably enhances dispersion, vaporization and thermal decomposition of the hydrocarbon so that the carbon black may be produced at higher rates and yields.

3,522,006

# PROCESS FOR THE MANUFACTURE OF CARBON PRODUCTS

André Legendre, Saint-Cloud, and Henri des Rochettes, Saint-Jean-de-Maurienne, France, assignors to Pechiney-Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France

Filed Nov. 1, 1967, Ser. No. 679,750  
Claims priority, application France, Nov. 21, 1966, 84,269

Int. Cl. C01b 31/02, 31/04 7 Claims  
U.S. Cl. 23—209.3  
The invention is addressed to the manufacture of amorphous or graphitized carbon products from crude carbonaceous products in an electrical furnace of the Acheson type in which use is made of a granulated carbonaceous material surrounding the crude products and in which the improvement comprises the utilization of panels of an electrically insulating substance positioned between the products and the source of electrical current in a direction perpendicular to the direction of current to reduce the passage of electrical current through said products, at least during passage of the products through a critical heating range.

3,522,007

# PURIFICATION OF CHLORINE

Ludo K. Frevel, Midland, and Leonard J. Kressley, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Original application Mar. 14, 1966, Ser. No. 533,842. Divided and this application Nov. 18, 1968, Ser. No. 794,455

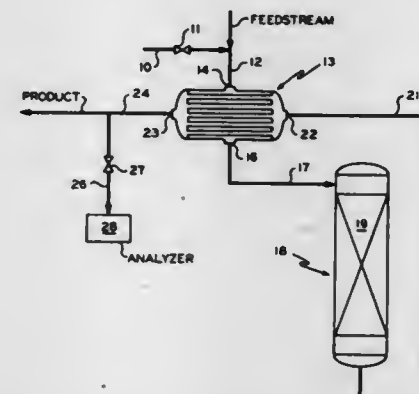
Int. Cl. C01b 7/02; B01d 53/14 6 Claims  
U.S. Cl. 23—219  
Chlorinated carbon containing 10–15% by weight of chemically bound chlorine is useful for removing impurities from chlorine by contacting the latter at a temperature of 0–50° C. under 1 to about 10 atmospheres pressure.

3,522,008

# HEAT EXCHANGER LEAK DETECTION

Charles E. Defabaugh and George R. Hettick, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 13, 1967, Ser. No. 675,202  
Int. Cl. G01n 21/16; G01m 3/20  
U.S. Cl. 23—230 4 Claims



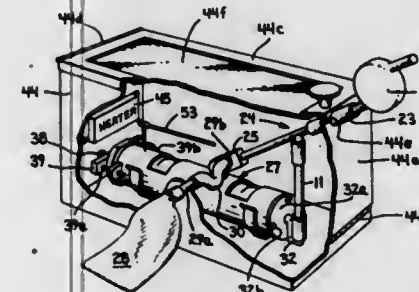
Leaks in apparatus for indirect heat exchange between a feed stream flowing to and a product stream flowing from a catalytic reaction zone are detected by adding a compound selected from the group consisting of lithium decanoate and cobalt naphthenate to the feed upstream of the heat exchange apparatus and analyzing the product stream downstream from the heat exchange apparatus for the presence of said compound.

3,522,009

# BREATH SAMPLING, STORING, AND PROCESSING APPARATUS AND METHOD

Robert F. Borkenstein, Bloomington, Ind., assignor to Indiana University Foundation, Bloomington, Ind., a corporation of Indiana

Filed Dec. 5, 1966, Ser. No. 599,182  
Int. Cl. G01n 31/06, 31/22, 33/16  
U.S. Cl. 23—232 15 Claims



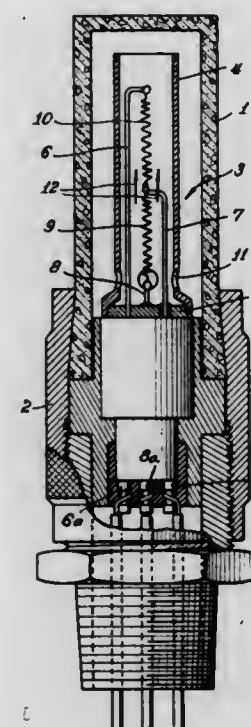
A portable device including a mouthpiece, a removable alcohol collection tube, and a graduated syringe, to collect the breath sample and the alcohol therein. The alcohol is adsorbed by calcium chloride in the tube, which can be removed and stored. For later analysis of the tube content, apparatus includes a heated chamber receiving the tube, and means pumping heated air therethrough to drive out the alcohol to analyzing apparatus of whatever type desired.

3,522,010

# COMBUSTIBLE GAS DETECTOR SAMPLING HEAD

Lee A. Archer, Wheaton, Ill., assignor to Erdco Engineering Corporation, Addison, Ill., a corporation of Delaware

Filed Jan. 10, 1968, Ser. No. 696,835  
Int. Cl. G01n 27/16  
U.S. Cl. 23—254 7 Claims



The detector and reference filaments of a gas detector sampling head are arranged relative to each other and relative to the gas sample inlet and outlet so that the direction and velocity of flow of the gas sample and the disposition of the products of combustion at the detector filament are controlled in such a way that the detector filament is differentially affected to register the presence of combustible

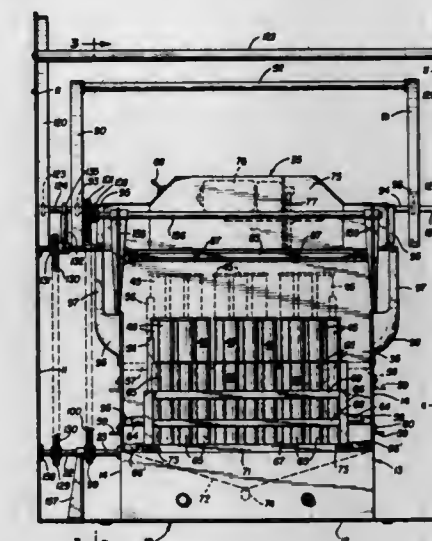
gases with minimum extraneous effects. The sampling head may be used in vertical or horizontal position. Progressively increasing pitch of the catalytic metal filaments toward their middle portions, prevents excessively high temperatures at such middle portions, resulting in lengthened useful lives of the filaments.

3,522,011

# URINALYSIS MACHINE

Dewey S. C. Sanderson, 4890 Troy St., Denver, Colo. 80239

Filed May 18, 1967, Ser. No. 639,404  
Int. Cl. B01l 9/00, 9/06, 11/00  
U.S. Cl. 23—259 24 Claims



A machine for simultaneously handling a plurality of urine specimens for physical and chemical examinations, comprising a plurality of centrifuge tubes arranged in racks in one or more rows, a corresponding number of test tubes arranged in racks in corresponding rows adjacent the centrifuge tubes, a urinometer dispensing unit provided with urinometer gripping means for simultaneously moving urinometers from rest positions in cleansing troughs and depositing them in centrifuge tubes, a multi-decanting unit movable from rest position over cleansing troughs for simultaneously transferring supernatant fluid from centrifuge tubes to test tubes or to a drain, and a strip-dipper for simultaneously dipping a plurality of strips into contents of tubes for chemical tests. The racks for centrifuge tubes are foldable for placement of a plurality of tubes and contents in turnion cups of a centrifuge without disarranging sequence of the specimens. Air pressure is conveyed through the multi-decanting unit to the surface of fluid in centrifuge tubes and to the surface of water in the decanting pipes cleaning trough to induce fluid flow. Electrically powered mechanism moves the urinometer dispensing unit and the multi-decanting unit from rest positions to the work area and vice versa.

3,522,012

# APPARATUS FOR MINERAL BENEFICIATION

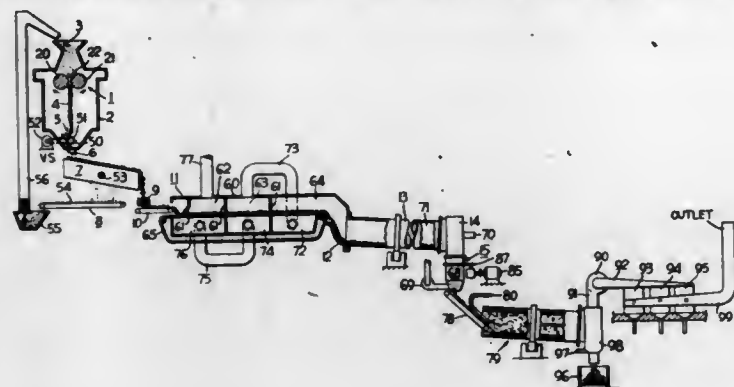
William A. Blann, New Berlin, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Mar. 17, 1967, Ser. No. 623,975  
Int. Cl. C01b 25/32; F27b 19/04  
U.S. Cl. 23—262 7 Claims

An apparatus for beneficiating phosphate ore containing limestone. Apparatus is provided for agglomerating the ore into porous sheet form, for breaking the ore into flakes or compacts, and for calcining the flakes to remove carbonaceous content from the ore, including calcination of the limestone content of the ore to lime. Apparatus is provided for hydrating the lime content of the calcined ore by the application of steam or hot water



vapor to the flakes to cause decrepitation of the flakes whereby to break the physical bond between the lime and phosphate granules. Air classification apparatus is



provided for separating the lime hydrate and phosphate granules based on the differences in specific gravities and particle size of the lime hydrate and phosphate granules.

3,522,013

**FLUID TREATMENT APPARATUS**

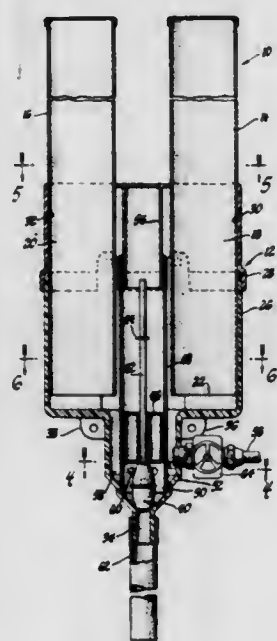
Donald R. Borgeson, Birmingham, Mich., assignor to Vulcan Laboratories, Inc., Pontiac, Mich., a corporation of Michigan

Filed July 18, 1968, Ser. No. 745,927

Int. Cl. B01f 1/00

U.S. Cl. 23—267

8 Claims



Fluid treatment apparatus having a chamber in which chemical briquettes are stored with water being intermittently washed over the briquettes to bring about their gradual dissolving and eventual circulation through a water system. A buoyant valve and float arrangement first directs water from an inlet into the chamber to a selected level and then empties the chamber to carry away the dissolved chemicals.

3,522,014

**ECCENTRICALLY ROTATED ROD HOLDER FOR CRUCIBLE-FREE ZONE MELTING**

Wolfgang Keller, Pretzfeld, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Nov. 28, 1966, Ser. No. 597,340

Claims priority, application Germany, Nov. 30, 1965, S 100,722; June 3, 1966, S 104,126

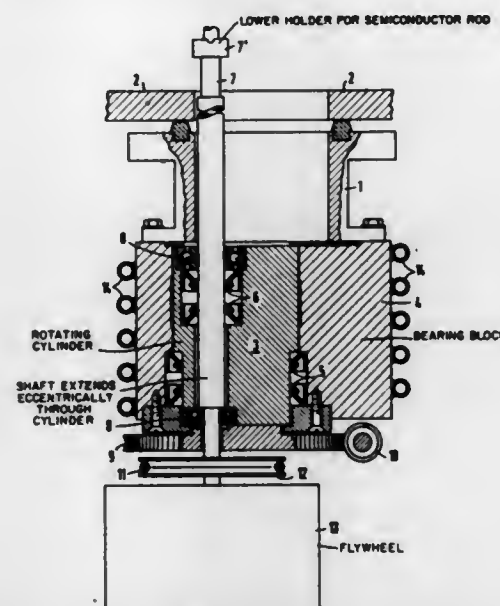
Int. Cl. B01f 17/10

U.S. Cl. 23—273

10 Claims

A device for carrying out a crucible-free zone melting operation wherein a rod-shaped member of crystalline

material is end-supported substantially vertically by holders in a closed chamber. The holders are displaceable laterally in axially parallel relationship to one another, and



at least one of them is secured to a substantially vertical shaft. A cylinder having a substantially vertical axis and rotatable about that axis is provided, the shaft extending eccentrically through the cylinder.

3,522,015

**DIRECT CONVERSION CHEMICAL PROCESSING ARC HEATER**

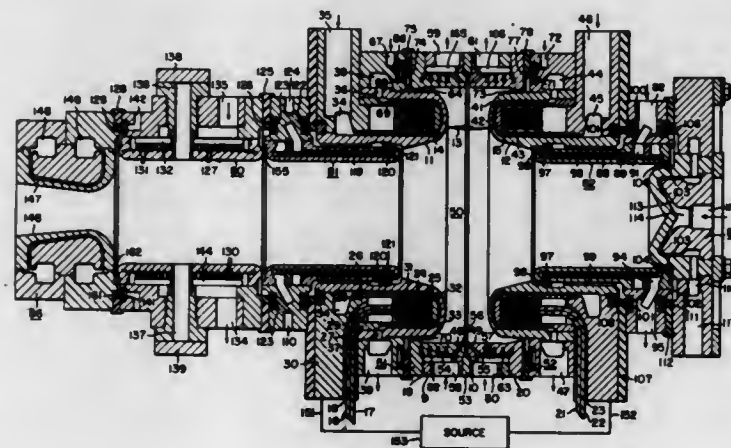
Daniel A. Maniero, Monroeville, Pitcairn, and Charles B. Wolf, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 16, 1966, Ser. No. 527,787

Int. Cl. B01j 1/14

U.S. Cl. 23—277

5 Claims



An arc heater has a pair of axially spaced annular electrodes forming a gap with a generally axially extending arc therebetween, the electrodes having magnetic field coils therein for generating a magnetic field which exerts a force on the arc and cause it to move substantially continuously around and between the electrodes and to describe a generally annular or cylindrical path. Process gas to be pyrolyzed is substantially continuously admitted under pressure into the arc heater through a substantially circumferential admission path radially external to the electrodes from which it passes rapidly in a generally radial direction through the gap between electrodes and through the annular path described by arc movement and into an arc chamber. The arc describes its annular path at such a fast repetitive rate that pyrolysis with substantially uniform heating of the process gas are obtained. The arc chamber is elongated providing a long path for process gas between arc pyrolysis area and exhaust area;

cooling of the pyrolyzed gas to a temperature at which a desired recombination product is present in substantial proportion may occur within the arc chamber. Quenching gas may be introduced into the arc chamber at one or more axially spaced positions along the path of the process gas. The volumetric capacity of the arc chamber is increased by having the upstream end of the arc chamber closed in a substantial axial distance from the upstream electrode.

3,522,016

**SCRAPER APPARATUS FOR REACTION CHAMBER**

James Dennis Groves, Redcar, and Peter Alan Jones, Stockton-on-Tees, England, assignors to British Titan Products Company Limited, Billingham, England, a corporation of the United Kingdom

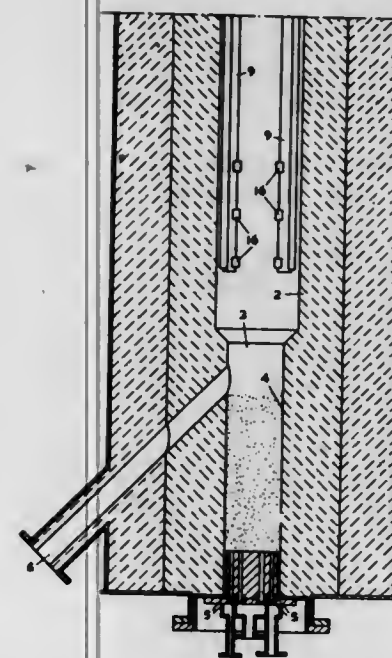
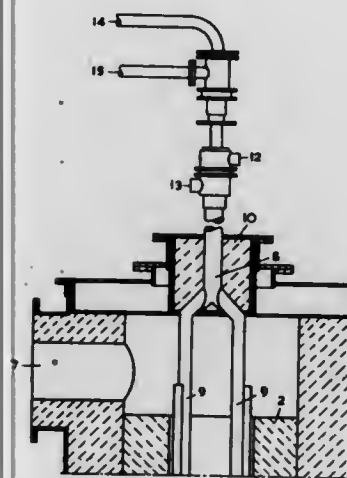
Continuation of application Ser. No. 417,130, Dec. 9, 1964. This application Jan. 16, 1968, Ser. No. 698,279

Claims priority, application Great Britain, Dec. 12, 1963, 49,126/63

Int. Cl. F27b 15/02

U.S. Cl. 23—277

5 Claims



A vapour phase oxidation of metal halides to produce pigmentary metal oxides tends to suffer losses due to the accumulation of oxidic product on the walls of the reactor. A reactor scraper for scraping the oxidic materials from the walls of the reactor during the course of the reaction and to inject reactants into the reactor is disclosed.

**REACTOR FOR CONDUCTING CONTROLLED-TEMPERATURE GAS PHASE REACTIONS WITH MIXING**

Jesse P. Barfield, Jr., Madison, N.J., assignor to Celanese Corporation, a corporation of Delaware

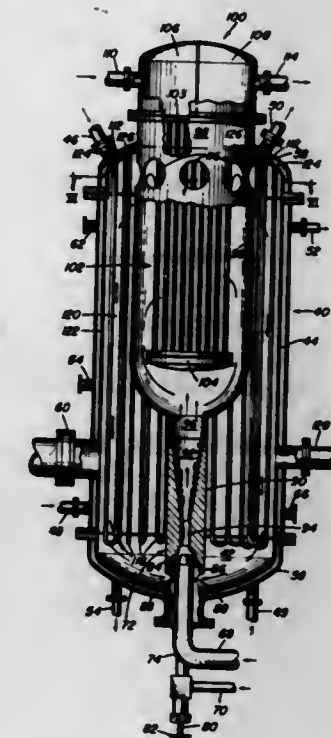
Original application July 13, 1964, Ser. No. 382,224.

Divided and this application Jan. 29, 1968, Ser. No. 725,971

Int. Cl. B01j 1/14; F28f 13/12

U.S. Cl. 23—277

10 Claims



A reactor for conducting vapor-phase reactions, such as the oxidation of an inorganic vapor with molecular oxygen, comprises a reaction chamber containing heat transfer means, such as a heat exchanger, and an eductor mounted through a wall of the reaction chamber and discharging toward the heat exchanger. The eductor is actuated by the gases being fed into the reaction chamber, and its suction ports communicate with the interior of the chamber so that the gases contained in the chamber are continuously mixed and discharged from the eductor through the heat exchanger and drawn back into the eductor through its suction ports. The apparatus provides thorough continuous mixing of feed gases with gases contained in the reactor while also providing reaction temperature control.

3,522,018

**APPARATUS FOR THE CONTINUOUS PREPARATION OF BIS-2-HYDROXY-ETHYL PHTHALATES**

Ditmar Bachmann, Hofheim, Taunus, Karl Heinz Grafen, Offenbach am Main, and Wolfgang Fischer and Armin Schubring, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

Original application Mar. 22, 1965, Ser. No. 441,471.

Divided and this application Sept. 15, 1967, Ser. No. 671,533

Claims priority, application Germany, May 2, 1964, F 42,776

Int. Cl. B01j 3/00; C07c 69/82

U.S. Cl. 23—285

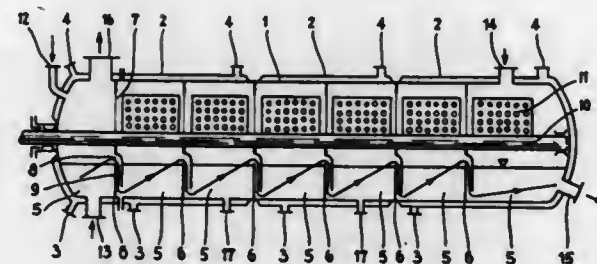
3 Claims

A horizontally disposed cylindrical casing in which a liquid can be reacted with a vapor is subdivided into a plurality of baffle chambers communicating with one another above the liquid level for passage of vapors and below the liquid level for movement of liquid from one chamber to the next. The chambers may be provided with



individual heating means, for maximum temperature control and with a stirring device. The apparatus is particu-

larly adapted for reacting dimethyl terephthalate or the like with ethylene glycol in several stages.

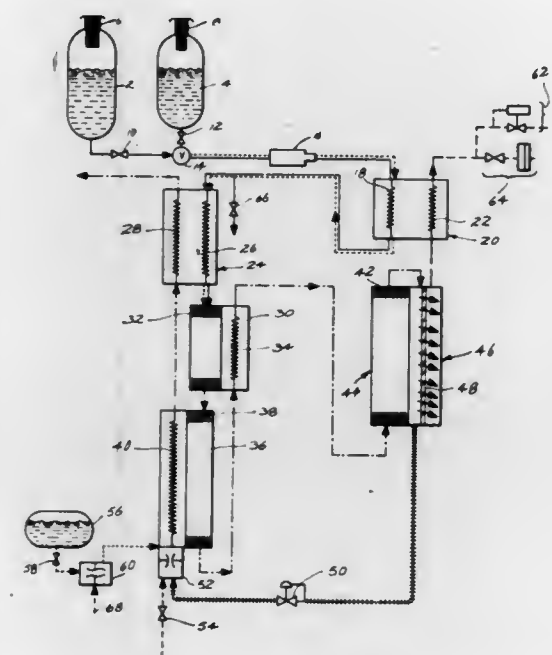


larly adapted for reacting dimethyl terephthalate or the like with ethylene glycol in several stages.

### 3,522,019 APPARATUS FOR GENERATING HYDROGEN FROM LIQUID HYDROGEN-CONTAINING FEEDSTOCKS

Richard F. Buswell, Glastonbury, Richard A. Sederquist, Newington, Herbert J. Setzer, Ellington, and Daniel J. Snopkowski, West Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Continuation-in-part of application Ser. No. 476,906, Aug. 3, 1965. This application Mar. 18, 1968, Ser. No. 713,868

Int. Cl. B01d 53/22; B01j 7/00, 9/04  
U.S. Cl. 23—288 24 Claims



An apparatus for providing substantially pure hydrogen from hydrogen-containing feedstocks wherein the feedstock first admixed with water and heated, passed through a bed of dehydrogenation catalyst to produce a methane-rich stream, and the methane-rich stream is then passed through an additional bed of dehydrogenation catalyst to effect conversion of the methane to carbon oxide products and hydrogen. The converted methane stream is passed in heat exchange relationship with the first catalyst bed countercurrent to the flow of the mixture of feedstock and water therethrough to establish a thermal decline from the outlet to the inlet end thereof and to decrease the temperature of the converted stream. Heat is supplied to a purifier containing membranes of metal selectively permeable to hydrogen by one or more of the catalytic conversion reactions to maintain

the membranes at an optimum temperature. Several different heat exchange relationships for the several elements are shown.

### 3,522,020 STAINLESS STEELS

Niranjan M. Parikh, Chicago, Ill., assignor to IIT Research Institute, Chicago, Ill., a not-for-profit corporation of Illinois

Filed Jan. 3, 1966, Ser. No. 518,130  
Int. Cl. B22f 3/12  
U.S. Cl. 29—182.5 1 Claim  
Fully dense stainless steel alloys characterized by having a microstructure exhibiting a substantially uniformly dispersed carbide phase of particle size essentially less than one micron, are produced from pre-alloyed powders by rapidly quenching an atomized alloy charge and subjecting the solidified particles in a suitable container to the step of hot consolidation to produce fully dense metal stock directly from prealloyed powder.

### 3,522,021 PROCESS FOR METALLIZING ALUMINUM SURFACES

Newell C. Cook, Schenectady, and William J. Hayes, Ballston Spa, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed July 1, 1968, Ser. No. 741,332  
Int. Cl. C23b 5/00, 5/22  
U.S. Cl. 29—197 10 Claims  
Hard, adherent, tough, corrosion-resistant coatings are formed on aluminum by electrolytically depositing certain metals onto the aluminum surface employing certain fused salt mixtures as the electrolyte and at temperatures below the melting point of aluminum. These materials are useful to make gears, bearings and other articles requiring hard wear and corrosion-resistant surfaces.

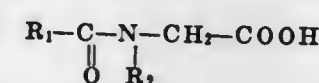
### 3,522,022 CORROSION INHIBITED FUEL OILS

Adolf May, Hofheim, Taunus, Heinz Liebscher, Schwalbach, Taunus, and Heinz Müller and Engelbert Krempel, Burgkirchen (Alz), Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

Continuation-in-part of application Ser. No. 672,463, Oct. 3, 1967. This application Feb. 3, 1969, Ser. No. 795,965  
Claims priority, application Germany, Oct. 7, 1966, F 50,385  
Int. Cl. C10I 1/18, 1/22; C23I 11/00  
U.S. Cl. 44—66 4 Claims  
Corrosion inhibiting additives for fuel oils containing oil- and water-soluble salts or non-stoichiometric mixture of



in which R represents a straight chain or branched alkyl radical containing 3 to 14 carbon atoms, and 80 or 20 parts by weight of amido-carboxylic acids of the formula



in which R<sub>1</sub> represents a saturated or unsaturated alkyl radical containing 11 to 17 carbon atoms, and R<sub>2</sub> represents the methyl or ethyl group.

### 3,522,023 PHOSPHOROUS ADDITIVE-LEAD EXTENDER FORMULATION WITH POSITIVE SYNERGISTIC OCTANE APPRECIATION

Charles J. Norton, Denver, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio  
No Drawing. Filed Sept. 13, 1967, Ser. No. 667,364  
Int. Cl. C10I 1/22, 1/26

U.S. Cl. 44—69 9 Claims  
It was found in accordance with the present invention that an additive for gasoline containing tetraethyl lead consisting of phosphorous sesquisulfide in combination with an organo-ammonium carboxylate had a positive synergistic effect on octane appreciation.

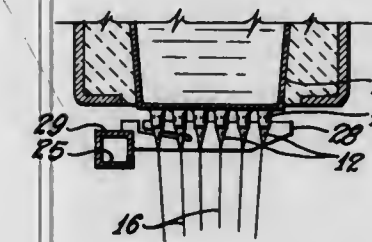
### 3,522,024 HYDROCARBON REFORMING

William G. Billings and William T. Nelson, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 553,299, May 27, 1966. This application June 22, 1967, Ser. No. 647,935  
Int. Cl. C10g 11/02, 11/04, 11/28  
U.S. Cl. 48—214 6 Claims  
Hydrocarbons are steam-reformed to a gaseous product rich in methane, fungible with natural gas, by contacting with a supported nickel catalyst promoted with a barium salt of an organic acid.

### 3,522,025 APPARATUS FOR PRODUCTION OF THERMOPLASTIC MATERIALS

Roy E. Smith, Anderson, S.C., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware  
Continuation of application Ser. No. 460,071, June 1, 1965. This application Dec. 29, 1967, Ser. No. 694,757  
Int. Cl. C03b 37/10  
U.S. Cl. 65—12 14 Claims



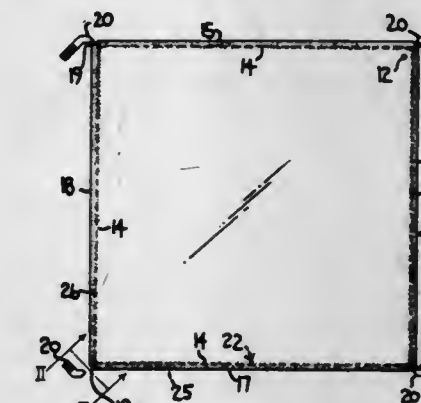
A method of and apparatus for maintaining a substantially uniform temperature environment adjacent a plurality of heat sources such as fiber forming cones beneath a molten glass feeder wherein heat absorbing means is disposed adjacent to each stream or cone to conduct heat away from the stream to a heat sink. The resistance of the heat resistance path from an area adjacent the stream to the area of the heat sink may be dimensionally controlled by lengthening or shortening the heat resistance path or making the material wider or thinner along the path so that the temperature environment adjacent each heat source is substantially the same.

### 3,522,026 FABRICATING MULTIPLE GLAZED UNITS

Joseph R. Petrella, Beaver, Robert A. Jansson, Pittsburgh, and Raymond J. Mickelic, Springdale, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 6, 1968, Ser. No. 703,463  
Int. Cl. C03b 23/20  
U.S. Cl. 65—40 10 Claims  
In the art of electrically welding a multiple glazed unit containing an electroconductive stripe on the margins,

applying a viscous dispersion of a finely divided electroconductive material, having a greater durability than the remainder of the electroconductive stripe in the temperature range that is usually experienced during glass weld-

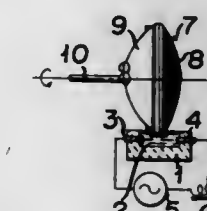


ing, to each portion of an edge of a glass sheet facing a welding electrode used to weld the margin of the sheet to that of another sheet during the formation of the multiple glazed unit.

### 3,522,027 METHOD AND APPARATUS FOR SEALING WITH GLASS PORTIONS TO BE SEALED

Eizo Goto, Chigasaki-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Feb. 23, 1967, Ser. No. 617,948  
Claims priority, application Japan, Feb. 28, 1966, 41/11,694; Oct. 7, 1966, 41/65,607; Oct. 27, 1966, 41/70,421; Oct. 31, 1966, 41/71,623; Dec. 9, 1966, 41/80,322; Jan. 9, 1967, 42/1,399  
Int. Cl. C03c 27/06  
U.S. Cl. 65—40 14 Claims



A method and apparatus for sealing wherein sealing glass is fused by heat, an electric current is passed through the molten glass to heat it to a desired viscosity, and portions to be sealed of an article are successively dipped in said molten glass by rotating the article whereby all said portions are sealed by the molten glass adhering thereto.

### 3,522,028 METHOD OF BONDING PARTS TOGETHER BY MEANS OF A MOLTEN GLASS COMPOSITION

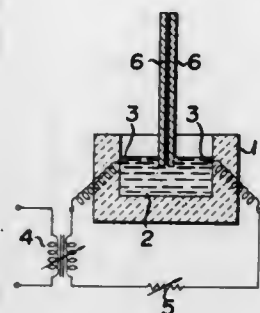
Eizo Goto, Chigasaki-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Feb. 15, 1967, Ser. No. 616,390  
Claims priority, application Japan, Feb. 18, 1966, 41/9,824; Feb. 28, 1966, 41/12,164; Oct. 8, 1966, 41/66,029  
Int. Cl. C03b 23/20, 27/04; C03c 29/00  
U.S. Cl. 65—40 5 Claims

A method of bonding parts together by means of a molten glass composition wherein a pool of molten glass is formed and its surface layer is heated so that the layer has a viscosity of less than 100 poises. This heating is accomplished by passing an electric current through the layer between two electrodes disposed in the surface layer. Parts of members to be joined are immersed in the surface layer between the electrodes so that electric current passes thru them in an amount sufficient to heat the



parts so that there is no local drop in temperature of the molten composition adjacent the immersed parts. Heating is continued for a time sufficient to cause adherence of the molten glass to the parts to bond them together. The



parts are then withdrawn while passing current through them in an amount sufficient to reduce the viscosity of the portion of molten glass which has been suspended so as to separate it from the parent body of molten glass.

3,522,029

### METHOD OF RESHAPING GLASS SHEETS BY DIFFERENTIAL COOLING

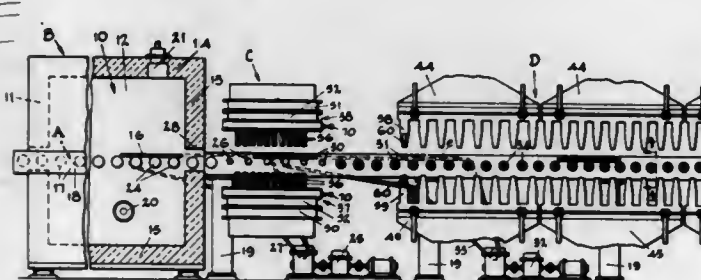
Frank J. Carson and George F. Ritter, Jr., Toledo, Ohio, assignors to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio

Filed Dec. 22, 1966, Ser. No. 604,006

Int. Cl. C03b 23/02

U.S. Cl. 65—104

6 Claims



Bending and tempering glass sheets, particularly thin glass sheets, in a continuous procedure as the sheets are moved along a path by directing closely spaced individual streams of cooling fluid against the opposite surfaces of the sheet from sources of cooling fluid under comparatively high pressure and regulating the amount of fluid directed against the opposite surfaces of the sheet or against different areas of the sheet to establish a differential rate of cooling of the areas and/or surfaces to cause the sheet to warp to a desired preselected curvature as it is being tempered, and moving the sheet along the path at variable speeds commensurate with the treatment to which the sheet is being subjected.

3,522,030

### FUNGISTATIC PREPARATIONS AND METHODS OF TREATING PERISHABLES

Joseph W. Eckert and Martin J. Kolbezen, Riverside, Calif., assignors to The Regents of the University of California

No Drawing. Continuation of application Ser. No. 409,596, Nov. 6, 1964, which is a continuation-in-part of application Ser. No. 218,111, Aug. 20, 1962.

This application Jan. 6, 1967, Ser. No. 607,648

Int. Cl. A01n 3/02; A23b 7/00

U.S. Cl. 71—68

12 Claims

A composition of matter containing 2-aminobutane or one of its salts in solution are effective in controlling or

inhibiting mold and fungi which could cause decay in perishables. 1-2-aminobutane or one of its salts in solution are particularly effective in controlling or inhibiting decay-causing organisms such as mold and fungi. A method for preventing decay in perishables by contacting the surface of perishables with the above-identified compositions.

3,522,031

### METHOD OF DESICCATING, DEFOLIATING, AND WILTING LEAVES WITH A SYNERGISTIC MIXTURE OF AROMATIC NAPHTHA AND A SUBSTITUTED TETRAHYDROPYRIMIDINE OR N-ALKYLAMINOPROPYLACETAMIDE

Harold James Miller, Newtown Square, Pa., assignor to Pennwalt Corporation, a corporation of Pennsylvania

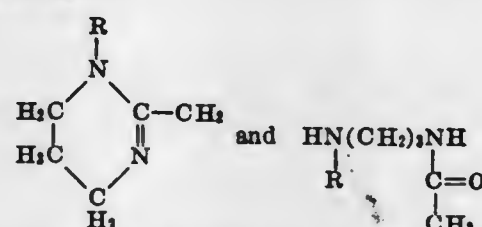
No Drawing. Filed Dec. 14, 1967, Ser. No. 690,374

Int. Cl. A01n 5/00, 9/02, 9/22

U.S. Cl. 71—70

5 Claims

Leaf deterioration, such as wilting and desiccation, is accomplished by treating plants with an effective amount of a composition comprising a mixture of aromatic naphtha solvent and an amine selected from the group consisting of:



where R is an alkyl radical having 8 to 20 carbon atoms.

3,522,032

### SELECTIVE HERBICIDAL PREPARATION

Ludwig Ebner, Stein, Aargau, and Erwin Nikles, Liestal, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Sept. 6, 1967, Ser. No. 665,709

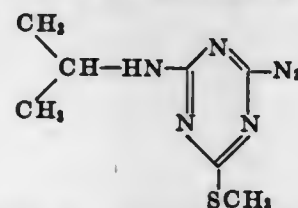
Claims priority, application Switzerland, Sept. 13, 1966, 13,210/66

Int. Cl. A01n 9/22

U.S. Cl. 71—93

2 Claims

The present invention relates to a selective herbicidal preparation, especially a preparation for combating undesired plant growth in cultures of varieties of Brassica whilst the latter remains undamaged which comprises, as the active component, the compound of the formula



together with a suitable carrier as well as to a method for combating weeds or undesired plant growth in a crop area containing varieties of Brassica, which comprises applying to the crop area a preparation as described above.

3,522,033

### METHOD OF INHIBITING WEED GROWTH IN CORN

Ikuo Kageyama and Keiichi Maruo, Toyonaka-shi, Japan, assignors to Daikin Kogyo Kabushiki Kaisha, Kita-ku, Osaka-shi, Japan

No Drawing. Continuation-in-part of application Ser. No. 333,198, Dec. 24, 1963. This application Nov. 6, 1967, Ser. No. 680,945

Claims priority, application Japan, Jan. 9, 1963, 38/884; Oct. 31, 1963, 38/64,208, 38/64,209

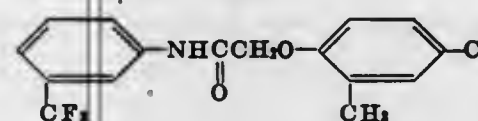
Int. Cl. A01n 9/20

U.S. Cl. 71—118

9 Claims

Method of selectively protecting corn plants from undesirable weeds, which comprises applying to the area

infested with the latter an effective amount of the herbicidal compound of the formula:



3,522,034

### SUPPLYING FUEL AS PART OF THE BLAST FURNACE CHARGE

Ervin G. Bailey, Bethlehem Township, Pa. (3502 Chipman Road, Easton, Pa. 18042)

Filed June 30, 1969, Ser. No. 837,575

Int. Cl. C21b 5/00

U.S. Cl. 75—42

2 Claims

All or part of the coke requirements of an iron ore reduction blast furnace operation are supplied by coking coal within the blast furnace, rather than in a coke oven, thereby dispensing, to that extent, with the coke oven investment, maintenance, and operating expense, and applying B.t.u.'s now lost with the release of coal volatiles in the coke oven, to heating the incoming blast furnace charge. While the coal is coked in the upper part of the furnace it is enclosed in gas pervious containers which allow the volatiles to escape while preventing reaction of the carbon with the furnace gases. The container melts in the lower portion of the furnace allowing the coke to perform its normal functions in this portion of the furnace.

3,522,035

### DETERMINING OPERATION OF FURNACE VESSEL

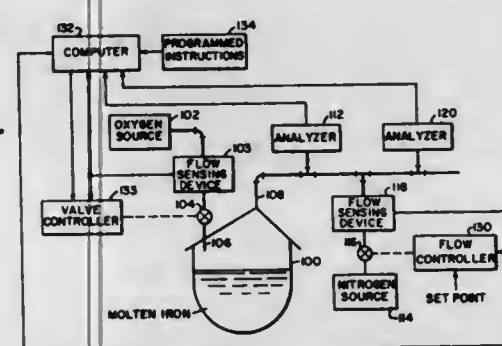
Richard E. J. Putman, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 14, 1966, Ser. No. 601,803

Int. Cl. C21c 5/32

U.S. Cl. 75—60

5 Claims



There is disclosed a method and apparatus for establishing the removal of a material from a vessel, such as the removal of carbon from the metal bath within a furnace vessel used for the production of steel, wherein the flow of exhaust gas from the furnace is established in relation to at least one constituent gas before and after the introduction of a known flow of that constituent gas, and then the removal of said material is established as the product of said exhaust gas flow and the measured percentage of said material in said exhaust gas. The established removal of said material enables a desired control of the vessel operation.

3,522,036

### DISPERSIONS OF ETHYLENE POLYMERS HAVING AN IMPROVED STABILITY

Betty L. Vest, Park Hills, Ky., and Dorothee M. McClain, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 160,733, Dec. 6, 1961. This application Dec. 20, 1966, Ser. No. 603,116

Int. Cl. C08f 19/04, 45/24

U.S. Cl. 260—29.6

10 Claims

A process is provided for preparing stable film-forming aqueous ethylene polymer latices which comprises homogeneously dispersing in water an ethylene polymer, i.e. a polymer which contains at least 25% ethylene, and an emulsifier therefor, in the presence of a liquid vinyl monomer that can be reacted with the ethylene polymer. The reaction produces a graft or block polymer of the ethylene polymer and the vinyl aromatic monomer.

3,522,037

### STAINLESS STEEL COMPOSITIONS WITH INCREASED CORROSIVE RESISTANCE

Norbert D. Greene, Troy, N.Y., and Bryan E. Wilde, Livermore, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Oct. 31, 1966, Ser. No. 591,352

Int. Cl. C22b 39/20, 39/54

U.S. Cl. 75—125

7 Claims

This invention relates to a modified 304 stainless steel having the following alloying elements 18 to 20% chromium, 8 to 12% nickel, up to .08% carbon, up to 1% silicon, up to 1% manganese, up to 0.1% sulfur, up to .45% phosphorous. The steel may also contain from .3 to .6% copper and/or .3 to .6% molybdenum.

3,522,038

### COPPER BASE ALLOY

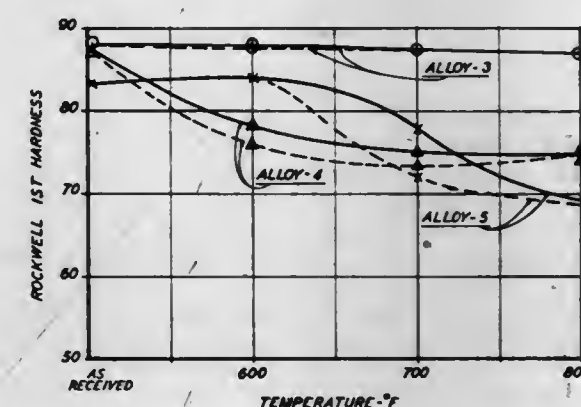
Charles D. McLain, Alton, Ill., assignor to Olin Corporation, a corporation of Virginia

Filed June 26, 1967, Ser. No. 648,660

Int. Cl. C22c 9/00, 9/10

U.S. Cl. 75—153

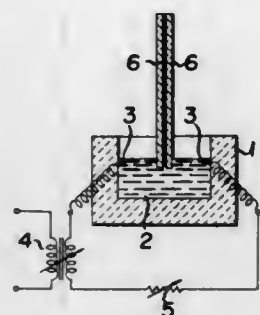
7 Claims



The present disclosure teaches a copper base alloy containing 1.5–3.5% iron, 0.02 to 0.21% silicon, at least one of the elements phosphorus and zinc in amounts 0.01 to 0.15% and 0.03 to 0.2% respectively, as well as other optional additives. The alloys in the present specification are characterized by improved physical properties, in particular high strength and high conductivity.



parts so that there is no local drop in temperature of the molten composition adjacent the immersed parts. Heating is continued for a time sufficient to cause adherence of the molten glass to the parts to bond them together. The



parts are then withdrawn while passing current through them in an amount sufficient to reduce the viscosity of the portion of molten glass which has been suspended so as to separate it from the parent body of molten glass.

3,522,029

### METHOD OF RESHAPING GLASS SHEETS BY DIFFERENTIAL COOLING

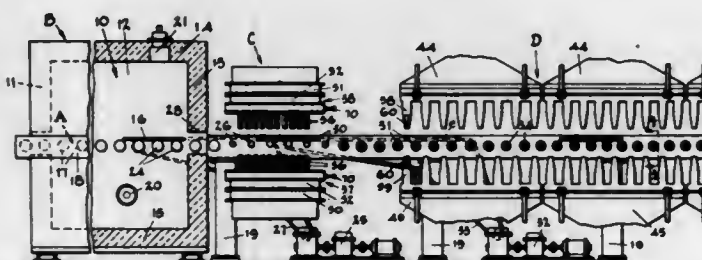
Frank J. Carson and George F. Ritter, Jr., Toledo, Ohio, assignors to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio

Filed Dec. 22, 1966, Ser. No. 604,006

Int. Cl. C03b 23/02

U.S. Cl. 65—104

6 Claims



Bending and tempering glass sheets, particularly thin glass sheets, in a continuous procedure as the sheets are moved along a path by directing closely spaced individual streams of cooling fluid against the opposite surfaces of the sheet from sources of cooling fluid under comparatively high pressure and regulating the amount of fluid directed against the opposite surfaces of the sheet or against different areas of the sheet to establish a differential rate of cooling of the areas and/or surfaces to cause the sheet to warp to a desired preselected curvature as it is being tempered, and moving the sheet along the path at variable speeds commensurate with the treatment to which the sheet is being subjected.

3,522,030

### FUNGISTATIC PREPARATIONS AND METHODS OF TREATING PERISHABLES

Joseph W. Eckert and Martin J. Kolbezen, Riverside, Calif., assignors to The Regents of the University of California

No Drawing. Continuation of application Ser. No. 409,596, Nov. 6, 1964, which is a continuation-in-part of application Ser. No. 218,111, Aug. 20, 1962.

This application Jan. 6, 1967, Ser. No. 607,648

Int. Cl. A01n 3/02; A23b 7/00

U.S. Cl. 71—68

12 Claims

A composition of matter containing 2-aminobutane or one of its salts in solution are effective in controlling or

inhibiting mold and fungi which could cause decay in perishables. 1-2-aminobutane or one of its salts in solution are particularly effective in controlling or inhibiting decay-causing organisms such as mold and fungi. A method for preventing decay in perishables by contacting the surface of perishables with the above-identified compositions.

3,522,031

### METHOD OF DESICCATING, DEFOLIATING, AND WILTING LEAVES WITH A SYNERGISTIC MIXTURE OF AROMATIC NAPHTHA AND A SUBSTITUTED TETRAHYDROPYRIMIDINE OR N-ALKYLAMINOPROPYLACETAMIDE

Harold James Miller, Newtown Square, Pa., assignor to Pennwalt Corporation, a corporation of Pennsylvania

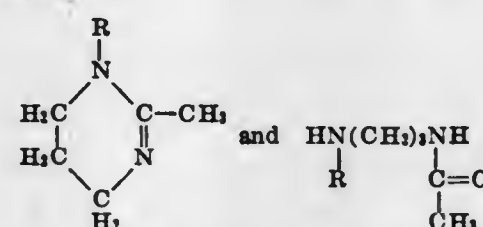
No Drawing. Filed Dec. 14, 1967, Ser. No. 690,374

Int. Cl. A01n 5/00, 9/02, 9/22

U.S. Cl. 71—70

5 Claims

Leaf deterioration, such as wilting and desiccation, is accomplished by treating plants with an effective amount of a composition comprising a mixture of aromatic naphtha solvent and an amine selected from the group consisting of:



where R is an alkyl radical having 8 to 20 carbon atoms.

3,522,032

### SELECTIVE HERBICIDAL PREPARATION

Ludwig Ebner, Stein, Aargau, and Erwin Nikles, Liestal, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Sept. 6, 1967, Ser. No. 665,709

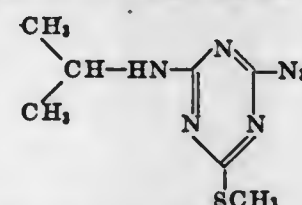
Claims priority, application Switzerland, Sept. 13, 1966, 13,210/66

Int. Cl. A01n 9/22

U.S. Cl. 71—93

2 Claims

The present invention relates to a selective herbicidal preparation, especially a preparation for combating undesired plant growth in cultures of varieties of Brassica whilst the latter remains undamaged which comprises, as the active component, the compound of the formula



together with a suitable carrier as well as to a method for combating weeds or undesired plant growth in a crop area containing varieties of Brassica, which comprises applying to the crop area a preparation as described above.

3,522,033

### METHOD OF INHIBITING WEED GROWTH IN CORN

Ikuzo Kageyama and Kelichi Maruo, Toyonaka-shi, Japan, assignors to Dalkin Kogyo Kabushiki Kaisha, Kita-ku, Osaka-shi, Japan

No Drawing. Continuation-in-part of application Ser. No. 333,198, Dec. 24, 1963. This application Nov. 6, 1967, Ser. No. 680,945

Claims priority, application Japan, Jan. 9, 1963, 38/884; Oct. 31, 1963, 38/64,208, 38/64,209

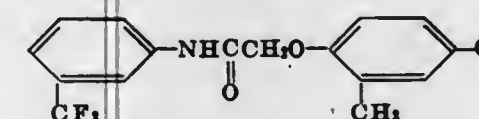
Int. Cl. A01n 9/20

U.S. Cl. 71—118

9 Claims

Method of selectively protecting corn plants from undesirable weeds, which comprises applying to the area

infested with the latter an effective amount of the herbicidal compound of the formula:



3,522,034

### SUPPLYING FUEL AS PART OF THE BLAST FURNACE CHARGE

Ervin G. Bailey, Bethlehem Township, Pa. (3502 Chipman Road, Easton, Pa. 18042)

Filed June 30, 1969, Ser. No. 837,575

Int. Cl. C21b 5/00

U.S. Cl. 75—42

2 Claims

All or part of the coke requirements of an iron ore reduction blast furnace operation are supplied by coking coal within the blast furnace, rather than in a coke oven, thereby dispensing, to that extent, with the coke oven investment, maintenance, and operating expense, and applying B.t.u.'s now lost with the release of coal volatiles in the coke oven, to heating the incoming blast furnace charge. While the coal is coked in the upper part of the furnace it is enclosed in gas pervious containers which allow the volatiles to escape while preventing reaction of the carbon with the furnace gases. The container melts in the lower portion of the furnace allowing the coke to perform its normal functions in this portion of the furnace.

3,522,035

### DETERMINING OPERATION OF FURNACE VESSEL

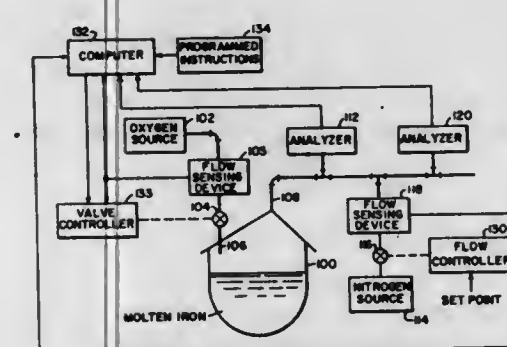
Richard E. J. Putman, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 14, 1966, Ser. No. 601,803

Int. Cl. C21c 5/32

U.S. Cl. 75—60

5 Claims



There is disclosed a method and apparatus for establishing the removal of a material from a vessel, such as the removal of carbon from the metal bath within a furnace vessel used for the production of steel, wherein the flow of exhaust gas from the furnace is established in relation to at least one constituent gas before and after the introduction of a known flow of that constituent gas, and then the removal of said material is established as the product of said exhaust gas flow and the measured percentage of said material in said exhaust gas. The established removal of said material enables a desired control of the vessel operation.

3,522,036

### DISPERSIONS OF ETHYLENE POLYMERS HAVING AN IMPROVED STABILITY

Betty L. Vest, Park Hills, Ky., and Dorothee M. McClain, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 160,733, Dec. 6, 1961. This application Dec. 20, 1966, Ser. No. 603,116

Int. Cl. C08f 19/04, 45/24

U.S. Cl. 260—29.6

10 Claims

A process is provided for preparing stable film-forming aqueous ethylene polymer latices which comprises homogeneously dispersing in water an ethylene polymer, i.e. a polymer which contains at least 25% ethylene, and an emulsifier therefor, in the presence of a liquid vinyl monomer that can be reacted with the ethylene polymer. The reaction produces a graft or block polymer of the ethylene polymer and the vinyl aromatic monomer.

3,522,037

### STAINLESS STEEL COMPOSITIONS WITH INCREASED CORROSIVE RESISTANCE

Norbert D. Greene, Troy, N.Y., and Bryan E. Wilde, Livermore, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Oct. 31, 1966, Ser. No. 591,352

Int. Cl. C22b 39/20, 39/54

U.S. Cl. 75—125

7 Claims

This invention relates to a modified 304 stainless steel having the following alloying elements 18 to 20% chromium, 8 to 12% nickel, up to .08% carbon, up to 1% silicon, up to 1% manganese, up to 0.1% sulfur, up to .45% phosphorus. The steel may also contain from .3 to .6% copper and/or .3 to .6% molybdenum.

3,522,038

### COPPER BASE ALLOY

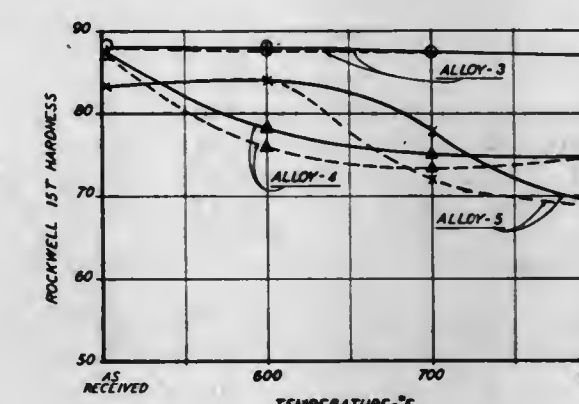
Charles D. McLain, Alton, Ill., assignor to Olin Corporation, a corporation of Virginia

Filed June 26, 1967, Ser. No. 648,660

Int. Cl. C22c 9/00, 9/10

U.S. Cl. 75—153

7 Claims



The present disclosure teaches a copper base alloy containing 1.5–3.5% iron, 0.02 to 0.21% silicon, at least one of the elements phosphorus and zinc in amounts 0.01 to 0.15% and 0.03 to 0.2% respectively, as well as other optional additives. The alloys in the present specification are characterized by improved physical properties, in particular high strength and high conductivity.



3,522,039

**COPPER BASE ALLOY**

Charles D. McLain, Alton, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia  
No Drawing. Filed June 26, 1967, Ser. No. 648,996  
Int. Cl. C22c 9/00, 9/04

U.S. Cl. 75—157.5

9 Claims

The present disclosure teaches an improved copper base alloy containing from 1.5 to 3.5% iron and small amounts of zinc or mixtures of zinc and phosphorus. The alloys in the present specification are characterized by improved physical properties, in particular high strength and high conductivity.

3,522,040

**PHOTOSENSITIVE INSULATING MATERIAL**  
Charles Wood, Pittsford, G. Sanjiv Kamath, Rochester, and James H. Neyhart, Penfield, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Nov. 30, 1965, Ser. No. 510,636

Int. Cl. G03g 5/08

U.S. Cl. 96—1.5

4 Claims

A xerographic plate comprising a supporting substrate having on one surface thereof a photoconductive insulating layer, said substrate having an electrical resistance of less than said photoconductive layer, with said photoconductive layer comprising at least one inorganic photoconductor compound of the Group III-V elements dispersed throughout a resinous binder, with said photoconductive material having a resistivity of at least  $10^{10}$  ohm-cm., and said photoconductive layer being capable of supporting an electrostatic charge in the dark, and dissipating a portion of said charge in response to impinging electromagnetic radiation.

3,522,041

**PHOTOELECTROSTATIC RECORDING MEMBER**  
Merton R. Staley, Palatine, Ill., assignor to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware

No Drawing. Filed Jan. 19, 1967, Ser. No. 610,232

Int. Cl. G03g 5/08

U.S. Cl. 96—1.8

15 Claims

A photoelectrostatic recording member having photoconductive particles of zinc oxide dispersed in a resin binder of either ethylene vinyl acetate copolymer or a blend of the copolymer and an aliphatic hydrocarbon crystalline wax. The molecular weight of the copolymer is within the range of 1,500 to 12,000 and the molecular weight of the wax is 700 to 5,000. Suitable waxes are polyethylene waxes, paraffin waxes, synthetic or petroleum, or microcrystalline waxes.

3,522,042

**PRESENSITIZED DIAZO MATERIAL FOR THE PREPARATION OF PRINTING PLATES**

Henning H. Borchers, Mountainside, and Thomas N. Gillich, Berkeley Heights, N.J., and Fritz Uhlig, Wiesbaden-Biebrich, Germany, assignors, by direct and mesne assignments, to Azoplate Corporation, Murray Hill, N.J.

No Drawing. Filed July 10, 1967, Ser. No. 652,024

Claims priority, application Germany, Sept. 2, 1966, K 60,162

Int. Cl. G03f 7/08

U.S. Cl. 96—33

8 Claims

This invention relates to a presensitized material for use in the preparation of printing plates and which comprises an aluminum support having a first layer thereon containing a water-soluble salt of a para-diazodiphenylamine, and a second water-insoluble layer on the first layer, the second layer containing more than 50 percent by weight of at least one light-sensitive para-benzoquinone diazide or para-benziminoquinone diazide.

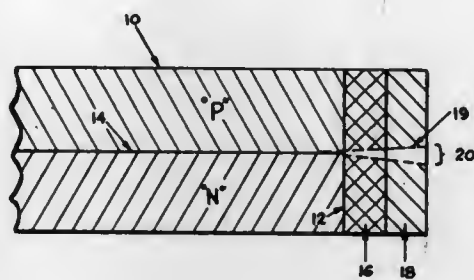
3,522,043

**METHOD FOR MASKING ELECTROLUMINESCENT DIODE**

Paul L. Vitkus, Bedford, Mass., assignor, by mesne assignments, to Norton Research Corporation  
Filed Dec. 7, 1966, Ser. No. 599,716  
Int. Cl. G03c 5/00

U.S. Cl. 96—35.1

4 Claims



A photoresist is used for preparing a mask on a predetermined section of an electroluminescent junction diode, the photoresist being differentially exposed by light emitted from the diode along the junction.

3,522,044

**NEGATIVE-WORKING REPRODUCTION MATERIAL**

Ernst-August Hackmann, Wiesbaden-Biebrich, Germany, assignor to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany

No Drawing. Filed Dec. 9, 1965, Ser. No. 512,785

Claims priority, application Germany, Dec. 10, 1964, K 54,764; Jan. 30, 1965, K 55,149; Sept. 1, 1965, K 57,011

Int. Cl. G03c 1/72

U.S. Cl. 96—36

14 Claims

Light sensitive negative-working reproduction material having improved light sensitivity in the visible spectrum is prepared by combining a halogen hydrocarbon source of free radicals with an N-vinylcarbazole and an aldehyde/heterocyclic azole condensation product. Also disclosed is the method of producing a printing medium from said light sensitive material.

3,522,045

**COPYING MATERIAL FOR USE IN THE PHOTOCHEMICAL PREPARATION OF PRINTING PLATES**

Gerard Albert Delzenne and Urbain Leopold Laridon, Wilrijk-Antwerpen, Belgium, assignors to Gevaert-Agfa N.V., Mortsels, Belgium, a Belgian company

No Drawing. Filed May 2, 1967, Ser. No. 635,407

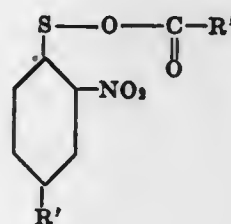
Claims priority, application Great Britain, May 27, 1966, 24,012/66

Int. Cl. G03c 5/00

U.S. Cl. 96—36

9 Claims

A copying material used in photochemical preparation of a printing plate including a support carrying a light sensitive composition containing nitro-benzene sulphenyl carboxylate. The photosensitive sulphenyl carboxylate having the formula:



has acidic property when exposed to actinic light which produces a direct-positive image or printing plate.

3,522,046

**THREE-DIMENSIONAL COLOR PICTURES AND METHOD OF MAKING**

William E. Glenn, Jr., Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 495,276,

Oct. 12, 1965. This application Apr. 18, 1967, Ser. No. 631,803

Int. Cl. G03c 9/00

U.S. Cl. 96—40

5 Claims

Three dimensional color pictures are produced by a multi-color printing process in which the three-dimensional information and picture detail are produced in the black and white printing step and essentially defocused color information is printed in the color printing steps, corresponding respectively to the three primary colors. Transparencies for use in the production of the printing rolls are prepared accordingly and, in addition, the transparency for making the printing roll for the black and white, or luminance, information is made with attenuated luminance at the luminance edges by the use of filters produced from defocused color transparencies. In a similar manner, the transparencies from which the printing rollers for the color steps are produced are provided with attenuated luminance information at the luminance edges by the use of a suitable filter in their preparation. The result is a high quality three-dimensional picture, and the problem of registration between the different printing steps is minimized.

3,522,047

**THERMOGRAPHICALLY USEFUL LIGHT SENSITIVE IMAGE-YIELDING MATERIAL CONTAINING FINELY DIVIDED SULFUR PARTICLES**

Toshimi Kishida, Masaaki Yoshioka, and Isamu Fushiki, Tokyo, Japan, assignors to Konishiroku Photo Industry Co., Ltd., Tokyo, Japan

No Drawing. Filed Aug. 2, 1966, Ser. No. 569,600

Int. Cl. G03c 5/54

U.S. Cl. 96—29

4 Claims

A method of producing multiple copies thermographically from a master involves the provision of a light-sensitive silver image-forming layer which contains finely divided sulfur or is overcoated with a light-transmitting layer containing the sulfur. The material is exposed, then the resulting image developed and fixed following which it is placed in contact with a receptor sheet of paper and subjected to infrared radiation. This causes the sulfur to transfer on to the paper to yield a latent image thereon in a super-cooled state, and this is then developed and fixed.

3,522,048

**TWO-COMPONENT HEAT DEVELOPING DIAZOTYPES**

Walter J. Welch, Port Dickinson, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 9, 1965, Ser. No. 512,791

Int. Cl. G03c 1/52, 1/60

U.S. Cl. 96—91

5 Claims

Heat developing two-component diazo sensitizing composition wherein the light-sensitive component is a p-chlorobenzene sulfonate diazonium salt of a morpholine, piperidine, piperazine, or thiomorpholine-substituted p-phenylamino compound the nucleus of which can be optionally independently substituted in the 2 and 5 positions, with alkyl, hydroxyalkyl, alkoxy, hydroxyalkoxy, and alkoxyalkoxy groups.

3,522,049

**PHOTOHARDENING**

Albert Lucien Poot, Wilrijk-Antwerp, and Jan van den Bogaert, Schilde, Belgium, assignors to Gevaert-Agfa N.V., Mortsels, Belgium, a Belgian company

No Drawing. Filed Dec. 17, 1965, Ser. No. 514,659

Claims priority, application Great Britain, Mar. 3, 1965, 9,136/65

Int. Cl. G03c 1/52

U.S. Cl. 96—91

13 Claims

A recording material is disclosed which comprises a light activated catalyst and a polymer. This catalyst composition or compound produces hydrogen ions upon exposure to actinic light. The ions come into contact with the polymer in the exposed areas and decrease its solubility in these areas. The recording material is useful in making photo-resists and the like.

3,522,050

**HEAT DEVELOPABLE DIAZOTYPE COPY PAPER**

Sadao Matsumura, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 24, 1967, Ser. No. 632,947

Int. Cl. G03c 1/60

U.S. Cl. 96—91

6 Claims

In a heat developable diazo copy paper containing a heat fugitive acid or salt, there is incorporated in the light sensitive layer in accordance with the present invention, an amide of olefinmonocarboxylic acid or its derivative, to inhibit the yellowing of the print developed from said paper. Also, there is incorporated in this light sensitive layer a urea or its derivative to inhibit the fading of the images on the print developed from the copy paper.

3,522,051

**PHOTOGRAPHIC SILVER HALIDE EMULSION MATERIALS CONTAINING 4-CHLORO-2-PYRAZOLIN-5-ONE COLOR COUPLERS**

Marcel Jacob Monbaliu, Mortsels, Raphael Karel Van Poucke, Mechelen, and Arthur Henri DeCat, Mortsels, Belgium, assignors to Gevaert-Agfa N.V., Mortsels, Belgium, a Belgian company

No Drawing. Filed May 31, 1967, Ser. No. 642,356

Claims priority, application Great Britain, May 31, 1966, 24,188/66

Int. Cl. G03c 1/40

U.S. Cl. 96—100

2 Claims

The present invention relates to a process for the preparation of 4-chloro-2-pyrazolin-5-ones, compounds prepared according to that process and photographic materials containing them.

3,522,052

**PHOTOGRAPHIC SUPERSENSITIZED SILVER HALIDE EMULSIONS**

Keisuke Shiba and Masanao Hinata, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan

No Drawing. Filed Nov. 7, 1966, Ser. No. 592,292

Claims priority, application Japan, Nov. 6, 1965, 40/68,012

Int. Cl. G03c 1/28

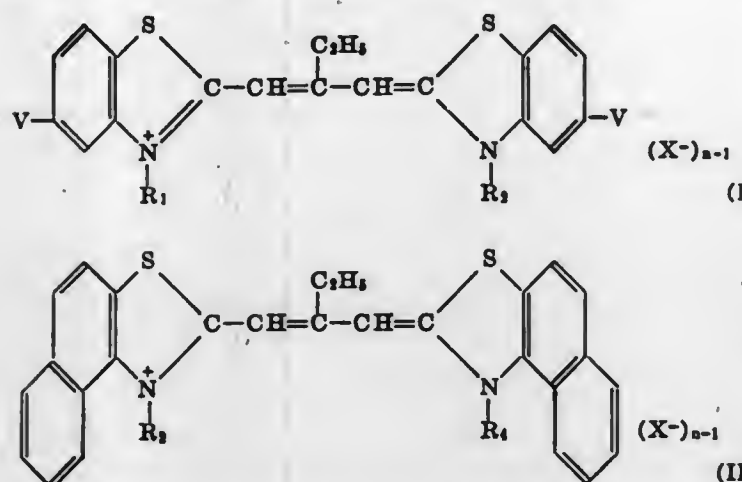
U.S. Cl. 96—104

4 Claims

A super-sensitized photographic silver halide emulsion containing at least one optical sensitizer represented by



general Formula I below and at least one optical sensitizer represented by general Formula II below.



The individual moieties above are defined in the claims.

3,522,053

#### PROCESS FOR THE PREPARATION OF PHOTOGRAPHIC EMULSIONS

Akira Kumai and Mamoru Tashiro, Minami-Ashigara Machi, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Minami-Ashigara Machi, Kanagawa, Japan

No Drawing. Filed Feb. 4, 1966, Ser. No. 525,106

Int. Cl. G03c 1/02

U.S. Cl. 96—114.7 9 Claims  
Method for making silver halide photographic emulsions, particularly flocculation of silver halide dispersions in aqueous gelatin solutions by adding phenol and carefully regulating the pH value.

3,522,054

#### FAT CONTAINING MILK POWDER

Patrick G. P. Cavroy, 29 Avenue Rapp, Paris VII, France; Michel E. M. Rambaud, 7 Rue de la Terrasse, 75 Paris 17<sup>e</sup>, France; Charles M. J. E. Cousin, 87 Boulevard Victor Hugo, 62 Bethune, Pas-de-Calais, France; and Gerard G. E. Savignac, 53 Rue Lauriston, 75 Paris XVI, France

No Drawing. Filed Mar. 7, 1967, Ser. No. 621,159

Claims priority, application France, Mar. 7, 1966, 52,296

Int. Cl. A23c 9/00, 11/00

U.S. Cl. 99—56 6 Claims  
Fat containing milk powder is prepared by a process having the steps of forming a mixture containing a skim milk concentrate, a fatty substance of non-dairy origin and a gum or amyloid thickener, homogenizing the mixture, spray drying the homogenized mixture and grinding the spray dried product to substantially reduce the particle size. The product is characterized by having improved distribution of fat within the particles of powder, by being easily soluble and by being capable of undergoing a very strong grinding action without the oozing of fat to any considerable extent.

3,522,055

#### METHOD FOR PREPARING CARBONATED DRINKS

Shigeru Hayakawa, 2726 Kichijoji, Musashino-shi, Tokyo, Japan

Continuation-in-part of application Ser. No. 301,995, Aug. 14, 1963. This application Sept. 21, 1965, Ser. No. 488,926

Claims priority, application Japan, Aug. 27, 1962, 37/35,273

Int. Cl. A23l 1/00

U.S. Cl. 99—79 2 Claims  
A deaerated liquid is saturated with carbon dioxide gas. The gas-saturated liquid is then forcibly mixed with

pressurized carbon dioxide gas. The resulting mixture is forced as a jet against a supersonic vibration element.

3,522,056

#### REDUCTION OF STRONTIUM-90 CONTENT OF INTACT CEREAL GRAINS

Virgil F. Pfeifer and Roy A. Anderson, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Aug. 6, 1965, Ser. No. 477,983

Int. Cl. A23l 3/34

U.S. Cl. 99—80 3 Claims  
Systemic incorporations of strontium-90 in unmilled cereal grain berries are lowered to negligible levels without attrition and without impairment of fractions in a subsequent milling thereof by washing the intact berries for several hours in a warmed dilute aqueous solution of citric acid or of phosphoric acid.

3,522,057

#### PROCESS OF DEGREENING AND RIPENING FRUIT

John A. Andersen, Los Altos, and Russell M. Magner, Atherton, Calif., assignors to General Industrial Equipment Company, Palo Alto, Calif., a corporation of California

Original application Oct. 20, 1966, Ser. No. 588,221.

Divided and this application Jan. 16, 1968, Ser. No. 719,806

Int. Cl. A23l 1/00

U.S. Cl. 99—103 4 Claims  
Process of degreening and ripening fruit by treating stored fruit with a circulating air stream maintained at a selected fruit processing temperature. The dew point temperature of the air stream is maintained as closely as possible to the temperature of the coldest portion of the fruit until reaching a selected dew point temperature which is thereafter maintained until the fruit is degreened and ripened.

3,522,058

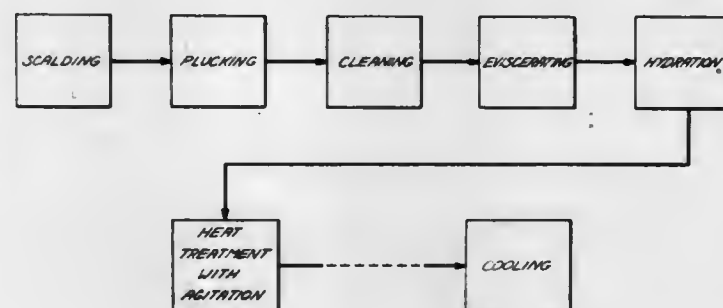
#### PROCESS FOR TREATING POULTRY PRODUCTS

Louis L. Libby, Bal Harbour, Fla., assignor to Tra-Way Corp., Bal Harbour, Fla., a corporation of New York

Filed Jan. 19, 1967, Ser. No. 610,437

Int. Cl. A22c 21/00; A23b 1/06

U.S. Cl. 99—107 4 Claims



In this invention poultry products which have been treated in the conventional manner are subsequently immersed in a boiling brine solution in order to remove the cuticle of the skin of the poultry product where substantial amounts of bacteria are located, and if desired, the poultry may then be subjected to a cooling step to remove the heat absorbed by the poultry during the time it was immersed in the brine solution. Poultry treated in this manner has an enhanced shelf life and better flavor due to the sealing in of the natural juices of the poultry by the heat treatment.

3,522,059

#### CHEESE MILK TREATMENT

Burnell E. Budahn, Norwood, Minn., assignor to Industrial Plant Service & Mfg. Co., Minneapolis, Minn., a corporation of Minnesota

Filed Dec. 9, 1966, Ser. No. 600,624

Int. Cl. A23c 9/00, 19/02

U.S. Cl. 99—116 5 Claims  
The loss of butterfat normally occurring in cheese manufacture is minimized by treating the cheese milk under conditions which do not fracture the butterfat particles. The treatment is accomplished by separating the major portion of the butterfat from whole milk, concentrating the separated milk under flashing conditions to remove 5–10% of the water and re-constituting the milk by adding the separated butterfat in non-flashed condition to the concentrated separated milk.

3,522,060

#### PROCESS FOR PRESERVING PLANT MATERIAL IN A FRESH STATE

Alfred K. Dol, 5654 S. Harper Ave.,

Chicago, Ill. 60637

No Drawing. Filed Apr. 17, 1967, Ser. No. 631,135

Int. Cl. A23b 7/00

U.S. Cl. 99—154 6 Claims  
Pulp temperature is alternated during processing after harvesting at a rate which inactivates respiratory enzymes and thereby precludes further endogenous deterioration.

3,522,061

#### THERMOPLASTIC EGG PACKAGE

Carlton L. Whiteford, New Canaan, Conn., assignor to Poly-Pak Corporation of America, Springdale, Conn., a corporation of Delaware

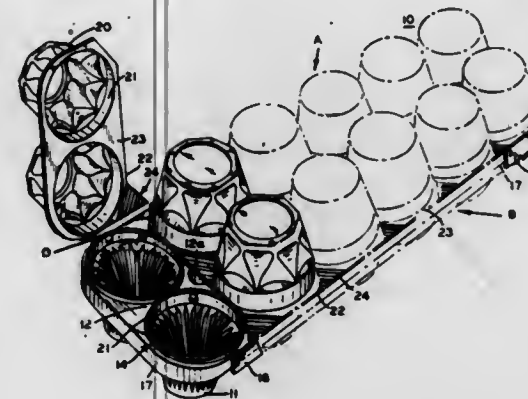
Filed Oct. 3, 1966, Ser. No. 583,796

The portion of the term of the patent subsequent to

June 21, 1983, has been disclaimed

Int. Cl. B65d 85/32

U.S. Cl. 99—177 12 Claims



There is disclosed a package comprising a plurality of avian eggs, a container enclosing and resiliently seating the eggs and a gaseous atmosphere within the container and about the eggs providing protection against deterioration and cushioning therefor. The container has top and bottom receptacle portions for receiving a portion of one of the eggs. The components have sealing means to provide releasable substantially gas-tight engagement therebetween and an individual sealed cell for each of the eggs. The portions of the bottom component include resilient seating means providing support for the eggs and permitting the flow of gas thereabout. The gaseous atmosphere comprises about 96–99.75 percent of nitrogen and about 4–0.25 of oxygen, on a weight basis.

3,522,062

#### TREATING SOLUTION FOR PLANOGRAPHIC PRINTING PLATES MADE WITH ELECTROPHOTOGRAPHIC RECORDING PAPERS

Sakae Shimizu, Kawasaki-shi, and Takayoshi Tanno, Tokyo, Japan, assignors to Kabushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 25, 1968, Ser. No. 715,563

Int. Cl. C09k 3/10

U.S. Cl. 106—2 3 Claims  
A treating solution for planographic printing plates made with electrophotographic recording papers, said solution comprising an aqueous solution containing a cyanide selected from the group consisting of ferricyanides and ferrocyanides, at least a phosphate, and an organic polybasic acid containing at least two carboxyl radicals, the total concentration of said phosphate and said cyanide contained in said aqueous solution being at least 10% by weight of said solution, the proportion of said cyanide to said phosphate contained in said solution being such that the total cyanide contained in these two salts is in the range of from 5% to 60% by weight of the total of these salts, the pH of said solution being controlled to a value ranging from 3.0 to 7.0 by the addition thereto of said organic polybasic acid.

3,522,063

#### PHOSPHATE-BONDED BASIC REFRACTORY COMPOSITION

Walter S. Treffner, Linthicum Heights, and Alfred H. Foessel, Baltimore, Md., assignors to General Refractories Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed July 26, 1967, Ser. No. 656,035

Int. Cl. C04b 35/04, 35/42

U.S. Cl. 106—58 15 Claims  
Dead burned low silica magnesite, a sodium polyphosphate and a calcium compound are mixed in proportions to provide selected predetermined relationships in the ratios—CaO:SiO<sub>2</sub>; P<sub>2</sub>O<sub>5</sub>:SiO<sub>2</sub>; P<sub>2</sub>O<sub>5</sub>:CaO and CaO:(P<sub>2</sub>O<sub>5</sub>+SiO<sub>2</sub>) resulting in a basic refractory composition of high strength at 2300° F. and at 2700° F. In another embodiment, low silica chrome ore is also included in the composition and the proportions of the materials are controlled to provide a high CaO:SiO<sub>2</sub> ratio.

3,522,064

#### STABILIZED ZIRCONIA CONTAINING NIOBIA AND CALCIUM OXIDE

Herbert Valdsaar, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del.

No Drawing. Filed Aug. 21, 1967, Ser. No. 661,844

Int. Cl. C04b 35/48

U.S. Cl. 106—57 5 Claims  
Zirconia-based refractories are made resistant to thermal shock and of high strength at elevated temperatures by incorporating, by weight, 3 to 10% of calcium oxide, and from 2 to 15% of niobium pentoxide, the total of these added oxides being from 5 to 20% by weight of the refractory.

3,522,065

#### MAGNESIA CHROME ORE BASIC REFRACTORY SHAPE AND A METHOD FOR MANUFACTURING SAME

Robert H. Herron, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 561,609,

June 29, 1966. This application Oct. 22, 1968, Ser. No. 778,911

Int. Cl. C04b 35/42

U.S. Cl. 106—59 6 Claims  
An improved fired basic refractory shape of the magnesia-chrome ore type made from a base refractory mix containing about 50% to about 80% magnesia,



about 20% to about 50% chrome ore, and about 2% to 5% silica, having a microstructure of magnesia, recrystallized spinel, islands of silicates uniformly distributed throughout the shape and uniformly distributed closed pores. The fired refractory shape has an apparent porosity of 10%, good resistance to spalling and good strength at elevated temperatures. A method of manufacturing the shape is also described.

3,522,066

# PROCESS FOR PREPARING AQUEOUS MIXED LITHIUM AND SODIUM (AND/OR POTASSIUM) SILICATE SOLUTIONS

Marvin Wayne Forsyth, Cedar Rapids, Iowa, assignor to Lithium Corporation of America, Inc., New York, N.Y., a corporation of Minnesota  
No Drawing. Filed Dec. 6, 1966, Ser. No. 599,410  
Int. Cl. C09d 1/02

U.S. Cl. 106—74 5 Claims

Process of preparing aqueous lithium silicate-sodium and/or potassium silicate solutions by admixing an aqueous solution of sodium silicate and/or potassium silicate with an acid-washed silica hydrogel and lithium hydroxide, and agitating the mixture.

3,522,067

# METHOD FOR PREPARATION OF INSULATION PANELS OF EXPANDED PERLITE PARTICLES

Roger A. MacArthur, Hinsdale, Ill., assignor to Central Manufacturing District, Chicago, Ill., a Massachusetts trust

Filed June 12, 1967, Ser. No. 645,292  
Int. Cl. C04b 43/00

U.S. Cl. 106—84 16 Claims

Light weight insulating structures of expanded perlite bonded with sodium silicate, with or without clay, in which the expanded perlite particles are treated with a polyvalent silicofluoride before combination with the sodium silicate and mixed to provide a protective coating on the expanded perlite particles and to agglomerate fines on the surfaces of the particles of expanded perlite to provide coarse particles with greater spacial separation therebetween and in which the silicofluoride operates to gel the binder before filling the coarse particles or removing the agglomerated fines.

3,522,068

# CEMENT COMPOSITION AND PROCESS FOR PREPARING IT

Stanislaw Bastian, 50-28 Wita Stwosza St., Gdansk-Oliwa, Poland, and Malgorzata Helena Gruener, 73 Fornolskiej St., Gdansk, Poland

No Drawing. Continuation of application Ser. No. 393,416, Aug. 21, 1964. This application Jan. 27, 1969, Ser. No. 805,926

Claims priority, application Poland, Apr. 15, 1964, P 104,330

Int. Cl. C04b 13/10, 13/20

U.S. Cl. 106—87 5 Claims

A process of preparing a novel cement composition comprising dissolving a water-soluble carbonate of a mono to trivalent metal, a water-soluble sulfate of the same metal and, if needed, a sodium or aluminum fluosilicate, sodium chloride, a surface active substance, and a polyvinyl polymer in water maintaining the aqueous solution at about 25 to 50° C. for 8 to 16 hours, then ripening this aqueous solution for at least 72 hours with free access of air, then, just prior to the intended use for the cement composition, adding to the ripened aqueous solution a hydraulic additive such as a siliceous earth, a granulated blast furnace slag or the like, an aerial binding agent such as quicklime or slaked lime, portland cement, and possibly a filler to the solution, and then using

the cement mixture thus formed. There may also be added with the cement the aerial binding agent and the hydraulic additive, a small quantity of a solid gas generating substance.

3,522,069

# METHOD FOR THE PREPARATION AND APPLICATION OF FOAMED MAGNESIA CEMENTS

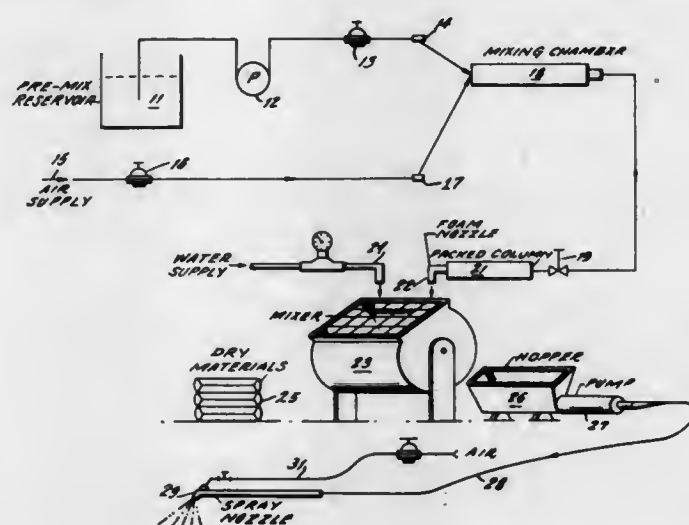
John C. Checko, Somerville, and Harold Umansky, Plainfield, N.J., assignors to The Mearl Corporation, Ossining, N.Y., a corporation of New Jersey

Filed June 1, 1967, Ser. No. 642,906

Int. Cl. C04f 9/00, 31/04

U.S. Cl. 106—88

9 Claims



Method for preparing and applying a foamed magnesia cement by initially pre-forming an aqueous foam, thereafter adding the pre-formed foam to a slurry of magnesia, a magnesium salt, and asbestos or other fibers to form the foamed cement, and spraying the thus formed and pumped foamed material upon the desired structural substrate. Air-dried foamed cement layers thus prepared are useful for fireproofing and like purposes.

3,522,070

# AQUEOUS COATING COMPOSITIONS CONTAINING DISPERSED SUBMICRON CELLULOSIC POLYMER PARTICLES AND THE PROCESS OF PREPARING SAID COATING COMPOSITIONS

William B. Webb, Jr., Pennsville, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 427,163, Jan. 21, 1965. This application June 1, 1966, Ser. No. 554,361

Int. Cl. C08b 21/12, 21/14, 29/34

U.S. Cl. 106—170

7 Claims

Water-borne coating compositions having dispersed sub-micron particles containing cellulosic polymer, particularly nitrocellulose.

3,522,071

# METHOD OF PHOSPHOR SURFACE COATING

Yoshiyuki Yokota and Takashi Miyagawa, Hiratsuka-shi, Yasuto Tanaka, Tokyo, and Tatuki Torii, Odawara-shi, Japan, assignors to Dai Nippon Toryo Kabushiki Kaisha, Konohana-ku, Osaka-shi, Japan

Filed Aug. 19, 1966, Ser. No. 573,635

Int. Cl. H01j 31/20

U.S. Cl. 117—33.5

2 Claims

The photosensitive properties and stability of phosphor slurries used in photoprinting are improved by surface-coating a phosphor adapted for being applied to the inner surface of a cathode ray tube with slightly soluble acidic oxides, said acidic oxides being oxides of at least one element selected from the group consisting of boron,

aluminum, titanium, vanadium, gallium, germanium, arsenic, niobium, molybdenum, tin, antimony, tantalum and tungsten.

3,522,072

# FILM TRANSPARENCY FOR IMAGING BY SPIRIT DUPLICATION

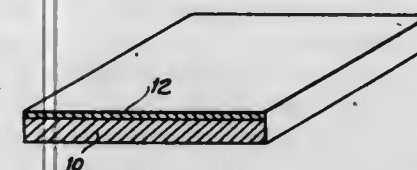
Robert T. Florence, Park Ridge, and Richard E. Thomas, Chicago, Ill., assignors to A. B. Dick Company, Niles, Ill., a corporation of Illinois

Filed Jan. 16, 1967, Ser. No. 609,469

Int. Cl. B41n 5/04, 1/12

U.S. Cl. 117—35.6

3 Claims



The invention is addressed to the production of copy by spirit duplication onto an impression medium in the form of a transparent film in which the film is coated to provide a transparent coating which is readily wet out by the fluids used in spirit duplication and is highly receptive to the imaging material transferred by spirit duplication whereby a film transparency is produced with single or multiple colors.

3,522,073

# CHEMICAL PLATING OF THERMOPLASTIC RESINS

Toramitsu Sakuma, Osaka-fu, Japan, assignor to Sumitomo Naugatuck Co., Ltd., Kitahama, Higashi-ku, Osaka, Japan

No Drawing. Filed Sept. 29, 1966, Ser. No. 583,061

Claims priority, application Japan, Oct. 8, 1965, 40/61,767

Int. Cl. B44d 1/02; C23c 3/02

U.S. Cl. 117—47

4 Claims

This invention relates to a method of pretreating molded plastics prior to the application of electroless chemical plating. Chemically plated molded plastics maintain good surface condition and brightness, while the plating, thereby greatly increasing the adhesive quality of crazing is generated by immersing the article in a pre-plating bath containing orthophosphoric acid, an acid phosphate, or an ester plasticizer.

3,522,074

# GOLD-PLATED HIGH TEMPERATURE SHEET MATERIAL

Melvin O. Kalleberg, Minneapolis, and Larry E. Espellen, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed June 28, 1965, Ser. No. 467,355

Int. Cl. C09j 7/02

U.S. Cl. 117—68.5

2 Claims



The adhesion of vapor-coated gold to polyimide or other high temperature ring-structure films exceeds about 35 ounces per inch of width if the coated film is heated to an elevated temperature, preferably above 250° C. Pressure-sensitive adhesive tape products are disclosed.

This invention relates to a novel means for and method of protecting surfaces which are susceptible to damage by infrared radiation.

3,522,075

# PROCESS FOR COATING GLASS WITH AN ORGANOPOLYSILOXANE

Robert Henry Kiel, Weston, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Sept. 9, 1966, Ser. No. 578,137

Int. Cl. C03c 17/22, 17/30; B32b 17/06

U.S. Cl. 117—72

4 Claims

There is disclosed the coating of a glass substrate with an organopolysiloxane resin composition wherein at least one metal compound is applied to a glass surface, e.g., by spraying or coating, and pyrolyzed at an elevated temperature so as to prime the surface with a thin layer of metal oxide and then the resin composition is applied to the metal oxide primed surface. The glass surface is primed with metal oxide in an amount sufficient to substantially increase the permanency of adhesion of the organopolysiloxane to the surface. Organopolysiloxane as used herein is defined as including both modified and non-modified resins.

3,522,076

# PHOTOPOLYMERIZED FILM, COATING AND PRODUCT, AND METHOD OF FORMING

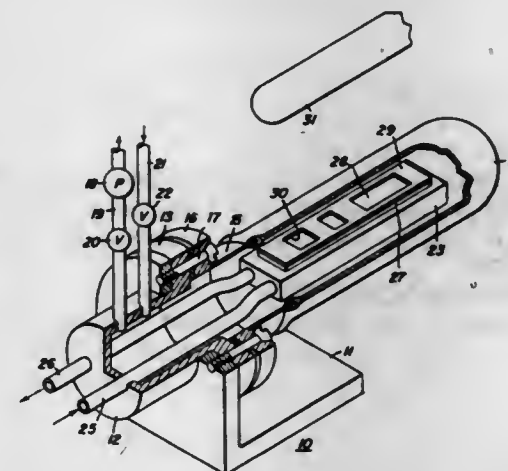
Archibald N. Wright, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 530,971, Mar. 1, 1966. This application Feb. 23, 1967, Ser. No. 618,132

Int. Cl. C08f 1/18, 3/20

U.S. Cl. 117—93.31

8 Claims



A thin, continuous film is formed on a substrate by ultraviolet surface photopolymerization of a material in the gaseous phase. The material is selected from hexachlorobutadiene, tetrafluoroethylene, trifluoromonoethylene, monofluorotrichloroethylene, hexafluorobutadiene, hexafluoropropylene, mixtures thereof, acrylonitrile, 2,4-hexadiene, and 1,5-hexadiene. Such films are useful as coating on metallic and non-metallic substrates, capacitor dielectrics, cryogenic device insulation, insulation for microelectric devices, primer or insulation on electrically conductive wire, and for corrosion protection.

3,522,077

# INERT PLASTIC PACKAGE FOR LIQUID REAGENT

Thomas D. Kaczmarek, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 4, 1967, Ser. No. 658,391

Int. Cl. B65d 65/42

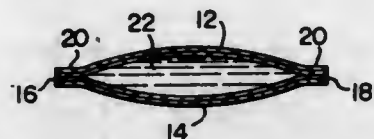
U.S. Cl. 117—94

7 Claims

A liquid reagent container having the shape of a sack or blister and composed of sheet-like material of about 5 mils thickness of a solid chlorofluorocarbon polymer, the



material containing a liquid chlorofluorocarbon polymer included either as an integral part of the material or as a coating applied to at least one side of the material to prevent embrittlement of the material during degassing,



and the combination of the sheet-like chlorofluorocarbon polymer and the liquid chlorofluorocarbon polymer being degassed to remove reactive volatile constituents having molecular weights of up to about 750.

3,522,078

**PROCESS OF TREATING TITANIUM DIOXIDE**  
Russell R. May, Jr., Wadsworth, and Robert H. Walsh, Akron, Ohio, assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Filed Apr. 21, 1967, Ser. No. 632,567  
Int. Cl. C09c 1/36

U.S. Cl. 117—100 14 Claims  
Pigmentary titanium dioxide is coated with hydrous metal oxides, such as titania, alumina, and silica, to improve the pigment's physical properties. Specific steps in the coating procedure are discussed and embodiments resulting in improved pigmentary properties are described.

3,522,079

**PRECIPITATION COATING PROCESS FOR COATING METAL OXIDE PARTICLES WITH A HYDROUS METAL OXIDE**

Thomas James Wiseman, Darlington, England, assignor to British Titan Products Company Limited, B'lingham, Durham, England, a corporation of the United Kingdom

No Drawing. Filed Aug. 17, 1967, Ser. No. 661,194  
Claims priority, application Great Britain, Oct. 25, 1966, 47,832/66; Feb. 14, 1967, 7,086/67  
Int. Cl. C09c 1/36, 3/00; B44d 1/02

U.S. Cl. 117—100 24 Claims  
A process for coating metal oxide particles with a hydrous metal oxide comprising forming an aqueous solution of a hydrolyzable metal salt, raising the pH value of the solution until a precipitate forms, heating the solution to redissolve the precipitate, thereafter mixing the solution thus prepared with metal oxide particles and precipitating a hydrous metal oxide upon the particles from the solution.

3,522,080

**PROCESS FOR HARDENING THE SURFACES OF SYNTHETIC MATERIALS**

Karl Dietzel, Krefeld-Uerdingen, and Gunter Pellstocker, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 633,375, Apr. 25, 1967. This application July 18, 1968, Ser. No. 745,665  
Claims priority, application Germany, Apr. 29, 1966, F 49,057

Int. Cl. C23c 13/04; B44d 1/16

U.S. Cl. 117—232 9 Claims  
A process for hardening the surface of a synthetic material which includes vapor deposition of a least fifty successive layers of silicon oxide onto the surface of the synthetic material in a high vacuum in the presence of oxygen to achieve a coating thickness of 2 to 5 microns.

3,522,081  
**WAX-COATED FIBROUS MATERIALS AND PROCESS FOR PRODUCING SAME**

Hallard C. Moyer, Homewood, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 1, 1967, Ser. No. 634,844  
Int. Cl. D21h 1/36; B44d 1/44

U.S. Cl. 117—119.2 23 Claims  
Wax-coated paper or other fibrous, rollable sheet material having low water vapor permeability and high gloss is obtained by applying to the sheet a coating composition comprising about 40–75 weight percent of a linear paraffin wax, about 10–30 percent of an ethylene-vinyl acetate copolymer, about 10–30 weight percent of an amorphous resin, and at least about 1 percent of polyethylene. Additionally, it is necessary to apply the coating composition at a temperature not greater than about 200° F., preferably not greater than about 190° F., and to cool the coating by contacting the uncoated side of the paper with a cooling roll maintained at about 40–80° F. until the temperature of the coating is reduced to less than about 100° F. before removing the cooling contact.

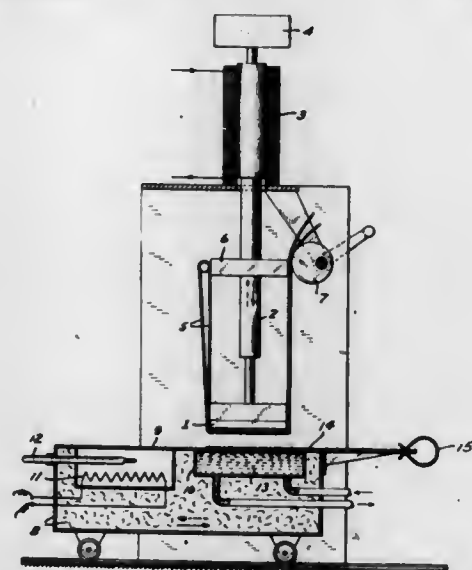
3,522,082

**ADHESIVE COATED FILMS**

Guy Grandsaignes d'Hauterive, Mantes-la-Jolie, and Pierre Hullot, Limay, France, assignors to Cellophane Investment Company Limited, Alderney, Channel Islands

Filed Nov. 20, 1964, Ser. No. 412,730  
Claims priority, application France, Nov. 29, 1963, 955,491

Int. Cl. C08f 29/22; C09j 7/02  
U.S. Cl. 117—122 12 Claims



A heat-sealable wrapping material comprising a film having a coating consisting of a vinylidene chloride copolymer which contains from about 85 to 95% vinylidene chloride and 2 to 10% of a resin having a melting point above 150° C. selected from the group consisting of a derivative of colophony, a coumarone resin, a polymerized silicone resin and a terpenephenol.

3,522,083

**PHOSPHONITRILIC LAMINATING AND MOLDING RESINS**

James M. Maselli, Ellicott City, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Original application Nov. 3, 1967, Ser. No. 680,339, now Patent No. 3,433,767, dated Mar. 18, 1969. Divided and this application Oct. 17, 1968, Ser. No. 778,906

Int. Cl. C04b 39/00

U.S. Cl. 117—126 1 Claim  
A method of preparing resin laminates by impregnating a glass or carbon cloth with a phosphonitrilic resin

and a curing system consisting of hexamethylenetetramine as a formaldehyde yielding source and freshly prepared magnesium hydroxide as a catalyst.

3,522,084

**PROCESS FOR TREATING FIBROUS MATERIALS WITH A FLUORINATED ALLYL ETHER**

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Application Apr. 27, 1967, Ser. No. 647,273, now Patent No. 3,437,692, dated Apr. 8, 1969, which is a division of application Ser. No. 433,818, Feb. 18, 1965, now Patent No. 3,382,222. Divided and this application Apr. 23, 1968, Ser. No. 740,013

Int. Cl. D06m 15/44

U.S. Cl. 117—161 2 Claims  
Allyl ethers which contain a fluorine group on the alpha carbon atoms of the alcohol moiety are prepared by reacting a ketone with an alkali metal fluoride, and then reacting the resulting fluorocarbon intermediate with an allyl halide. The allyl ethers are useful, in monomeric and especially polymeric form, for imparting water- and oil-repellency to textiles and other fibrous materials.

3,522,085

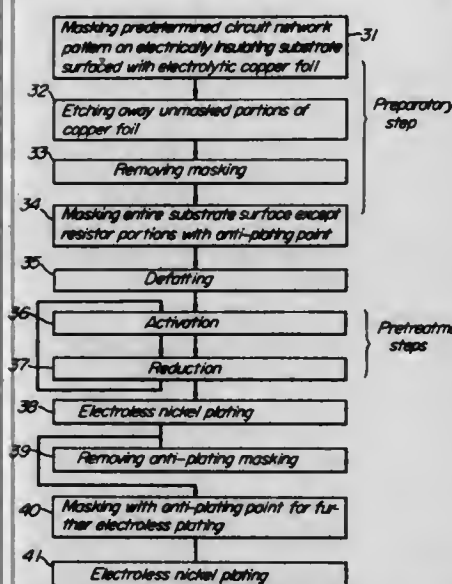
**ARTICLE AND METHOD FOR MAKING RESISTORS IN PRINTED CIRCUIT BOARD**

Kazuo Watanabe, Osaka, Japan, assignor to Sanyo Electric Co., Ltd., Moriguchi-shi, Japan, a corporation of Japan

Continuation of application Ser. No. 557,474, June 14, 1966. This application July 9, 1969, Ser. No. 845,648  
Claims priority, application Japan, Dec. 17, 1965, 40/77,929

Int. Cl. H05k 3/30

U.S. Cl. 117—212 9 Claims



A printed circuit board and the method of making the same in which a metal foil is adhered to a substrate of insulating material. The foil on specified portions of the substrate is etched away to leave a roughened surface on which is deposited for a predetermined time and for a predetermined quantity, a suitable resistive material.

3,522,086

**METHOD OF MAKING ELECTRICAL RESISTORS**  
James Edge, Morpeth, England, assignor to Welwyn Electric Limited, Bedlington, Northumberland, England, a corporation of Great Britain

Filed Sept. 26, 1967, Ser. No. 670,687  
Claims priority, application Great Britain, Sept. 27, 1966, 43,028/66

Int. Cl. H01c 7/00, 17/00

U.S. Cl. 117—213 9 Claims  
Electrical precision resistors having a ceramic former are provided with a resistance film of a nickel-phosphorus

alloy with an electrical surface resistance value between 0.5 ohm to 500 kilohms per square, the alloy containing from 5 to 16% by weight of phosphorus, the thickness of the film varying from 220 Å. to 25,000 Å. and the root-mean-square deviation of film thickness between different samples of area with a dimension greater than 0.01 x 0.01 cm. is at most 8% of the mean thickness at the lowest electrical resistance value and at most 4% at the highest electrical resistance value; the manufacture of these resistors is effected batch-wise by a method involving reactivating a catalytic palladium layer, before electrolessly depositing the nickel-phosphorus film while tumbling the resistors in the plating solution, by washing with a reactivating solution containing hypophosphite and nickel ions, and the deposited nickel-phosphorus film is stabilized by heating in air to a temperature of from 100 to 400° C.

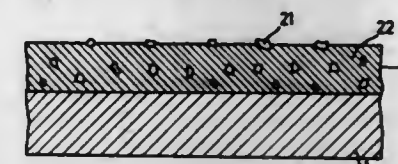
3,522,087

**SEMICONDUCTOR DEVICE CONTACT LAYERS**  
Rodolphe Lacal, Calvados, France, assignor, by mesne assignments, to U.S. Phillips Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 9, 1967, Ser. No. 615,004  
Claims priority, application France, Feb. 16, 1966, 49,866

Int. Cl. H01l 3/00, 5/00

U.S. Cl. 117—227 6 Claims



A method for making contact to a semiconductor or for bonding the semiconductor to a substrate, and the contact material and end product, wherein the contact layer is formed by simultaneously depositing on a substrate, electrolytically or by a vapor process, a metal and fine semiconductor particles which become dispersed throughout the layer, which is carried out at a temperature below the alloying temperature of the metal and the semiconductor.

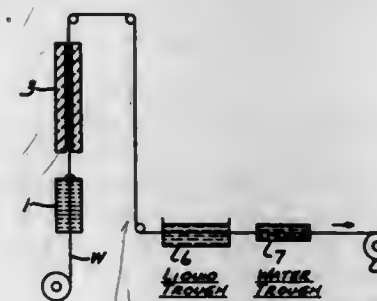
3,522,088

**METHOD OF MANUFACTURING ELECTRIC CONDUCTOR INSULATED BY FOAMED CRYSTALLINE POLYMER**

Chisato Kawazoe, Tokyo-to, Terumichi Ichiba, Kamakura-shi, and Seichi Iwakura and Hiroshi Shimba, Yokohama-shi, Japan, assignors to Sumitomo Electric Industries, Ltd., Osaka, Japan, a company of Japan

Filed June 29, 1966, Ser. No. 561,564  
Claims priority, application Japan, July 7, 1965, 40/40,727

Int. Cl. B44c 1/36, 1/42; C08f 29/04  
U.S. Cl. 117—232 1 Claim



A method of manufacturing an electric conductor with a coating of a foamed polymer wherein the conductor is coated with a solvent solution of either polythene or polypropylene and dried to cause particle aggregation of the polymer which is physically noted by the clouding of the coating and to remove the solvent remaining. The



dried coated conductor is then immersed in a liquid of monoatomic or polyatomic alcohol and heated to a temperature which is at least equal to the melting point of the selected polymer to cause foaming. The foamed coating is then rinsed in water to remove the residual alcohol and cool the coating.

3,522,089

# METHOD OF PREPARING INSULATED ELECTRIC WIRES COATED WITH FOAMED SYNTHETIC RESIN

Toshihisa Takada, Sakura-shi, Hisao Ishikawa, Setagaya-ku, Tokyo, Keishi Tado, Ichikawa-shi, and Yukio Matsui, Chiba-shi, Japan, assignors to The Fujikisa Cable Works, Ltd., Koto-ku, Tokyo, Japan, a corporation of Japan

No Drawing. Filed May 1, 1967, Ser. No. 634,913  
Claims priority, application Japan, May 4, 1966, 41/28,166; Sept. 5, 1966, 41/58,830; Apr. 14, 1967, 42/23,379

Int. Cl. B44d 1/36, 1/44; H01b 3/30

U.S. Cl. 117—232

2 Claims

A method of preparing insulated electric wires coated with foamed synthetic resin comprising dissolving crystalline synthetic resin powders in relatively small quantities of solvent for the resin, coating the resin solution obtained on a bare conductor, cooling the resin solution so as to whiten it and then heating the whitened resin solution layer to foam the layer due to the evaporation of the solvent contained therein.

3,522,090

# REFLEX THERMOMAGNETIC RECORDING MEMBERS

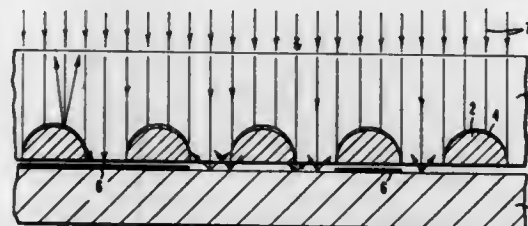
George Raymond Nacci, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 636,955, May 8, 1967. This application Nov. 13, 1967, Ser. No. 682,232

Int. Cl. H01f 10/00; B44d 1/16

U.S. Cl. 117—239

8 Claims



Recording members for thermomagnetic copying, consisting of a pattern of magnetic elements fastened to a transparent substrate can be improved in latitude of exposure by a reflective coating on the magnetic elements to partially shield them from direct radiation from the exposing source.

3,522,091

# PRESERVATION AND RECOVERY OF THE SUGAR CONTENT OF SUGAR BEETS

Mordecai Lapidot, Bene Beraq, Eliahu Eisenberg, Tel Aviv, Ralph S. Kahan, Ramat-Gan, and Eliahu Foa, Rehovot, Israel, assignors to Isotopes & Radiation Enterprises (Isorad) Ltd., Ramat Aviv, Tel Aviv, Israel, a corporation of Israel

No Drawing. Filed Jan. 15, 1968, Ser. No. 697,639  
Claims priority, application Israel, Jan. 20, 1967, 27,288

Int. Cl. C13d 1/00, 1/08

U.S. Cl. 127—43

4 Claims

The sugar value of sugar beets is increased by irradiation with doses of  $\gamma$ -radiation or X-rays up to 10 kilorads.

By the irradiation the amount of extractable sugar content during storage is slowed down.

3,522,092

# TREATMENT OF SUGAR

Beverly Cortis-Jones, 65 Peacock St., Seaforth, New South Wales, Australia

No Drawing. Filed Oct. 23, 1967, Ser. No. 677,032  
Claims priority, application Australia, Oct. 31, 1966, 13,299/66

Int. Cl. C13f 1/04; A23i 3/00

U.S. Cl. 127—63

4 Claims

Method of retarding color development in raw sugar, particularly under conditions of prolonged bulk storage at high ambient temperature, which comprises dispersing in the sugar a concentration of an inhibitor agent consisting of magnesium oxide, magnesium hydroxide or magnesium carbonate, preferably not less than about 0.01% by weight.

3,522,093

# PROCESSES OF CLEANING AND PASSIVATING REACTOR EQUIPMENT

Wilfrid A. Woolman, Lake Charles, La., assignor to Chemical Cleaning and Equipment Service, Inc., Houston, Tex., a corporation of Texas

No Drawing. Filed Feb. 27, 1967, Ser. No. 619,525  
Int. Cl. B08b 9/00, 9/02

U.S. Cl. 134—22

8 Claims

A method of removing deposits and passivating the tube-side surfaces of tube and shell type reactor equipment. The method comprises the circulation of various solutions; including inhibited acid, alkaline, and passivating solutions, through the tube-side of the reactor, with flushing steps occurring between the various chemical circulation steps. The flushing media is preferably nitrogen gas. The cleaning method may be followed by a step of circulating a heating medium on the shell side to prevent condensation of water in the air prior to start-up of the system.

3,522,094

# ELECTRODE INCLUDING HYDROPHOBIC POLYMER, METHOD OF PREPARATION AND FUEL CELL THEREWITH

Peter D. Richman, Park Ridge, N.J., assignor, by mesne assignments, to Leeson Corporation, Cranston, R.I., a corporation of Massachusetts

No Drawing. Filed Sept. 30, 1965, Ser. No. 491,871  
Int. Cl. B32b 15/00; C23b 5/50; H01m 13/06

U.S. Cl. 136—86

11 Claims

10. A process for preparing an electrode comprising mixing a relatively base metal and a hydrophobic polymer; forming an electrode therefrom and replacing substantially only the exposed surface layer of said base metal with a more noble metal.

3,522,095

# LAMINAR MEMBRANE FUEL CELLS AND PROCESSES FOR THEIR MANUFACTURE

Albert E. Baker, Jr., Ipswich, Edward Chalmers, Jr., Arlington, and Peter N. Rigopoulos, Melrose, Mass., assignors to General Electric Company, a corporation of New York

Filed Jan. 14, 1965, Ser. No. 425,447

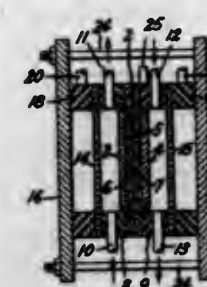
Int. Cl. H01m 27/00

U.S. Cl. 136—86

3 Claims

A fuel cell is formed by laminating two ion exchange membranes of like composition to form a laminar ion exchange membrane. Electrodes are attached and hardware provided to direct fuel and oxidant to the electrodes. The membranes may be laminated by vibration or, in the case of fluorinated polymers, by chemically degrading the surfaces to be brought together. Mixtures of

platinum and polytetrafluoroethylene as well as titanium palladium alloy screens have both been found to produce



long life membranes when positioned at the interface of the laminae.

3,522,096

# LONG LIFE FUEL CELL AND ELECTRODE THEREFOR

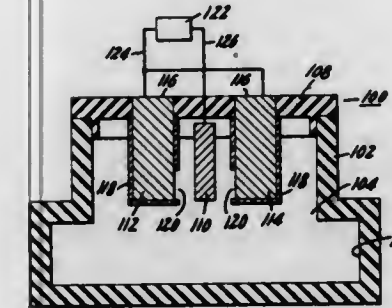
Willard T. Grubb and Carl E. Cliche, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Dec. 30, 1966, Ser. No. 606,231

Int. Cl. H01m 27/00

U.S. Cl. 136—86

8 Claims



A cathode in the shape of a bar is used in combination with an aqueous alkaline electrolyte containing dissolved alcohol. The bar configuration minimizes alcohol evaporation and allows high efficiency of alcohol utilization even over prolonged periods. Bars that are both masked and wet-proofed perform better than bars that lack masking, wet-proofing, or both. The anode and cathode may be narrowly spaced and a storage plenum for electrolyte and alcohol provided therebeneath.

3,522,097

# SILVER-PALLADIUM CATHODIC CURRENT COLLECTOR FOR HIGH TEMPERATURE FUEL CELLS

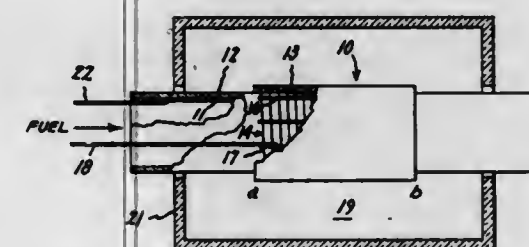
Craig S. Tedmon, Jr., Schenectady, N.Y., and William C. Hagel, Denver, Colo., assignors to General Electric Company, a corporation of New York

Filed June 12, 1967, Ser. No. 645,423

Int. Cl. H01m 27/00

U.S. Cl. 136—86

3 Claims



Silver-palladium alloy compositions are disclosed in connection with a variety of high temperature fuel cell cathode materials with which it has been demonstrated

that the silver-palladium alloys display both unusual electrical compatibility and thermo-mechanical compatibility under the extreme conditions of high temperature operation and temperature cycling at the cathode in a high temperature fuel cell.

3,522,098

# FUEL CELLS WITH DEVICE FOR REDUCING ELECTROLYTE SHORT-CIRCUIT CURRENTS

Ferdinand v. Sturm, Erlangen-Buchenbach, and Herbert Cnobloch, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

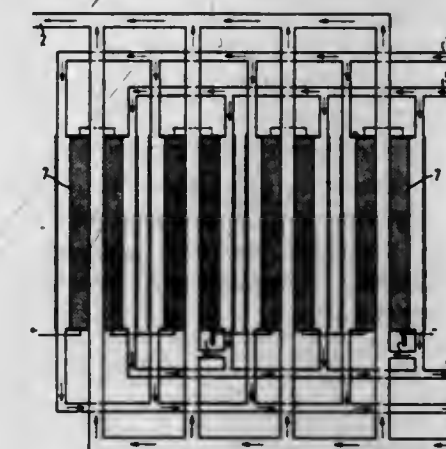
Filed June 20, 1967, Ser. No. 647,421

Claims priority, application Germany, June 22, 1966, S 104,375

Int. Cl. H01m 27/00

U.S. Cl. 136—86

1 Claim



Method of reducing electrolyte short-circuit currents in batteries having a plurality of fuel cells connected electrically in series and traversed by electrolyte in parallel includes injecting gas periodically into the electrolyte before it is supplied to the fuel cells so as to form gas bubbles therein, whereby the cross section of the electrolyte stream at the location at which the bubbles are located is reduced and the electrical resistance of the electrolyte stream is thereby increased. Device for carrying out the foregoing method includes duct means for supplying electrolyte to a fuel cell battery, means for injecting gas periodically at a location of the duct means into the electrolyte traversing the duct means so as to form gas bubbles therein whereby the cross section of the electrolyte stream in said duct means at the location at which the bubbles are found is reduced and the electrical resistance of the electrolyte stream is thereby increased.

3,522,099

# CELL FOR STORING ELECTRICAL ENERGY BY ELECTROLYSIS OF WATER AND FOR RECOVERING THE WATER BY ELECTROCHEMICALLY RECOMBINING THE HYDROGEN AND OXYGEN FORMED BY THE ELECTROLYSIS

Rolf Winfried Schulte, Erlangen, and Helner Dittmann, Munich, Germany, assignors to Siemens Aktiengesellschaft, Berlin and Munich, and Varta Aktiengesellschaft, Frankfurt am Main, Germany, both corporations of Germany

Filed July 11, 1967, Ser. No. 652,455

Claims priority, application Germany, July 12, 1966, S 104,749

Int. Cl. H01m 27/14

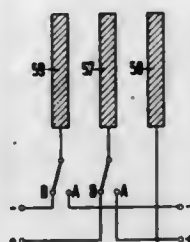
U.S. Cl. 136—86

16 Claims

Cell for storing electrical energy by electrolysis of water and recovering the water by current-producing recombination of the hydrogen and oxygen



formed by the electrolysis includes a valve electrode for selectively separating and dissolving hydrogen and a gas diffusion electrode for dissolving oxygen in the electrolyte, said electrodes defining an electrolyte chamber therebetween, and an ion-permeable oxygen-separating electrode



disposed in said electrolyte chamber. A storage battery formed of a plurality of the abovementioned cells wherein respective two hydrogen valve electrodes and two oxygen-recombining electrodes of adjacent cells connected electrically in parallel are united into an electrode operating on both sides.

3,522,100

## FUEL CELL BATTERY

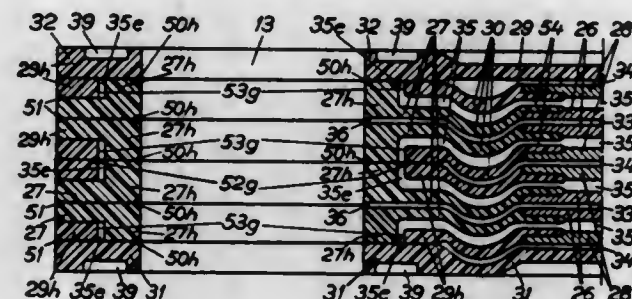
Olle Lindstrom, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed Dec. 18, 1967, Ser. No. 691,466  
Claims priority, application Sweden, Dec. 19, 1966, 17,328/66

Int. Cl. H01m 27/00

U.S. Cl. 136—86

8 Claims



A fuel cell battery comprising several electrode elements each comprising a frame and a central active electrode, which elements are stacked to form a body with intermediate spaces between said electrodes and with sealing connections arranged between adjacent frames to form the boundary of the intermediate space therebetween, the frames having aligned holes therein forming channels connected to the intermediate spaces for delivery of gaseous fuel, gaseous oxidant and electrolyte wherein the fuel channel for the delivery of the gaseous fuel is arranged in connection with spaces, fuel spaces, which at least on one side are limited by a fuel electrode, the oxidant channel for the delivery of the gaseous oxidant is arranged in connection with spaces, oxidant spaces, which at least on one side are limited by an oxidant electrode and the electrolyte channel for the supply of the electrolyte is arranged in connection with spaces, electrolyte spaces, between a fuel electrode and an oxidant electrode. A barrier space is arranged between frame parts situated nearest to and limiting the oxidant channel and adjacent frame parts limiting the fuel spaces and another barrier space is arranged between frame parts situated nearest to and limiting the fuel channel and adjacent frame parts limiting the oxidant spaces, which barrier spaces are sealed with respect to the oxidant and fuel channels, respectively and

with respect to the fuel and oxidant spaces, respectively, and in which barrier spaces a material is arranged which prevents leakage of oxidant and/or fuel into the barrier spaces or prevents oxidant and fuel which has leaked into the barrier spaces from reacting with each other.

3,522,101

## POWER MODULE INCLUDING THERMALLY REGENERATIVE BATTERY AND FUEL CELL AND METHOD OF OPERATION

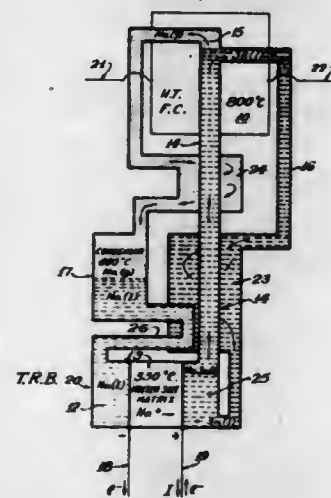
Bernard S. Baker, Chicago, Ill., assignor to Institute of Gas Technology, a not-for-profit corporation of Illinois

Filed Jan. 10, 1968, Ser. No. 696,932

Int. Cl. H01m 27/00

U.S. Cl. 136—86

16 Claims



The application discloses a power supply-storage module and method of operation that provides the needs of a widely fluctuating power consuming system. It comprises a high temperature fuel cell (HTFC) in combination with a thermally regenerative battery (TRB), the two being thermally coupled, or connected in series, and electrically connected in parallel.

3,522,102

## METHOD OF PRODUCING ELECTRICITY IN FUEL CELL BY SEQUENTIALLY INCREASING AND DECREASING TEMPERATURE

Isaac Trachtenberg, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation of application Ser. No. 470,151, July 7, 1965. This application Jan. 15, 1969, Ser. No. 793,238

Int. Cl. H01m 27/20

U.S. Cl. 136—86

15 Claims

Disclosed is a method of improving fuel cell performance, including the steps of lowering the cell temperature to a value such that the internal cell resistance begins to sharply increase, maintaining the cell at that temperature for a period of time, and raising the temperature to the normal operating value.

3,522,103

## PROCESS FOR THE DENSIFICATION OF MIXED NICKEL OXIDE AND STABILIZED ZIRCONIA

Donald W. White, Burnt Hills, N.Y., and Philippe D. S. St. Pierre, Birmingham, Mich., assignors to General Electric Company, a corporation of New York

Filed July 28, 1967, Ser. No. 656,812

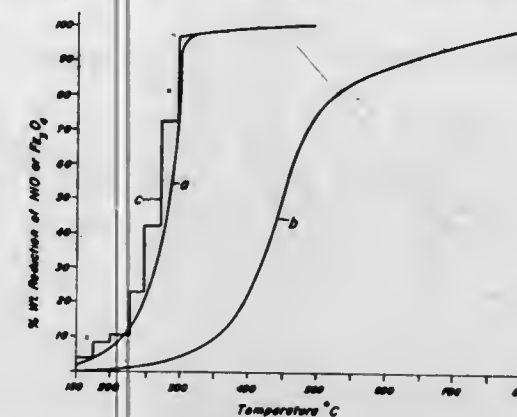
Int. Cl. H01m 27/16; C04b 41/00; F16h 13/02

U.S. Cl. 136—120

8 Claims

The formation of a spurious nickel composition during the sintering of a layer of mixed nickel oxide and stabilized zirconia deposited over a stabilized zirconia body containing about 2%  $\text{Fe}_2\text{O}_3$  is avoided by: (a) heating the layer and substrate in hydrogen at a temperature in

the range of from about 250° C. to about 375° C. to cause the NiO to be completely reduced; (b) substituting a neutral atmosphere or an atmosphere that acts to oxidize



iron but to retain the nickel so produced in the metallic state, and then (c) raising the temperature to about 1400° C. to complete the sintering operation.

3,522,104

## BATTERY GASKETS

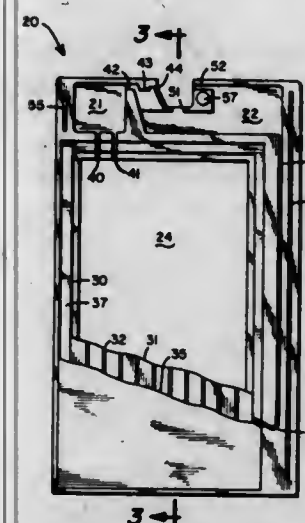
Royce E. Biddick, Edina, and Robert D. Nelson, St. Paul, Minn., assignors to Gould-National Batteries, Inc., St. Paul, Minn., a corporation of Delaware

Filed July 29, 1968, Ser. No. 748,531

Int. Cl. H01m 1/00

U.S. Cl. 136—166

8 Claims



A gasket for separating the individual cells of a battery having an electrolyte disengagement chamber, an electrolyte reservoir and a high resistance filling channel.

3,522,105

## BATTERY TERMINAL AND COVER CONSTRUCTION

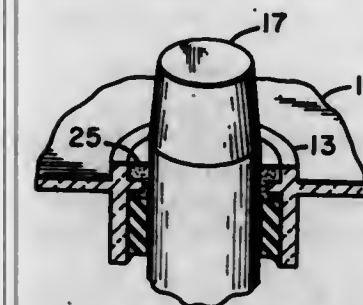
Anthony Sabatino, Minneapolis, Minn., assignor to Gould-National Batteries, Inc., St. Paul, Minn., a corporation of Delaware

Filed Sept. 3, 1968, Ser. No. 756,918

Int. Cl. H01m 1/02

U.S. Cl. 136—168

8 Claims



A torque resistant connection between a battery terminal post and a battery cover having an irregular shaped

cavity region on the top side of the battery cover which is filled with a hard setting material to produce an integral bonded connection between a terminal post and the battery cover.

3,522,106

## THERMOELECTRIC GENERATORS

Jean Deblasse, Boulogne-sur-Seine, and Siegfried Klein, Paris, France, assignors to Commissariat a l'Energie Atomique, Paris, France, a French organization

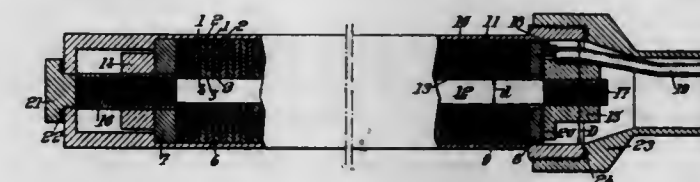
Filed May 9, 1966, Ser. No. 548,456

Claims priority, application France, May 9, 1965, 17,644

Int. Cl. G21h 1/10; H01v 1/02

U.S. Cl. 136—202

12 Claims



A generator comprising p-type and n-type semiconductor elements made of slightly compressed powders. The semiconductor elements are stacked alternately with the interposition of insulating elements leaving junctions between the semiconductor elements. The junctions so formed are disposed in such manner as to form a semiconductor meandering path. The semiconductor elements are firmly compressed in the stack.

3,522,107

## ADJUSTABLE THERMOCOUPLE WITH ADAPTOR MEANS

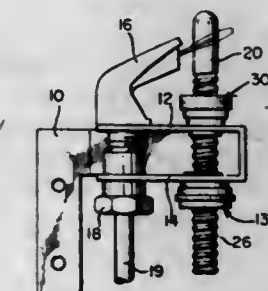
Fred V. Kenyon, Anaheim, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed July 6, 1967, Ser. No. 651,570

Int. Cl. H01v 1/04

U.S. Cl. 136—217

10 Claims



A thermocouple which may be attached to any type of support bracket, has a mounting portion and a pair of adaptors thereon in spaced relation to each other with each adaptor having a resilient element cooperating with the mounting portion to enable initial slip-on positioning of the two adaptors which may be finally moved into clamping positions relative to the support bracket.

3,522,108

## METHOD OF FORMING ELECTRIC INSULATING FILMS ON Al-CONTAINING SILICON STEEL SHEET AND SURFACE-COATED Al-CONTAINING SILICON STEEL SHEET

Takaaki Yamamoto and Kaneo Akanuma, Kitakyushu, Japan, assignors to Nippon Steel Corporation, Tokyo, Japan

Filed Mar. 17, 1967, Ser. No. 624,068

Claims priority, application Japan, Mar. 18, 1966, 41/16,902

Int. Cl. C23f 7/04

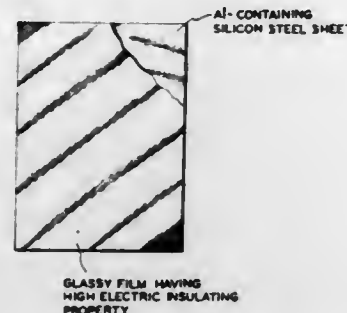
U.S. Cl. 148—6

7 Claims

This invention is to provide a glassy film having high electric insulation, adhesion, space factor and heat resistance on the surface of a steel sheet in a process



for producing an oriented silicon steel sheet containing Al by applying an inorganic oxide film forming agent consisting of a mixture of Mg compound and Mn com-



pound of certain mixing ratio to the surface of the steel sheet in the final annealing to cause said agent to react with  $Al_2O_3$  produced during the final annealing.

3,522,109

**PROCESSES FOR PRODUCING DECORATIVE AND PROTECTIVE COATINGS ON COPPER METAL**  
Milton E. Wadsworth, Salt Lake City, Utah (% The Ford Foundation, P.O. Box 776, Manila, Philippines), and Charles K. Hanson, 1609 West 4th North, Salt Lake City, Utah 84116

No Drawing. Continuation-in-part of application Ser. No. 554,340, June 1, 1966. This application Feb. 5, 1969, Ser. No. 796,884

Int. Cl. C23f 7/02, 7/00

U.S. Cl. 148—6.14

11 Claims

A process of imparting ornamental and protective coatings on copper and copper alloys in relatively short intervals of time. The copper or copper alloy is treated with sulfuric or hydrochloric acid at an elevated temperature and under pressure for 15 minutes to 24 hours to form a coating containing copper compounds.

3,522,110

**PROCESS FOR THE PRODUCTION OF COLD-ROLLED STEEL SHEETS HAVING EXCELLENT PRESS WORKABILITY**

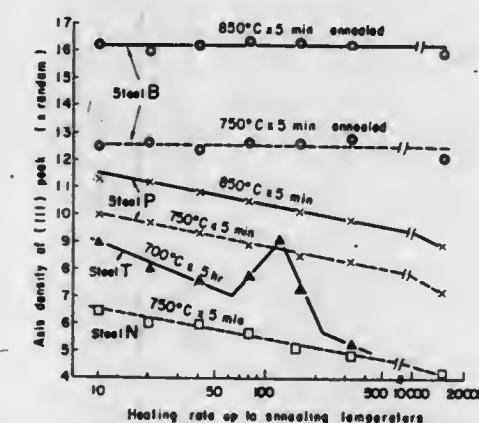
Mineo Shimizu, Kamematsu Matsuda, Yuzo Sadamura, Nobuyuki Takahashi, and Minoru Kawaharada, Kitakyushu, Japan, assignors to Nippon Steel Corporation, Chiyoda-ku, Tokyo, Japan

Filed Feb. 15, 1967, Ser. No. 616,350

Int. Cl. C21d 7/02, 7/14

U.S. Cl. 148—12

4 Claims



A process for producing cold-rolled steel plate durable to very severe press working, having excellent deep drawability and stretchability and non-aging property, comprising subjecting an extremely low carbon steel, which is characterized by oxygen content of less than 0.015% and titanium content of 0.02 to 0.5%, said titanium content being higher than 4 times of carbon content, to a hot-rolling at temperature above 780° C., a subsequent cold-

rolling with a reduction rate of more than 30% and an annealing at 650 to 1000° C.

3,522,111

**METHOD OF MAKING A COMPOSITE METAL PRODUCT**

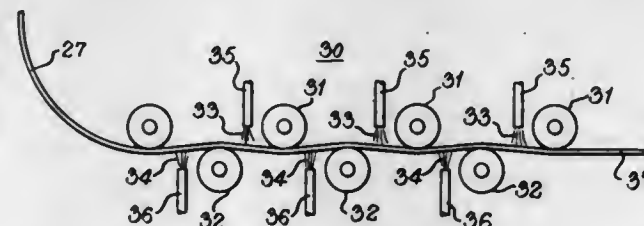
Richard P. Simmons, North Canton, and John E. Fogarty, Henry O. Mattes, and Lorin J. Davis, Canton, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Filed Oct. 24, 1967, Ser. No. 677,637

Int. Cl. C21d 1/00, 9/42

U.S. Cl. 148—12.4

10 Claims



Composite metal articles composed of plates of hardenable metals of differing chemical compositions laminated together by hot rolling and thence hardened and flattened in a single roller leveller operation by quenching while roller levelling to impart different degrees of hardness to the respective lamina.

3,522,112

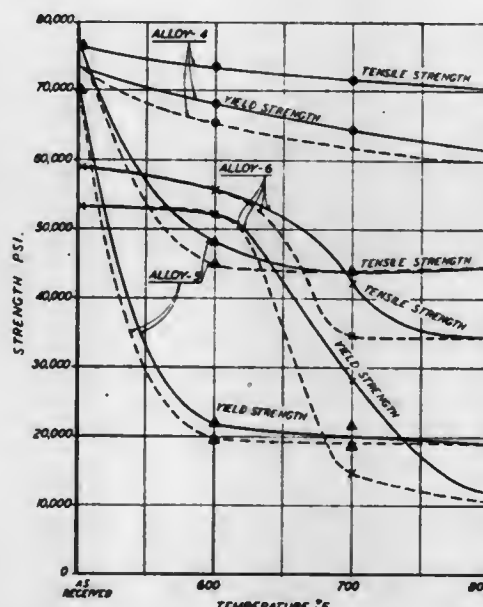
**PROCESS FOR TREATING COPPER BASE ALLOY**  
Charles D. McLain, Alton, Ill., assignor to Olin Corporation, a corporation of Virginia

Filed June 26, 1967, Ser. No. 648,742

Int. Cl. C22c 9/00; C22f 1/08

U.S. Cl. 148—12.7

28 Claims



The present disclosure teaches a process for treating a copper base alloy containing iron and optionally other additives. The process is characterized by hot rolling followed by cold rolling with numerous process variation.

3,522,113

**POTASSIUM SILICATE COATED SILICON STEEL ARTICLE**

Dale M. Kohler, Middletown, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,882

Int. Cl. H01f 1/18; C23f 7/08

U.S. Cl. 148—31.5

7 Claims

Potassium silicate glass coatings for silicon steel magnetic sheet stock and methods of making them, wherein

sheet stock, having on its surfaces a film comprising a mill glass layer, or phosphate coating layer, or layers of both, is coated with an aqueous solution of potassium silicate having a silica to potassium oxide ratio of from about 2:1 to about 2.5:1 and higher. The coated stock, in strip form, is then heated rapidly to a temperature of from about 1000° F. to about 1650° F., whereby to form on the stock a smooth, heat-resistant, protective, insulative glass having a total final thickness of from .04 mil to about .2 mil, and whereby to improve the magnetic properties of the stock.

3,522,114

**PRODUCTION OF STEEL FOR ELECTRICAL SHEET MATERIAL**

Helmut Knuppel, Sulzbach-Rosenberg Hutte, and Karl Brotzmann, Amberg, Germany, assignors to Eisenwerk-Gesellschaft Maximilianshutte m.b.H., Sulzbach-Rosenberg Hutte, Germany, a corporation of Germany  
No Drawing. Filed May 5, 1966, Ser. No. 547,733  
Claims priority, application Germany, May 19, 1965, E 29,337

Int. Cl. H01f 1/04; C21c 7/10, 7/08

U.S. Cl. 148—111

5 Claims

The process of producing steel for non-aging silicon steel for continuous-furnace annealed electrical sheet material includes the steps of tapping a steel melt with a carbon content of 0.03 to 0.05% and an oxygen content of 0.06 to 0.1% unkill into a ladle, subjecting the tapped-off melt to vacuum until the carbon content is reduced to about 0.01%, then adding aluminum in an amount sufficient to deoxidize the melt down to an oxygen content below 0.005% and adding silicon in an amount of 0.5 to 4.5% corresponding to the content required in the electrical sheet material, rolling the deoxidized and silicized melt to sheet material, and continuous-furnace annealing it for a period of approximately 1 minute at about 900° C. to obtain electrical sheet having a final carbon content of at most 0.005%; and the product thereof.

3,522,115

**POWDER METALLURGY METHOD OF FORMING AN AGE HARDENABLE FERROUS ALLOY**

Sherwood W. McGee, Lisle, and Eugene R. Andreotti, Geneva, Ill., and Joel S. Hirschhorn and David A. Westphal, Madison, Wis., assignors to Burgess-Norton Mfg. Co., Geneva, Ill., a corporation of Illinois

Filed Aug. 2, 1968, Ser. No. 749,735

Int. Cl. C21d 1/00

U.S. Cl. 148—126

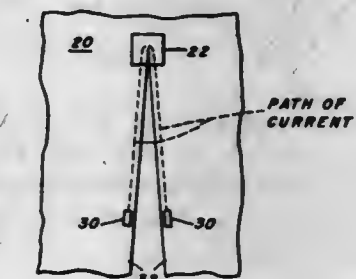
11 Claims

A powder metallurgy ferrous alloy of high physical properties and the method of making the alloy. In carrying out the method, iron powders and ferro alloy powders and additional metal powders selected for their strengthening effect are used. The ferro alloy powders comprise alloys of iron and metals selected for their strengthening effect. The powders are selected in accordance with suitable size relationships and are in general of very small dimensions. They are combined in proper order to insure a statistically random distribution of all the constituent powders. As a precaution to avoid premature agglomeration, the iron powder is preferably first added and this is followed by adding, in sequence, the most finely divided powders, that is to say the smallest constituents, singularly and blending each after such addition for a sufficient time to accomplish thorough mixing. The completely mixed powders are compacted under substantial pressure and the product is sintered. After sintering, the product is put through a thermal cycle selected to produce age hardening.

3,522,116

**METHOD OF HEAT TREATING EDGES**  
William E. Coleman, Monroeville, Pa., assignor to United States Steel Corporation, a corporation of Delaware  
Filed Dec. 2, 1966, Ser. No. 598,644  
Int. Cl. C21d 1/32, 1/40; H05b 1/00  
U.S. Cl. 148—154

4 Claims



A method of applying a heat treatment to the edge section of metal articles (e.g. plate, strip or sheet), in such a manner as to limit the effect to the edge. Products such as steel strip for can manufacture can be effectively annealed at the edges to soften same without affecting the properties of the remainder of the strip. The limited treatment is accomplished by controlled high frequency resistance heating applied during slitting of product into narrow widths.

3,522,117

**AERATED WATER-BEARING INORGANIC OXIDIZER SALT BLASTING AGENT CONTAINING DISSOLVED AND UNDISSOLVED CARBONACEOUS FUEL**

Erdem M. Atadan, Wilmington, Del., and Charles H. Noren, Hagerstown, Md., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 564,526, July 12, 1966. This application Aug. 7, 1968, Ser. No. 750,781

Int. Cl. C06b 1/04

U.S. Cl. 149—60

8 Claims

Water-bearing blasting agents based on inorganic oxidizing salt and non-explosive fuel containing as a fuel component, the combination of carbonaceous fuel soluble in the system and insoluble cellular carbonaceous fuel.

3,522,118

**GAS PHASE ETCHING**

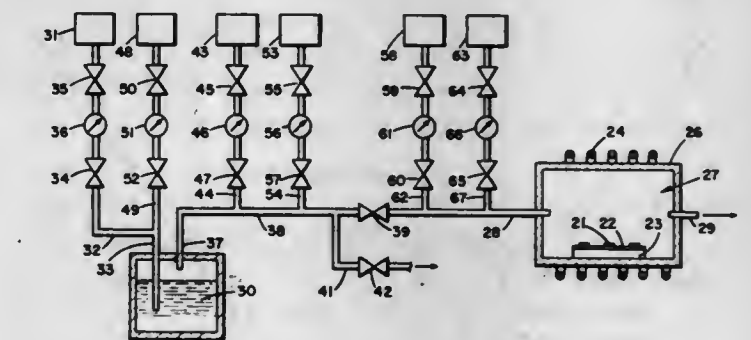
William E. Taylor and Howard N. Klink, Phoenix, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Aug. 17, 1965, Ser. No. 480,452

Int. Cl. H01l 7/36, 7/44

U.S. Cl. 156—17

5 Claims



Monocrystalline semiconductor wafers are prepared for epitaxial growth by gas-phase etching with a semiconductor halide contained in an inert diluent. A helium diluent, for example, permits the etching to proceed at a



satisfactory rate with a semiconductor halide concentration of only 1% or less.

### 3,522,119 METHOD OF APPLYING A WATERPROOFING SHEET TO A STRUCTURAL SURFACE

Gennosuke Mori and Takako Mori, both of 4-593 Totsuka-cho, Shinjuku-ku, Tokyo, Japan  
Filed Apr. 10, 1967, Ser. No. 629,524  
Int. Cl. E04b 1/00

U.S. Cl. 156-71 1 Claim  
The present process is for preparing a waterproofing sheet material coated on one side with asphalt by the application of a hot-air blast thereto to firmly adhere the asphalt to the material just prior to applying said sheet to a structural surface.

### 3,522,120 METHOD OF ADHERING OLEFIN COPOLYMERS TO RAYON FIBERS AND FABRICS AND PRODUCT OBTAINED THEREFROM

Gian Vittorio Glandino and Mario Milano, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy  
No Drawing. Filed Sept. 20, 1966, Ser. No. 580,574  
Claims priority, application Italy, Sept. 23, 1965, 21,151

Int. Cl. B29h 5/01; B32b 27/06  
U.S. Cl. 156-110 19 Claims  
A rayon-reinforced elastomer of a saturated amorphous copolymer of ethylene with a higher alpha olefin, suitable for use in tires, conveyor belts and the like, prepared by treating rayon fibers with a solution of an unsaturated polyester obtained by the reaction of maleic acid or maleic anhydride with an alkyl polyol, drying the treated fibers and mixing the treated fibers with a mixture of the copolymer, and organic peroxide, and a free radical acceptor, and then heating the mixture to a temperature of 110 to 220° C.

### 3,522,121 METHOD OF BONDING A FILLED EPOXIDE PUTTY TO A SURFACE

Leonard Robert Lovelock and Robert Henry Wren, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 8, 1966, Ser. No. 592,929  
Claims priority, application Great Britain, Nov. 10, 1965, 47,659/65

Int. Cl. B32b 31/00  
U.S. Cl. 156-153 15 Claims  
A moisture retarding seal, useful for bonding polyethylene objects, is formed on a polyethylene surface by abrading said surface to chemically bond with a primer; applying to said abraded surface a primer comprising a mixture of an epoxide resin and a curing agent for said resin; applying to said primed surface a flexible and porous material which is impregnated by said primer; and then applying a putty, which includes an epoxide resin, a filler and a curing agent for said putty, to said primed surface before the primer has cured.

### 3,522,122 REINFORCED PLASTIC PIPE

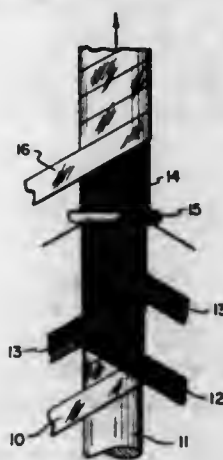
Carl Brice de Ganahl, Plainfield, N.J., assignor to Carl de Ganahl, Gulls Cove, Clay Court, Locust, N.J.

Original application June 16, 1967, Ser. No. 646,539.  
Divided and this application Feb. 20, 1969, Ser. No. 813,368  
Int. Cl. B31c 3/00

U.S. Cl. 156-171 7 Claims

A glass fiber reinforced plastic pipe is prepared by first applying continuously upon an advancing mandrel one or more layers of a plastic film to form an inner

layer for the pipe and thereafter applying continuously first a layer of scrim upon the liner and then on the scrim plural layers of glass fiber rovings impregnated with a liquid thermosetting polymer, compatible and cross-linkable with the plastic liner to form a pipe struc-



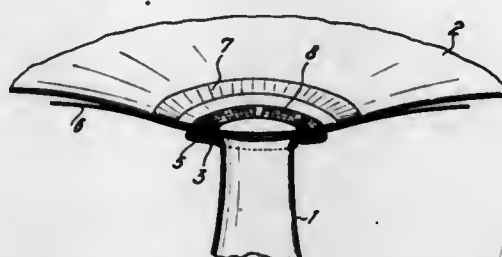
ture. The resultant pipe structure is treated at a temperature sufficient to cure and simultaneously to cross-link the liner and the thermosetting polymer thereby forming a monolithic reinforced plastic pipe substantially devoid of pinhole in the liner.

### 3,522,123 METHOD OF FORMING INFLATABLE PLASTICS VOLUMES

André Marchant, Neuilly-sur-Seine, France, assignor to Societe dite: Dumoutier-Decre S.A., Neuilly-sur-Seine, France

Filed Sept. 16, 1966, Ser. No. 580,026  
Int. Cl. A47c 27/08

U.S. Cl. 156-216 6 Claims



To provide a quilted effect in an inflatable object, a tubular member is welded between two opposed inside surfaces to produce a concavity when the object is inflated. The tubular member can be of nylon knit and is elastic at its ends. The ends are rolled back over a washer to form an annular welding surface. An intermediate member can be inserted between the respective tube ends and the inside surfaces to which they are welded.

### 3,522,124 METHOD FOR PRODUCING A SEALING JOINT BETWEEN THIN SHEETS

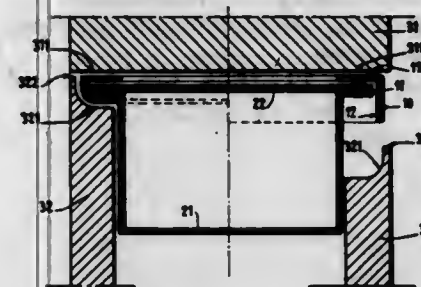
Jacques Peyraud, Cachan, Val de Marne, France, assignor to Societe Centrale des Emballages Aluminium "Cebal," Paris, France

Filed Nov. 17, 1966, Ser. No. 595,159  
Claims priority, application France, Nov. 19, 1965, 39,112

Int. Cl. C09j 5/00  
U.S. Cl. 156-306 2 Claims

Apparatus and method for producing a sealing joint between thin sheets comprising providing a blank of thermoplastic material having a shape and dimension corresponding to the shape and dimension of the sheets to be joined, heating the blank to a plastic state, positioning the blank about the edges of the sheets to be joined in an apparatus comprising a first element having a working surface to engage the segment of the blank overlying the edge portion of the sheets and a second element having

a curvilinear concave section whereby the segment of the blank alongside the edges of the sheets is folded onto the side of the sheets opposite the segment overlying the



edge portion to secure the edges of the sheets therebetween when the first and second elements are displaced relative to each other.

### 3,522,125 PROCESS OF BONDING A WOOD SUBSTRATE AND AN ETCHED SURFACE OF A POLY-VINYLFLUORIDE FILM

John W. Talbot, Moscow, Idaho, and Murray N. Carroll, Ottawa, Ontario, Canada, assignors, by mesne assignments, to Mobil Oil Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 31, 1967, Ser. No. 612,773  
Int. Cl. C09j 7/00

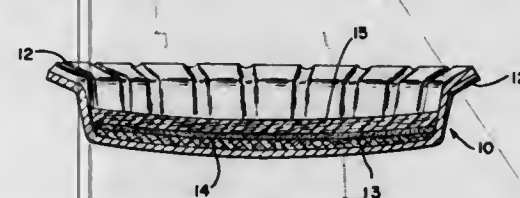
U.S. Cl. 156-313 5 Claims  
Polyvinylfluoride film is bonded to a wood substrate with polyethylene and an organic peroxide cross-linking agent, to provide a tough protective surface.

### 3,522,126 METHOD FOR BONDING A POLYETHYLENE LINER TO A CONTAINER CLOSURE

Louis R. Ptak, Western Springs, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 17, 1967, Ser. No. 683,986  
Int. Cl. C09j 5/02

U.S. Cl. 156-334 8 Claims



A container closure is constructed of a metal shell having a primer coating of a mixture of a vinyl chloride copolymer, a thermosetting phenol-aldehyde resin, and an epoxy resin on the interior surface thereof and a polyethylene liner disposed therein and bonded to the primer coated interior surface by an adhesion promoting coating comprised of a blend of polyethylene and polyvinylbutyral.

### 3,522,127 BONDING TEXTILE MATERIALS TO RUBBER CONTAINING HEXAMETHYL ETHER OF HEXAMETHYLOLMELAMINE

Alan Paul Osborne, Wood End, near Atherstone, and John Ince, Bromsgrove, England, assignors, by mesne assignments, to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 323,883, Nov. 15, 1963. This application June 24, 1968, Ser. No. 744,607  
Claims priority, application Great Britain, Nov. 30, 1962, 45,279/62

Int. Cl. B32b 25/10, 27/42; C09j 3/12

U.S. Cl. 156-334 5 Claims  
A method of bonding textile materials to rubber compositions by means of phenol-formaldehyde bonding

agents, in which the formaldehyde is generated from a compound which is stable up to temperatures from 100°-150° C. and consisting of ethers of hexamethylolmelamine.

### 3,522,128 METHOD OF MAKING WOOD LAMINATES USING AN ADHESIVE OF PHENOL-ALDEHYDE RESIN WITH A PARTICULAR CLAY COMPOSITION

George Otto Orth, Jr., Seattle, Wash., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

No Drawing. Filed Nov. 7, 1966, Ser. No. 592,322  
Int. Cl. C09j 5/00

U.S. Cl. 156-335 9 Claims  
This invention pertains to a process for manufacture of wood laminates and an adhesive used therein. More particularly, it pertains to the manufacture of wood laminates employing a pre-pressing step with a particular phenol-aldehyde condensation resin adhesive.

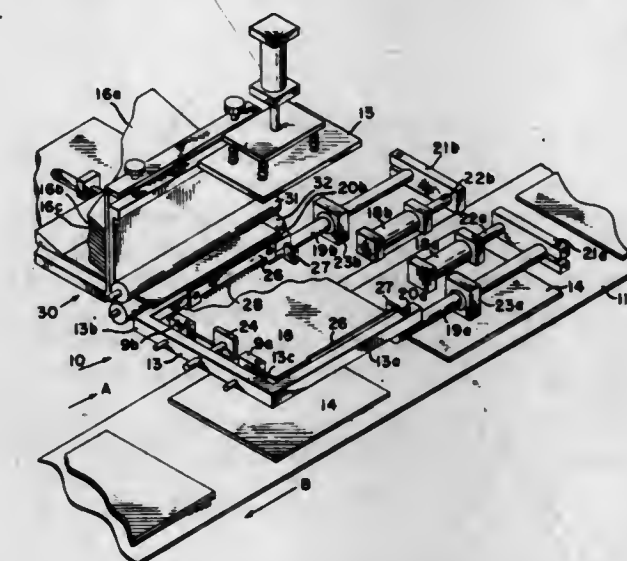
### 3,522,129 REGISTRATION APPARATUS

Charles F. H. Crathern III, Gould Hill, Contoocook, N.H. 03229

Continuation-in-part of application Ser. No. 387,440, Aug. 4, 1964. This application Sept. 13, 1967, Ser. No. 667,524

Int. Cl. B32b 31/00; B65h 43/00

U.S. Cl. 156-364 4 Claims



This invention relates to registration apparatus employed in the vertical aligning and laminating of sheet material, as for example wrapping printed sheets on blank record jackets. The disclosed apparatus provides an articulated support means carrying cardboard or other support material and is positioned above a conveyor system carrying adhesive coated facing sheets. Means are provided for aligning the support material over the coated facing sheet and employing a plunger on the cardboard to forcibly bring it into contact with the facing sheet material in edge aligned relation.

### 3,522,130 MACHINES FOR MANUFACTURING LIQUID AND MOISTURE ABSORBING COMPRESSES

Göte Sixten Lundqvist, Huleviks Bruk, Hulevik, Lönshult, Sweden

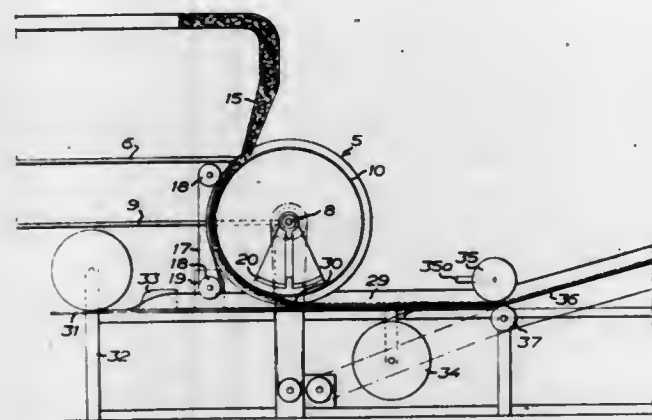
Filed Feb. 14, 1967, Ser. No. 615,965  
Claims priority, application Sweden, Feb. 14, 1966, 1,842/66

Int. Cl. B32b

U.S. Cl. 156-383 5 Claims  
A machine is provided for the manufacture of liquid and moisture absorbing compresses having a pervious wrapper enclosing cellulose wadding. This machine com-



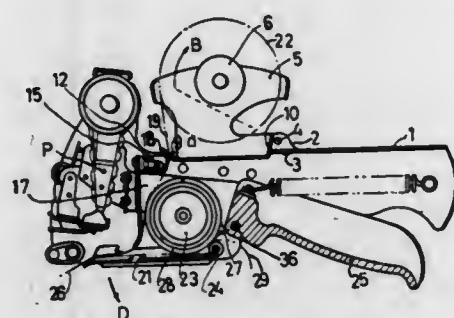
prises means for rotatably mounting a roll of cellulose wadding strip, means for folding the strip of cellulose wadding into channel section, means for producing cellulose fibres and conveying them to means for producing a strand from said fibres and transferring the fibre strand to the strip of cellulose wadding, means for rotatably mounting a roll of band forming the wrapping, means for compacting the fibre strand against the strip of cel-



lulose wadding and the band, means for folding the band and the strip about the fibre strand so that the lateral edges of the band and the strip will overlap, means for closing the resulting overlap, means for cutting the compress assembly formed into suitable lengths and closing the transverse cuts resulting from the cutting operation, and means for delivering the finished compresses to a collecting station.

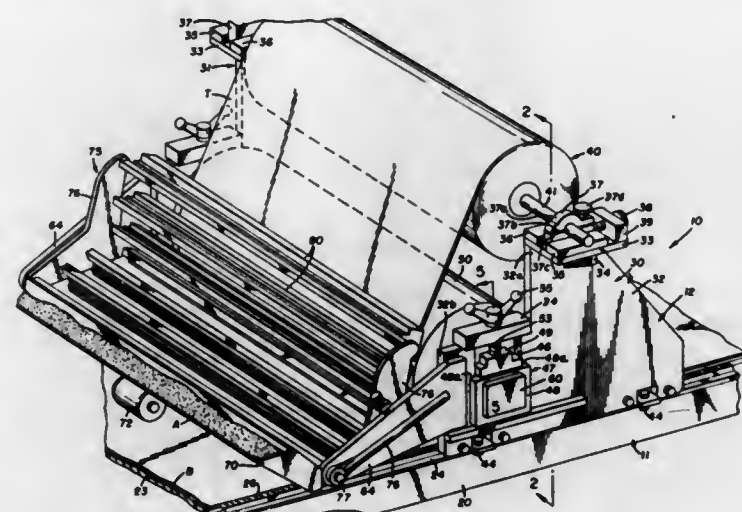
**3,522,131**  
**DEVICE FOR PRINTING NUMERICAL FIGURES AND OTHER CHARACTERS ON LABELS AND FOR PASTING THESE LABELS CONSECUTIVELY ONTO ARTICLES AND MERCHANDISE**  
Yo Sato, Tokyo, and Seiji Nagashima, Ageo-shi, Japan, assignors to Sato Kirko Kabushiki Kaisha, Tokyo, Japan

Filed Dec. 20, 1966, Ser. No. 603,254  
Claims priority, application Japan, Dec. 29, 1965, 40/107,314; June 17, 1966, 41/56,690  
Int. Cl. B32b 35/00; B41f 1/08  
U.S. Cl. 156—384 5 Claims



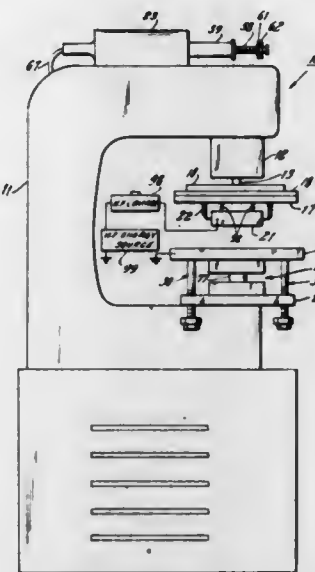
A device for printing numerical figures and other characters on labels and for pasting these labels consecutively onto articles and merchandise, characterized by the provision of a label holding apparatus which is capable of being opened and closed at will, an abnormal-label-delivery preventing apparatus which is installed adjacent a receiving piece located below a label holding frame for blocking movement of the labels instantly when necessary to prevent the labels from being pulled out, a rolling-up preventing piece equipped with a guide projection and a guard installed about printing apparatus at the front part of the device to cover and protect the same.

**3,522,132**  
**APPARATUS FOR LAMINATING FABRICATING STOCK**  
Donald R. Cardis, Stow, Ohio, assignor, by mesne assignments, to Becton, Dickinson and Company, a corporation of New Jersey  
Filed Oct. 23, 1965, Ser. No. 502,828  
Int. Cl. B32b 31/00  
U.S. Cl. 156—494 7 Claims



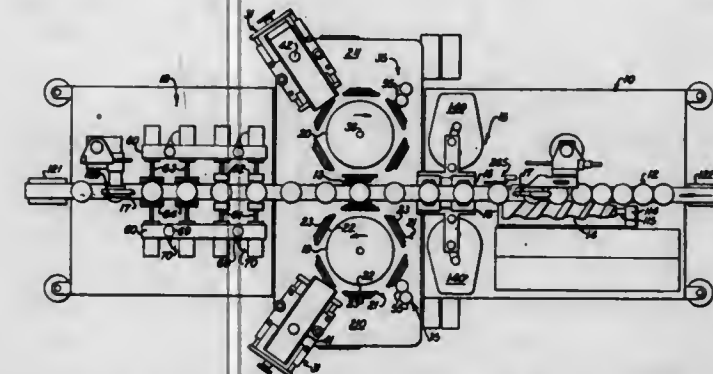
An apparatus for producing high wear floor coverings comprising a frame and support surface, a carriage movable longitudinally of said frame, a support for a roll of stock material rotatably carried by a pair of generally triangularly shaped end plates, a laminating roller, an adhesive reservoir and pivoted heating means for heating said adhesive and stock material.

**3,522,133**  
**CUTTING AND SEALING PRESS**  
Jenoe Gross, Kew Gardens, N.Y., assignor to Sealomatic Electronics Corp., Brooklyn, N.Y.  
Filed Mar. 13, 1967, Ser. No. 622,713  
Int. Cl. B23b 31/18  
U.S. Cl. 156—515 5 Claims



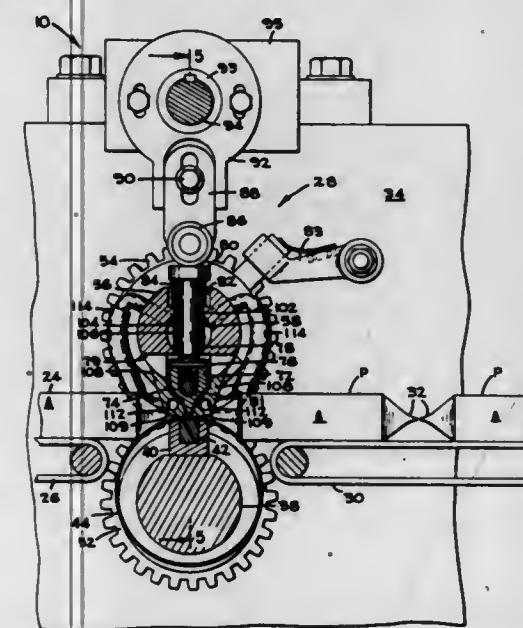
A press for heat sealing of reinforced thermoplastic sheet material is provided with a universal support at the center of the bed plate to facilitate leveling of the bed plate and provide mechanical support at the center thereof. The movable platen is operated by a fluid cylinder having high and low pressure controls with the latter control including a pressure booster having a single screw type adjustment for precise control of platen movement during a high pressure cutting operation following the relatively low pressure heat sealing operation.

**3,522,134**  
**HIGH SPEED LABELING MACHINE**  
George W. von Hofe, Millington, and John F. Spano, Cresskill, N.J., assignors to New Jersey Machine Corporation, Hoboken, N.J., a corporation of New Jersey  
Continuation-in-part of application Ser. No. 539,920, Apr. 4, 1966. This application July 1, 1966, Ser. No. 562,229  
Int. Cl. B65c 9/08, 9/14  
U.S. Cl. 156—571 41 Claims



The labeling machine comprises a plurality of label applicators movable about a first vertical axis mounted for pivotal movement about a second vertical axis located on a radial line extending through both axes. Means are operable to move each applicator approaching a station in the machine to positively change its angular position relative to the radial line and to change its position in the direction of the radial line so that its movement past the station is rectilinear rather than arcuate. At the label pick-up station the label magazine is constructed to coordinate its movements to the composite movements of the label applicators. At the label supplying station the composite movements are utilized to apply the labels to articles with a sustained forceful application. The machine includes means for initially spacing and then exactly registering the articles with respect to the applicators, and coordinated means for increasing the rate of label application and for enabling the use of roll labels in a machine of this type.

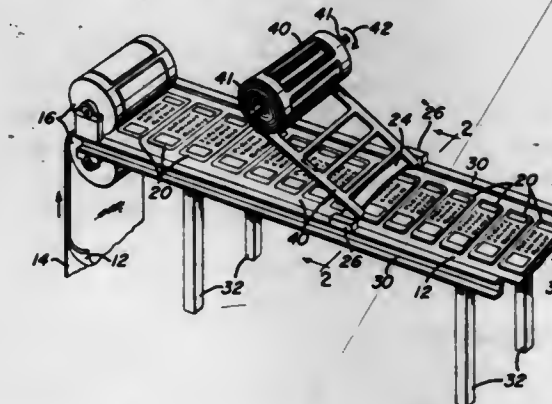
**3,522,135**  
**ROTATING HEAT SEALING HEAD WITH COOLING MEANS**  
Donald J. Page, Green Bay, Wis., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware  
Filed Apr. 29, 1968, Ser. No. 724,834  
Int. Cl. B30b 15/34; B32b 31/18, 31/20  
U.S. Cl. 156—583 7 Claims



A continuously operated wrapping machine which encloses spaced articles in thermoplastic material is provided with a liquid cooled mounting shaft having a con-

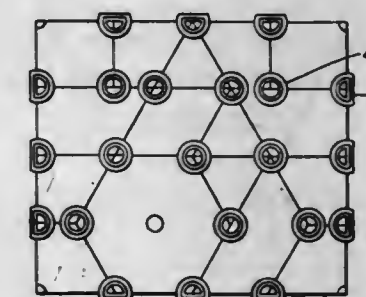
stantly energized rotary sealing (and cutting) bar operating through a radially apertured, liquid cooled gripper element in order to minimize heat transfer from the sealing bar to adjacent parts. Because the sealing bar is thus isolated, relatively high operating temperatures and, correspondingly, minimal time periods for sealing and cutting can be used to achieve more rapid than usual operating speeds.

**3,522,136**  
**STRIPPER APPARATUS FOR PRODUCTION OF LABELS**  
Frederick P. Williams, Kettering, and John L. McCormick, Centerville, Ohio, assignors to Presto Adhesive Paper Company, Incorporated, Miamisburg, Ohio, a corporation of Ohio  
Filed Oct. 25, 1967, Ser. No. 677,887  
Int. Cl. B32b 31/00  
U.S. Cl. 156—584 12 Claims



Apparatus used in the production of labels which includes structure for stripping a matrix portion of a web from a continuous carrier sheet so that labels remain upon the carrier sheet. The apparatus comprises a stripper member in the form of a bar or roller or the like which effectively strips a matrix from a carrier sheet. The stripper member has a portion spaced from the web so that any wet ink which may exist upon the labels is not smeared during stripping of the matrix from the carrier sheet to which the labels are adhesively attached.

**3,522,137**  
**SEMI-PERMANENT MOSAIC**  
Robbert de la Rive Box, Norenborg 27, The Hague, Netherlands  
Filed Mar. 30, 1967, Ser. No. 627,201  
Claims priority, application Netherlands, Apr. 4, 1966, 6604500  
Int. Cl. B44c 1/28, 3/12  
U.S. Cl. 161—37 5 Claims



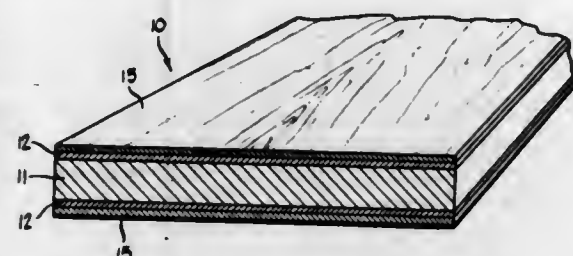
Semi-permanent mosaic consisting of mosaic elements having straight lateral faces and corners. At the corners and in some instances at locations intermediate the corners protrusions are provided, which can be attached to protrusions of other mosaic elements by connecting means, which consist of rings surrounding a number of protrusions.



**3,522,138**  
**VENEERED PRODUCT AND A CROSSBANDING MATERIAL THEREFOR**  
 Charles Allen Lee, Knoxville, Tenn., assignor, by mesne assignments, to Southeastern Products, Inc., Knoxville, Tenn., a corporation of Tennessee  
 Filed Aug. 23, 1967, Ser. No. 662,759  
 Int. Cl. B32b 5/12

U.S. Cl. 161—92

13 Claims



A veneered product uses crossbanding material as a subveneer. The crossbanding material is formed of long, intertwined filaments which are randomly disposed and are heat and moisture stable. The filaments form a sheet which is loaded with a thermo-setting resin which is cured, in situ. The surfaces of the crossbanding material have void openings therein which serve as receptors for the veneering adhesive and permit lateral spreading of the adhesive during the veneering operation.

**3,552,139**  
**REINFORCED RUBBER OR PLASTIC ARTICLE**  
 Glyn B. Redmond, Birmingham, England, assignor to The Dunlop Company Limited, London, England, a British company  
 No Drawing. Filed July 24, 1968, Ser. No. 747,109  
 Claims priority, application Great Britain, Aug. 3, 1967, 35,595/67

Int. Cl. B29h 9/04; B32b 25/00

U.S. Cl. 161—144

15 Claims

A reinforcement for a flexible article of high stiffness and long fatigue life comprising steel wires embedded in a sheathing matrix of material of lower modulus than that of the steel wires and of higher modulus than that of the material of the flexible article.

**3,522,140**  
**ASBESTOS-FOAM LAMINATES**  
 Rowland S. Hartzell, Gibsonia, and Gene Gere, Cheswick, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania  
 Filed Mar. 29, 1968, Ser. No. 717,074  
 Int. Cl. B32b 13/12; C09j 7/02

U.S. Cl. 161—160

14 Claims

Durable sheet products are provided by coated asbestos sheet material adhered to a cellular foam substrate. In preferred embodiments a vinyl foam, a polyurethane foam or polystyrene foam is produced in contact with asbestos paper coated with an organic coating composition; in some cases the foam has an adhesive layer on the exposed surface or the coating on the asbestos is an adhesive.

**3,522,141**  
**BUOYANT FIBERS COMPRISING GRAFTED CHELATING POLYMERS**  
 Gaetano F. D'Allelo, South Bend, Ind., assignor of twenty-five percent to Walter J. Monacelli, Cleveland, Ohio  
 No Drawing. Original application May 14, 1964, Ser. No. 367,546, now Patent No. 3,395,134, dated July 30, 1968. Divided and this application Jan. 3, 1967, Ser. No. 632,468

Int. Cl. D02g 3/00

U.S. Cl. 161—178

1 Claim

The disclosure comprises a buoyant fiber comprising a hollow fiber of a grafted chelating polymer in which the inner wall of the hollow fiber is sealed to itself at

spaced intervals so as to provide a series of sealed compartments. The polymeric composition is a grafted copolymer having chelating groups attached thereto as defined hereinafter.

**3,522,142**  
**GLASS LAMINATED WITH SILICON-CONTAINING POLYURETHANE**  
 Marco Wismer, Gibsonia, Vernon G. Ammons, Glenshaw, and Gerald W. Miller, Pittsburgh, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed Feb. 24, 1965, Ser. No. 434,773  
 Int. Cl. B32b 17/10; C03c 27/12

U.S. Cl. 161—190

22 Claims

Laminated glass articles, useful as safety glass for windshields and the like, comprise at least one solid glass sheet and a silicon-containing polyurethane produced by the reaction of an organic polyisocyanate and a polyfunctional organosilicon compound. Such laminates can be produced by curing the polyurethane while in contact with the glass sheet.

**3,522,143**  
**PHOTOTROPIC UNITS**  
 Theodore J. Motter, near Genoa, Ohio, assignor to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio  
 Filed Aug. 18, 1966, Ser. No. 573,247  
 Int. Cl. B32b 17/10; G02b 5/22

U.S. Cl. 161—199

17 Claims

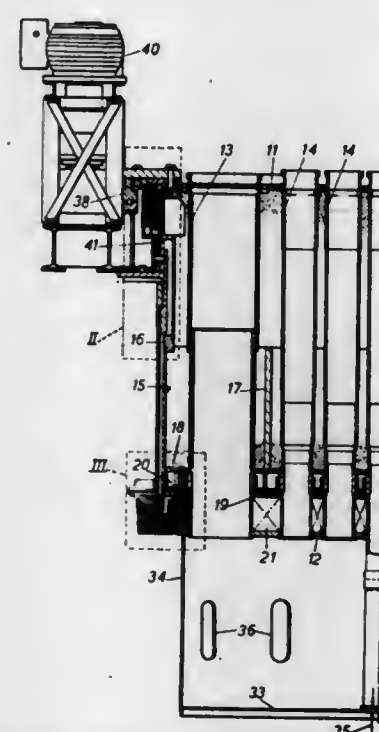
This invention relates to a phototropic unit comprising a body of plastic, a metal dithizonate rendering said body phototropic and optionally at least one member of the group consisting of a sheet of glass, an ultra violet filter, a transparent light reflecting film and a yellow dye.

**3,522,144**  
**NUCLEAR REACTOR WITH MEANS FOR SEALING REACTOR VESSEL CLOSURE PLUG**  
 John Webb, Bryn, near Wigan, and John Stacey, Bolton, England, assignors to United Kingdom Atomic Energy Authority, London, England  
 Filed Jan. 25, 1968, Ser. No. 700,520  
 Claims priority, application Great Britain, Feb. 24, 1967, 9,006/67

Int. Cl. G21c 13/06

U.S. Cl. 176—50

9 Claims



A closure plug for a nuclear reactor vessel has a dip seal adjacent its outer face and a supplementary dip seal

adjacent its inner face, the latter having an annular trough for containing the liquid thereof, and the trough being thermally insulated for ensuring that in normal operation said liquid is at a temperature less than that of the inner closure plug surface which is exposed to the contents of said vessel. An example involving a sodium-cooled fast reactor and having a mercury outer face dip seal and a sodium inner face dip seal is described.

**3,522,145**  
**DEODORIZATION OF FATS**  
 George N. Apostolatos, New York, N.Y., and Adolph Renold, Somerset, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware  
 No Drawing. Filed July 20, 1966, Ser. No. 566,485  
 Int. Cl. C12b 1/00

U.S. Cl. 195—3

25 Claims

Rendered fat is improved in color and odor by the steps of:

(a) Mixing said fats with an enzyme containing substance comprising proteolytic enzyme which is active at the pH and temperature of the fat in a molten state; and  
 (b) Mixing with the enzyme-treated molten fat a deodorizing composition comprising a fat-soluble strong acid and a carbohydrate.

**3,522,146**  
**INCREASING CAROTENE YIELDS IN BLAKESLEA TRISPOREA FERMENTATION**  
 Herbert K. Jäger, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware  
 Filed Sept. 23, 1964, Ser. No. 398,694  
 Int. Cl. C12d 5/00

U.S. Cl. 195—28

24 Claims

Chemical compound obtained from filtrate of fermentations of mated strains of *Blakeslea trispora* increase yields of carotenes when added to a *Blakeslea trispora* fermentation using either mated strains or the negative strain.

**3,522,147**  
**GROWTH AND SEPARATION OF HYDROCARBON CONSUMING MICROORGANISMS**  
 Jean Antoine Filosa, Bois-Colombes, France, assignor to The British Petroleum Company Limited, London, England, a corporation of England  
 No Drawing. Filed Mar. 29, 1967, Ser. No. 626,700  
 Claims priority, application Great Britain, May 13, 1966, 21,340/66

The portion of the term of the patent subsequent to Aug. 2, 1983, has been disclaimed  
 Int. Cl. C12c 11/00; C12k 3/00

U.S. Cl. 195—28

22 Claims

Cultivation of a hydrocarbon-consuming micro-organism in the presence of a hydrocarbon feedstock consisting wholly or in part of the straight chain hydrocarbons, in the presence of an aqueous nutrient medium and in the presence of a gas containing free oxygen, thereafter, in a purification stage, maintaining said micro-organism with an aqueous nutrient medium and a gas containing free oxygen whereby the hydrocarbon contaminating the micro-organism is reduced in quantity, thereafter subjecting the fraction containing the micro-organism to a separation stage, thereafter reducing the proportion of water in the fraction containing the micro-organism and thereafter subjecting the fraction containing the micro-organism to solvent extraction.

**3,522,148**  
**STABILIZED THROMBOPLASTIN PREPARATION**  
 John N. Adam, Jr., and John F. Eberhard, Miami, Fla., assignors to Dade Reagents, Inc., Miami, Fla., a corporation of Florida  
 No Drawing. Filed Aug. 13, 1965, Ser. No. 479,623  
 Int. Cl. G01n 33/16

U.S. Cl. 195—99

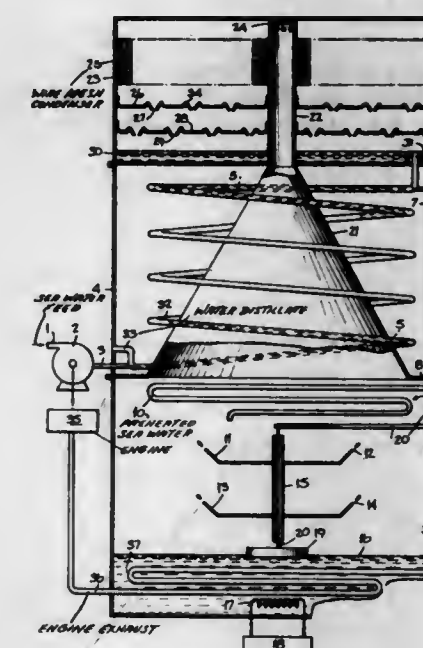
2 Claims

An improved thromboplastin preparation intended for use in the diagnosis of blood coagulation behavior. The liquid preparation consists of a mixture of a saline extract of brain tissue and an aqueous calcium salt solution, the calcium salt solution including as a principal anion the anion of a sugar acid salt such as calcium tartrate, calcium gluconate, calcium citrate, or calcium lactate.

**3,522,149**  
**DISTILLATION APPARATUS TO RECOVER POTABLE WATER FROM NON-POTABLE WATER**  
 John Arvan, 9 S. Main St., Port Chester, N.Y. 10573  
 Filed May 27, 1968, Ser. No. 732,149  
 Int. Cl. B01d 1/02; C02b 1/06

U.S. Cl. 202—196

11 Claims



This disclosure is directed to a water purifying unit which provides for the distillation of non-potable water and its subsequent condensation to a purified form. The purifier comprises a lower chamber for heating the water and upper chambers for heat transfer and condensation. A funnel-like arrangement is used to transfer the vaporized water upwards and into the condensation area.

**3,522,150**  
**VACUUM FLASH DISTILLING APPARATUS**  
 Charles W. Galuska, San Jose, Calif., assignor of fifty percent to Louis Edwards, San Jose, Calif.  
 Filed Apr. 18, 1968, Ser. No. 722,420  
 Int. Cl. B01d 3/06; C02b 1/06

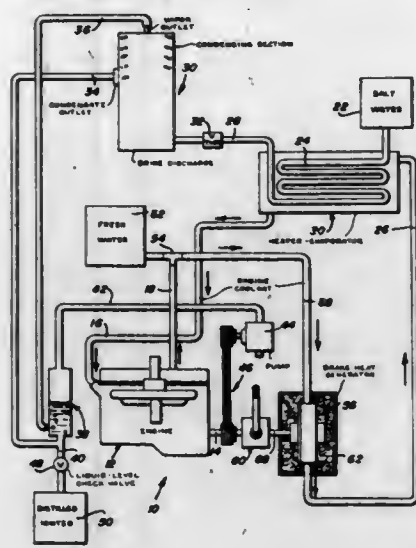
U.S. Cl. 202—235

9 Claims

Salt water is partially evaporated by heat exchange with the water cooling system of an internal combustion engine within an evaporator. The engine drives a vacuum pump to operate a flash-type separator to which the partially evaporated salt water is connected. Distillate is collected from the liquid outlet of the separator and from a



condenser to which the vapor outlet of the separator is connected. A hydrodynamic brake driven by the engine



increases the heat absorbed by the engine cooling water before it is conducted to the evaporator.

3,522,151

### DISTILLATION APPARATUS WITH SPRAY CHAMBER AND AIR CIRCULATING MEANS

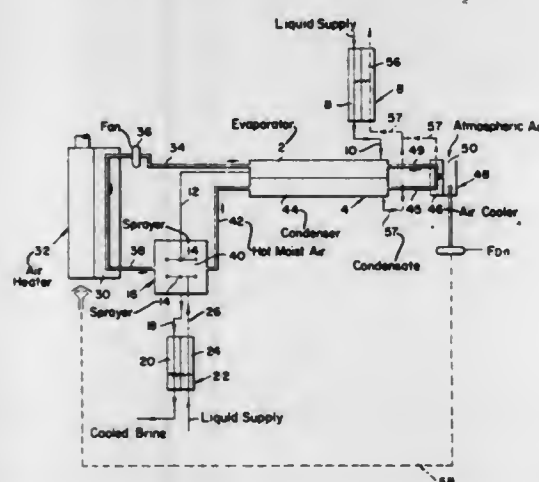
Albert B. Dismore, 22 Prospect Heights, 1st Addition, Great Falls, Mont. 59401

Filed Feb. 20, 1968, Ser. No. 706,855

Int. Cl. B01d 1/14; C02b 1/06

U.S. Cl. 202-236

5 Claims



Distillation apparatus for purifying liquids, such as sea water, including improved heat exchanger means having evaporation chambers in which the liquid is evaporated, and condensation chambers in which liquid-saturated hot air is condensed, said chambers being in heat transfer relationship to effectively transfer the latent heat between the evaporating and condensing distillation steps.

3,522,152

### DESALINATION OF SALINE WATER BY PHASE SEPARATION NEAR CRITICAL PRESSURE OF PURE WATER

Asriel Osdor, Tel Aviv, Israel, assignor, by mesne assignments, to Hydro Chemical & Mineral Corp., New York, N.Y., a corporation of Delaware  
Continuation-in-part of application Ser. No. 89,099, Feb. 10, 1961. This application Apr. 20, 1964, Ser. No. 360,813

Claims priority, application Israel, Feb. 29, 1960, 13,557; Feb. 10, 1964, 20,773

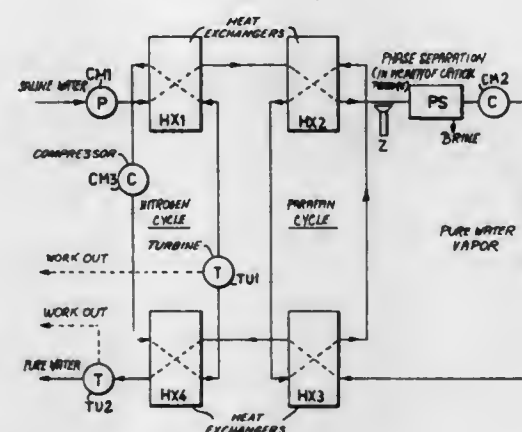
Int. Cl. B01d 3/10; C02b 1/06

U.S. Cl. 203-11

8 Claims

A process and apparatus are described for the desalination of saline water by effecting the phase separation in

the vicinity of the critical pressure of pure water, additionally compressing the pure water vapor, and utilizing the water vapor to heat raw saline water by counter-current heat exchange. Intermediary fluids are used as heat-exchange media between the cold saline water and the hot pure water and vapor. One intermediary fluid is a gas (e.g. nitrogen) which is compressed while at a



3,522,153

### METHOD OF SEPARATING XYLENE ISOMERS BY DISTILLATION WITH CRYSTALLIZATION AND ISOMERIZATION OF A SIDE STREAM

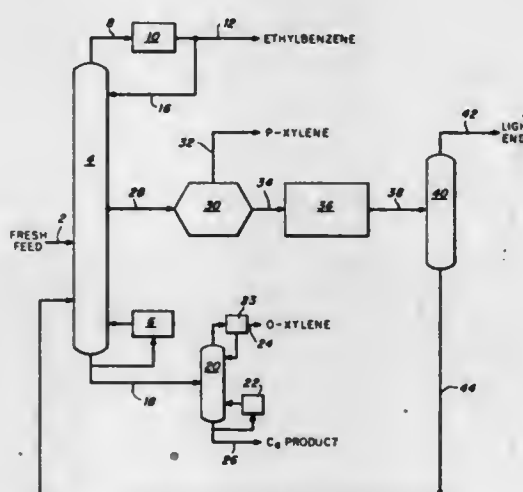
Norman B. King, Wayland, Mass., assignor to The Badger Company, Inc., Cambridge, Mass., a corporation of Delaware

Filed Apr. 4, 1968, Ser. No. 718,846

Int. Cl. B01d 3/34; C07c 15/08

U.S. Cl. 203-29

1 Claim



Method of separating a mixture of C<sub>8</sub> aromatic isomers involving use of a single polyfunctional distillation column to produce a stream of ethylbenzene, a second stream of ortho-xylene, and a third stream comprising a mixture rich in meta- and para-xylene. The third stream is stripped of para-xylene, then subjected to isomerization, and finally recycled back to the polyfunctional distillation column as a second feed.

3,522,154

### CODEPOSITED IRON AND TIN ELECTROPLATE AND A PROCESS AND ELECTROPLATING BATH FOR ITS PREPARATION

Donald Arthur Swalheim, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 31, 1967, Ser. No. 642,309

Int. Cl. C23b 5/52, 5/14

U.S. Cl. 204-37

10 Claims

Electrodeposits containing iron and tin on a metal, particularly steel, are plated using an aqueous fluoride-containing bath in which ferrous iron and stannous tin are present in controlled amounts. The bath for electroplating the iron and tin codeposit contains a stannous tin concentration of about 0.015 to about 0.1 mole/l., a mole ratio of ferrous iron to stannous tin having an upper limit defined by the equation:

$$\frac{\text{Fe}^{++}}{\text{Sn}^{++}} \text{ mole ratio} = 0.2 + 14.7e^{-28(\text{mole/l. Sn}^{++})}$$

and a lower limit defined by the equation:

$$\frac{\text{Fe}^{++}}{\text{Sn}^{++}} \text{ mole ratio} = 0.2 + 8.9e^{-72(\text{mole/l. Sn}^{++})}$$

and a mole ratio of fluoride to ferrous iron plus stannous tin from about 1.5 to 7.5.

3,522,155

### METHOD OF ELECTRODEPOSITING A TIN-BISMUTH ALLOY AND COMPOSITIONS THEREFOR

Ronald Dow, Grosse Pointe Woods, Mich., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 10, 1964, Ser. No. 381,895

Int. Cl. C23b 5/38

U.S. Cl. 204-43

14 Claims

In accordance with certain of its aspects, the novel process of this invention for electroplating a tin-bismuth alloy plate may comprise immersing an article to be plated in an aqueous plating bath containing alkali metal stannate, free alkali metal hydroxide, and an alkali metal bismuthate; and electrodepositing a tin-bismuth alloy onto said article as cathode in said bath.

3,522,156

### PRODUCTION OF HYDROCARBON LEAD COMPOUNDS

Gene C. Robinson, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Continuation-in-part of applications Ser. No. 377,093 and Ser. No. 377,097, June 22, 1964. This application Oct. 21, 1964, Ser. No. 405,620

Int. Cl. B01k 1/00, 3/00

U.S. Cl. 204-59

6 Claims

Production of tetravalent vinyl lead compounds by electrolyzing in an electrolytic cell having a lead anode a liquid composition which is a complex of a vinylic magnesium halide and a cyclic mono ether capable of complexing with the halide.

3,522,157

### PROCESS FOR THE MANUFACTURE OF A-NOR-B-HOMO-STERIODS

Oskar Jeger and Kurt Schaffner, Zurich, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Application July 14, 1964, Ser. No. 382,643, which is a continuation-in-part of application Ser. No. 266,524, Mar. 20, 1963. Divided and this application July 8, 1969, Ser. No. 840,053

Claims priority, application Switzerland, Mar. 23, 1962, 3,533/62

Int. Cl. B01j 1/10

U.S. Cl. 204-158

3 Claims

A-nor-B-homo-steroids are prepared by irradiating 3-oxo-4,5-oxido-steroids with ultraviolet light.

3,522,158

### PRODUCTION OF GRAFT POLYMERS OR COPOLYMERS BY THE USE OF RADIATION

John Lyndon Garnett, Longueville, New South Wales, and Sergio Dilli, Earlwood, New South Wales, Australia, assignors to Unsearch Limited, a corporation of Australia

No Drawing. Continuation of application Ser. No. 411,723, Nov. 17, 1964. This application Oct. 21, 1968, Ser. No. 769,437

Int. Cl. C08j 1/04; B01j 1/10

U.S. Cl. 204-159.12

7 Claims

A process for the production of graft polymers by ionizing radiation, wherein a hydrophilic backbone polymer is irradiated in the presence of a solution of a monomeric vinyl compound polymerizable by free radical or ionic mechanism in a solvent, the solvent being selected from a specified group capable of swelling the backbone polymer to enable the monomer to gain access to active sites on the backbone polymer generated by radiation which is carried out at a dose rate and with a concentration of monomer in the solvent which together produce a maximum amount of grafting for a given total dose rate.

3,522,159

### METHOD FOR ACCELERATING THE CURING BY IONIZING RADIATIONS OF AMINO-FORMALDEHYDE RESIN COATING FILMS AND/OR AMINO-FORMALDEHYDE-ALKYD RESIN COATING FILMS

Koji Ohdan, Hiratsuka-shi, Japan, assignor to Kansai Paint Company, Limited, Kanazaki, Amagasaki-shi, Hyogo-ken, Japan

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,067  
Claims priority, application Japan, Sept. 18, 1964, 39/53,035

Int. Cl. C08f 27/02, 1/16

U.S. Cl. 204-159.18

6 Claims

A method for accelerating the curing of amino-formaldehyde resin coating films or amino-formaldehyde-alkyd resin coating films by ionizing radiation, which comprises admixing an amino-formaldehyde resin, such as urea-formaldehyde resin, melamine-formaldehyde resin or amino-formaldehyde-alkyd resin with chlorinated hydrocarbons, such as carbon tetrachloride and hexachloroethane, which are soluble in said amino-formaldehyde



resin or amino-formaldehyde-alkyd resin and thereafter subjecting the mixture to irradiation with ionizing radiations.

3,522,160

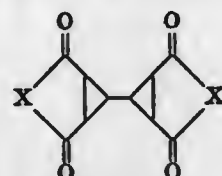
# PROCESS FOR THE PRODUCTION OF ADDITION PRODUCTS OF DERIVATIVES OF MALEIC ACID AND ACETYLENE

Gunther Otto Schenck, Gunther Koltzenburg, and Peter Gottfried Fuss, Mulheim (Ruhr), Germany, assignors to Studiengesellschaft Kohle m.b.H., a corporation No Drawing. Filed Dec. 28, 1966, Ser. No. 605,158 Claims priority, application Germany, Jan. 3, 1966, St 24,836, St 24,837; June 10, 1966, St 25,521 Int. Cl. B01j 1/10

U.S. Cl. 204-162

9 Claims

The reaction of maleic anhydride, maleic acid imide and/or N-substituted maleic acid imides with an acetylene, in the presence of light and a solvent preferably at temperatures below 10° C. and preferably in the presence of a sensitizer to produce products of the formula:



(III)

wherein X is oxygen, nitrogen, or alkyl substituted nitrogen.

3,522,161

# PROCESS FOR PRODUCING THIOL OR SULFIDE DERIVATIVES OF 1,2-BIS(3-CYCLOHEXEN-1-YL)ETHYLENE

Rector P. Louthan, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware No Drawing. Continuation-in-part of application Ser. No. 502,547, Oct. 22, 1965. This application June 27, 1968, Ser. No. 740,477

Int. Cl. B01j 1/10; C07c 149/26

U.S. Cl. 204-162

5 Claims

1,2-bis(3-cyclohexen-1-yl)ethylene and derivatives thereof are converted to thiols and/or sulfides by reacting with a thiol. These compounds are useful as polymerization agents for conjugated dienes.

3,522,162

# ELECTROLYTIC REACTIONS UNDER INFLUENCE OF MAGNETIC FIELD

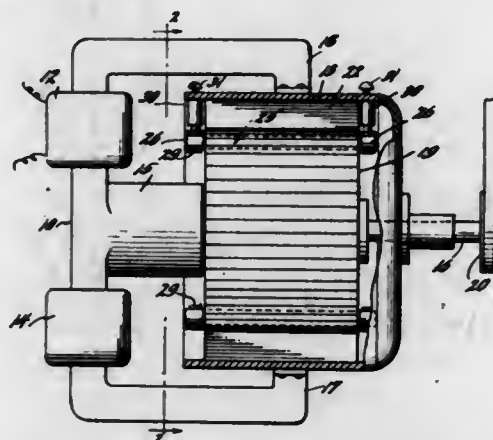
Richard L. Davies, 3206 P St. NW., Washington, D.C. 20007

Filed Feb. 18, 1965, Ser. No. 433,549

Int. Cl. B03c 1/02

U.S. Cl. 204-180

12 Claims



Method and apparatus to cause migration of ions or electrically charged particles in a solution by passing a body of solution through and cutting a magnetic field. Magnetic field is generally radial and containers are spun

through said field so as to cut the field at such a speed as to urge particles towards opposite sides of the container.

3,522,163

# USE OF ANTIMONY SULFIDE IN ELECTRO-DEPOSITABLE COMPOSITIONS

Rowland S. Hartzell, Gibsonia, Pa., and Gerald R. Gacasa, Franklin, Wis., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania No Drawing. Continuation-in-part of application Ser. No. 592,160, Dec. 1, 1966. This application May 7, 1969, Ser. No. 822,703

Int. Cl. B01k 5/02; C03b 13/00

U.S. Cl. 204-181

6 Claims

Antimony sulfide is dispersed in an aqueous bath comprising ionically solubilized synthetic vehicle resin, forming an electrolyte to produce black or dark-colored electrodeposits upon an article made by the electrode in an electrolytic cell.

3,522,164

# SEMICONDUCTOR SURFACE PREPARATION AND DEVICE FABRICATION

George G. Sumner, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,632

Int. Cl. C23c 15/00

U.S. Cl. 204-192

2 Claims

Disclosed is a method of fabricating a semiconductor device characterized by the steps of:

- heating a wafer of compound semiconductor material in a vacuum to sublime a portion of the surface of the compound semiconductor material of said wafer and thereby rid the surface of the wafer of impurities which otherwise would deleteriously affect the performance later, and thereafter,
- epitaxially depositing a semiconductor layer onto a cleaned surface of the wafer.

Specific operating conditions for compound semiconductors are given; for example, in fabricating a gallium arsenide semiconductor device, a gallium arsenide slice is heated to a temperature of 200-500° C. for 15 to 30 minutes in a vacuum less than 10<sup>-6</sup> torr, and thereafter gallium arsenide is sputtered onto the substrate maintained at a temperature of 200-350° C.

3,522,165

# APPARATUS FOR PLATING ARTICLES

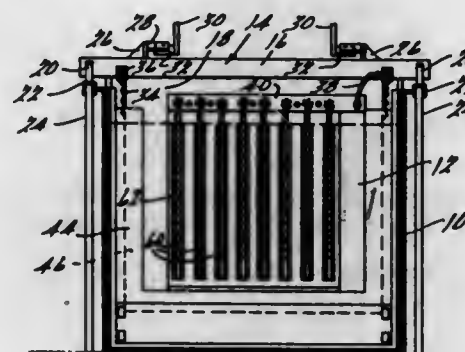
Hugh F. Jones, Detroit, and Earl D. Creese, St. Johns, Mich., assignors to Federal-Mogul Corporation, a corporation of Michigan

Filed Feb. 29, 1968, Ser. No. 709,314

Int. Cl. B65g 49/00

U.S. Cl. 204-198

10 Claims



A method and an apparatus for applying a substantially uniform electroplating on the concave surfaces of arcuate workpieces by mounting the workpieces on a work rack comprising a panel provided with at least one elongated aperture therethrough, such that the concave surfaces are

disposed in aligned communication with the aperture and in abutting relationship against one face side of the panel. The panel is adapted to be immersed in an electroplating solution contained in a treating receptacle in a manner such that the electroplating solution is divided into two compartments and wherein electric current potential is applied between the workpieces and an anode disposed on the other face side of the panel to effect a flow of current through the solution and the aperture between the anode and workpieces.

3,522,166

# ELECTRICAL SYSTEM FOR ANODIZING

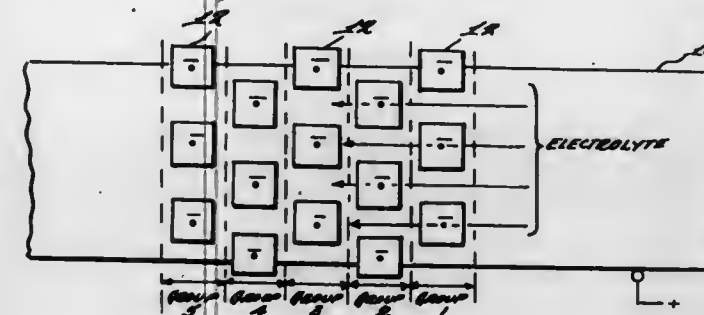
Garth Sanford Jones, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Apr. 21, 1967, Ser. No. 632,632

Int. Cl. B23p 1/02; B01k 3/00

U.S. Cl. 204-206

2 Claims



An anodizing arrangement for a moving strip utilizing a plurality of spaced cathode elements, each operating at a constant current density and being electrically isolated from the remaining elements. The cathode elements are positioned in close proximity to the surface of the moving strip to be anodized and are dimensioned such that an individual element contributes to the anodization of only a portion of the surface area of the anode.

3,522,167

# ELECTROHYDRAULIC STERILIZING APPARATUS

Merton Allen, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

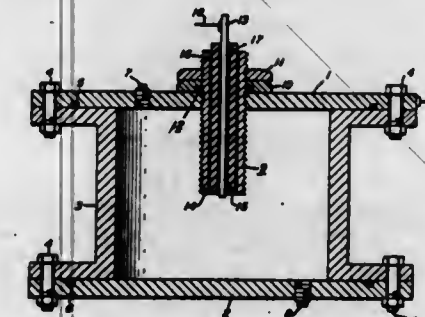
Original application Feb. 2, 1965, Ser. No. 429,817.

Divided and this application Oct. 2, 1967, Ser. No. 672,127

Int. Cl. H05c 1/00; A61l 3/00; H01t 13/20

U.S. Cl. 204-323

4 Claims



An apparatus is disclosed comprising a chamber adapted to contain a substantially non-compressible dielectric liquid suspension of microorganisms and an electrode structure comprising a central rod-like conductive body surrounded by a tubular dielectric insulator which is encased within a tubular conductive body providing a working tip portion in the interior of said chamber. The dielectric insulator is made from glass fiber-reinforced polymeric material. When the chamber is filled with the liquid, and a spark discharge is generated between the

electrode portions of the working tip, steep pressure or shock waves and chemically reactive species are generated which are effective to kill the microorganisms without destroying their antigenicity, enabling them to be used in the production of vaccines or bacterins.

3,522,168

# CHELATING AGENTS IN BITUMINOUS SAND WATER PROCESS

John A. Richard, Port Edward, Ontario, and Clement W. Bowman, Edmonton, Alberta, Canada, assignors of thirty percent each to Cities Service Athabasca, Inc., a corporation of Delaware, Atlantic Richfield Company, a corporation of Pennsylvania, and Imperial Oil Limited, and ten percent to Royallite Oil Company, Ltd., both corporations of Canada

No Drawing. Filed July 11, 1966, Ser. No. 563,966

Int. Cl. C10g 1/00

U.S. Cl. 208-11

7 Claims

The invention concerns an improvement in water extraction processes for recovery of bitumen from bituminous sand. In such processes, bituminous sand is slurried with water and the resulting slurry introduced into a body of water so that bitumen floats to the top of the water in the form of a bituminous emulsion from which bitumen may then be recovered. Bituminous emulsion of improved quality can be obtained if the emulsion is formed in the presence of an added chelating agent which is soluble in the emulsion.

3,522,169

# METHOD OF PRODUCING A BLENDED JET FUEL

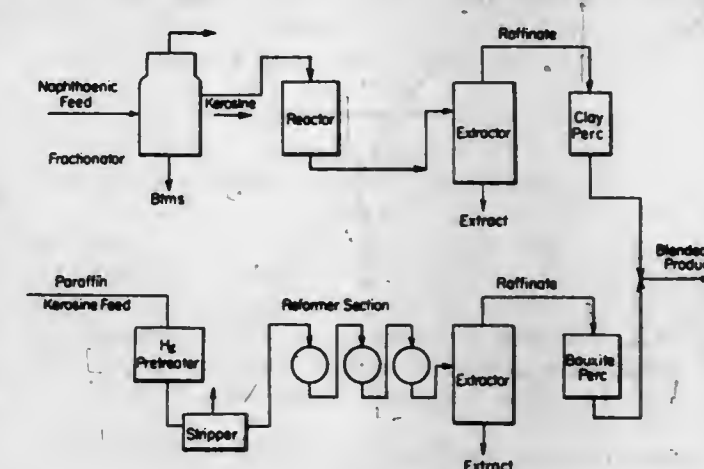
Henry R. Ireland, West Deptford Township, Gloucester County, N.J., assignor to Mobil Oil Corporation, a corporation of New York

Filed June 14, 1968, Ser. No. 737,146

Int. Cl. C10l 1/04; C10g 39/00

U.S. Cl. 208-79

5 Claims



Jet fuel having a low freeze point, e.g., -50° F., and high heat of combustion per gallon, e.g. about 124,000 B.t.u./gal., is produced by blending (1) a highly naphthenic jet fuel component having an advantageously very low freeze point but low heat of combustion on a pound basis with (2) a highly paraffinic jet fuel component having a high heat of combustion on a pound basis in excess of that desired in the blended product.

3,522,170

# METHOD OF HEATING FLUIDIZED BEDS

John F. Moser, Jr., Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 26, 1966, Ser. No. 589,533

Int. Cl. C10g 13/18

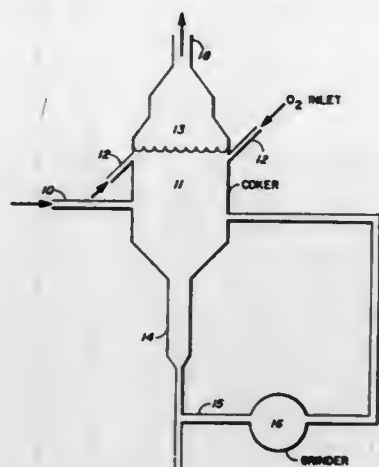
U.S. Cl. 208-127

9 Claims

A method is disclosed for heating a fluidized coking process by injecting oxygen into the upper portion of



a dense phase fluidized bed of coke. The oxygen reacts with gases produced in the coking process to generate



heat without significantly oxidizing coke in the fluidized bed.

3,522,171

## SEWAGE SLUDGE TREATMENT PROCESS

Milton Spiegel, Los Angeles, and M. Floyd Hobbs, Monte Sereno, Calif., assignors to FMC Corporation, a corporation of Delaware

No Drawing. Filed Jan. 27, 1969, Ser. No. 794,373

Int. Cl. C02c 1/06

U.S. Cl. 210—6

8 Claims

This invention deals with a method of treating sludge to reduce the phosphate content thereof prior to recycling the sludge as seed material to the aeration zone of an activated sludge sewage treatment system. The method involves subjecting the first sludge concentrate produced in the separator successively to acidification followed by separation of a second sludge concentrate and then to dilution with a low phosphate content aqueous medium followed by separation of the third sludge concentrate which is the reduced phosphate content concentrate of microorganisms to be recycled.

3,522,172

## CHROMATOGRAPHIC PROCESSES AND APPARATUS

Victor Preterius, Klein Waterkloof, Club Ave., Waterkloof, Pretoria, Transvaal, Republic of South Africa, and Hans Helmut Hahn, 38 Marais St., Bailey's Muckleneuk, Pretoria, Transvaal, Republic of South Africa

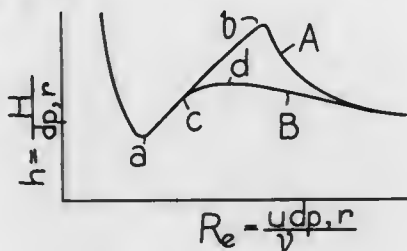
Continuation-in-part of application Ser. No. 548,900, May 10, 1966. This application Aug. 10, 1967, Ser. No. 659,632

Claims priority, application Republic of South Africa, Aug. 11, 1966, 66/4,773

Int. Cl. B01d 15/08

U.S. Cl. 210—31

27 Claims



Chromatographic separations are carried out at flow velocities above an inflection point in the graphical representation of plate height against velocity caused by the onset of convective flow phenomena. Various improved column constructions serve to attain convective flow at lower flow velocities and to achieve a favourable relationship of column capacity and flow velocity. These include baffles in open tube as well as packed columns and an optimised ratio of particle size to tube diameter.

3,522,173

## WATER PURIFICATION METHOD

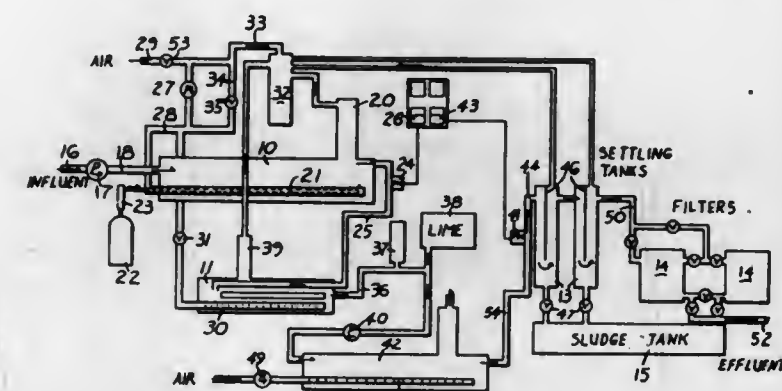
William Edward Lindman, Grass Valley, Calif., and Mark F. Adams, Pullman, Wash., assignors to Western Mechanical, Inc., Spokane, Wash., a corporation of Washington

Filed Nov. 12, 1968, Ser. No. 774,670

Int. Cl. C02c 1/40, 5/04

U.S. Cl. 210—49

4 Claims



A water purification method that involves the treatment of sewage waste water by intimately passing through the water a gaseous mixture containing sulphur dioxide and oxygen. The treatment also includes the addition of scrap iron, which is spent in the resulting acid solution. The treated water is then neutralized. The solid constituents of the resulting neutral solution, are precipitated to produce usable water.

3,522,174

## STABILIZED SALTY WELL FLUID

William A. Reddie, 5152 Huckleberry, Houston, Tex. 77027

No Drawing. Continuation-in-part of application Ser. No. 487,037, Sept. 13, 1965. This application Sept. 30, 1968, Ser. No. 763,965

Int. Cl. C10m 3/32

U.S. Cl. 252—8.5

17 Claims

Aqueous clay base drilling fluid containing a substantial amount of dissolved inorganic salts, such as are present in sea water, is stabilized against flocculation by the addition of an alkali metal, alkaline earth metal, or ammonium salt of a sulfated ethylene oxide adduct of long chain fatty alcohols.

The drilling fluid may optionally contain an oil emulsified therein, sulfonated alkyl diphenylether derivatives, an ethylene oxide polymer, monohydric and dihydric alcohols, thinners such as tannins, humates and chrome lignosulfonates, and metal stearate soaps.

3,522,175

## LUBRICANT COMPOSITION FOR SYNTHETIC FIBERS

Mamoru Katsumi and Hideo Kawanaka, Wakayama-shi, Japan, assignors to Kao Soap Company, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Continuation-in-part of application Ser. No. 526,390, Feb. 10, 1966. This application Jan. 14, 1969, Ser. No. 791,152

Claims priority, application Japan, Feb. 13, 1965, 40/7,904

Int. Cl. D06m 13/44

U.S. Cl. 252—8.8

2 Claims

An antistatic lubricant composition is comprised of from 10 to 50% by weight of an imidazoline in which a carboxyethoxyethyl group is substituted at the 1-position, the composition also including from 40 to 80% by weight of a lubricating compound selected from the group consisting of a mineral oil or a fatty acid ester.

3,522,176

## PLASTIC ANTIFRICTION MATERIAL

Vasily Vladimirovich Korshak, Ul. Gubkina 4, kv. 81; Irina Alexandrovna Gribova, Ul. Vavilova 10, korp. 20, kv. 31; Igor Viktorovich Kragelsky, Frunzenskaya nab. 48, kv. 6; Grigory Lvovich Slonimsky, Ul. Chkalova 1/4, kv. 16; Alexandr Petrovich Krasnov, Prospekt Kalinina 31, kv. 28; Alla Nikolaevna Chumaevskaya, Leninsky prospekt 101, korp. 163, kv. 86; Vera Edmondovna Valashtein, Ul. Dmitria Ulianova 4/34, korp. B, kv. 185; Galina Iosifovna Troyanovskaya, 11 Parkovaya ul. 44/3, kv. 8; Vladimir Alexandrovich Sergeev, Novye Cheremushki, kvartal 21b, korpus 10, kv. 26; Anri Alexandrovich Askadsky, Jugo-Zapadny kvartal 46-47, korp. 39, kv. 25; and Valentin Kuzmich Shitikov, LoMonosovsky prospekt 18, kv. 99, all of Moscow, U.S.S.R.; and Olga Anatolievna Suchkova, Volsky rayon, pos. Shikhany-2, 439, kv. 16, Saratovskaya obl., U.S.S.R.

No Drawing. Filed Sept. 21, 1967, Ser. No. 669,402

Int. Cl. C10m 7/28, 7/16, 7/06

U.S. Cl. 252—12

8 Claims

An antifriction plastic material consisting of phenolphthalein-phenol-formaldehyde resin and powdered molybdenum disulfide and metal powders as fillers.

3,522,177

## AQUEOUS LUBRICANT COMPOSITION

John W. Benz, Prospectville, Pa., assignor to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 26, 1967, Ser. No. 693,183

Int. Cl. C10m 3/34, 3/06, 3/02

U.S. Cl. 252—23

3 Claims

Aqueous compositions, useful per se as lubricants or for forming dry lubricating films, comprising a finely divided solid lubricant suspended in an aqueous solution of an alkali metal silicate and an alkali metal lignosulfonate. Methods for making such compositions and for coating metal fasteners therewith. Metal fasteners lubricated with such compositions.

3,522,178

## GREASE COMPOSITIONS

Norman Duffield Peschko, Haddonfield, N.J., and Burton Peter Block, Wayne, Gerd Helmut Dahl, King of Prussia, and Luke R. Ocone, Philadelphia, Pa., assignors to Pennwalt Corporation, a corporation of Pennsylvania

No Drawing. Filed Jan. 5, 1968, Ser. No. 695,888

Int. Cl. C10m 5/24, 7/44, 7/46

U.S. Cl. 252—32.5

16 Claims

Grease compositions comprising a liquid lubricant thickened with an inorganic polymer consisting of a triply bridged chromium atom where said bridging groups are the anions of phosphinic acids of structure  $R_2P(X)XH$  where R is selected from the group consisting of alkyl and aryl and X is oxygen or sulfur.

3,522,179

## LUBRICATING COMPOSITION CONTAINING ESTERS OF HYDROCARBON-SUBSTITUTED SUCCINIC ACID

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 274,905, Apr. 23, 1963. This application July 22, 1966, Ser. No. 567,052

Int. Cl. C10m 1/32, 1/26

U.S. Cl. 252—51.5

25 Claims

Lubricating compositions comprising a major amount of a lubricating oil and a minor proportion of an ester derivative of a hydrocarbon-substituted succinic acid wherein the hydrocarbon substituent contains at least about fifty aliphatic carbon atoms, the substituent being further characterized by having no more than about 5% olefinic linkages therein based on the total number of

carbon-to-carbon covalent linkages in the substituent. The esters include the acidic esters, diesters, metal salt-esters, and mixtures of these wherein the ester moiety is derived from monohydric and polyhydric alcohols, phenols, and naphthols.

3,522,180

## LUBRICATING OIL COMPOSITIONS CONTAINING AMORPHOUS ETHYLENE-PROPYLENE COPOLYMERS

William M. Sweeney, Wappingers Falls, David D. Reed, Lagrangeville, and Elmer E. Schallenberg, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 28, 1967, Ser. No. 671,202

Int. Cl. C10m 1/16

U.S. Cl. 252—59

11 Claims

Amorphous ethylene-propylene copolymers having a molecular weight of 10,000 to 40,000 are prepared by a hydrogen moderated polymerization process in the presence of a homogenous Ziegler-Natta catalyst system. Additions of the copolymer to lubricating oil produce compositions having an increased viscosity index and an improved shear stability.

3,522,181

## ELECTROPHOTOGRAPHIC DEVELOPER

Walter L. Garrett, Freeland, Mich., and Henderson C. Gillespie, Moorestown, and Louis J. Sciambi, Wenonah, N.J., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 7, 1966, Ser. No. 592,336

Int. Cl. G03g 9/00; C23q 1/00

U.S. Cl. 252—62.1

7 Claims

A liquid electrophotographic developer composition for forming a photo resist in the preparation of printing plates, masters and such contains a cross-linking promoting catalyst, a silicone intermediate resin having one or more reactive hydroxyl groups, a carrier liquid of an aliphatic or aromatic hydrocarbon, and an anionic sulfonate surfactant, and the composition is characterized by an electrical conductivity of from about  $0.5 \times 10^{-11}$  to about  $1.0 \times 10^{-9}$  reciprocal ohm centimeters.

The foregoing composition is best prepared by ball milling a grinding slurry made up of the cross-linking promoting catalyst, the silicone intermediate resin, the anionic sulfonate surfactant and an appropriate amount of the hydrocarbon liquid to obtain good grinding action. Ball milling is continued for about 20-72 hours after which the slurry is removed from the mill and stored or diluted to a usable concentration.

3,522,182

## PIEZOELECTRIC CERAMIC MATERIALS

Tsuneo Akashi, Masao Takahashi, Fumio Yamauchi, Norio Tsubouchi, and Tomeji Ohno, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Minatoku, Tokyo, Japan

Filed Mar. 8, 1965, Ser. No. 437,910

Claims priority, application Japan, Mar. 10, 1964, 39/13,217, 39/13,218; Aug. 28, 1964, 39/49,085

Int. Cl. C04b 35/46, 35/48

U.S. Cl. 252—62.9

2 Claims

Lead titanate zirconate ceramic compositions incorporating gallium sesquioxide in amounts of from 0.05 to 5.0 weight percent to 10.0 weight percent. The additive constituent markedly increases the mechanical quality factor of the basic ceramic compositions, and adjust the electro-mechanical coupling factor thereof to any predetermined value within a broad range to thus adapt the basic ceramic compositions for optimum use in transducers or as ceramic filter elements, as may be desired.



3,522,183

**SOLID DIELECTRIC POLYOLEFIN COMPOSITIONS CONTAINING VARIOUS VOLTAGE STABILIZERS**  
Lawrence J. Heldt, Arlington, Mass., assignor to Simplex Wire and Cable Company, Cambridge, Mass., a corporation of Massachusetts

Continuation-in-part of application Ser. No. 372,301, June 3, 1964. This application May 7, 1968, Ser. No. 732,486

Int. Cl. C08f 45/60; H01b 3/18, 3/24

U.S. Cl. 252—63.7

26 Claims

A solid dielectric composition is disclosed comprising a major amount of solid-phase polymer of polyethylene, polypropylene or polyisobutylene having dispersed therein a small, soluble voltage stabilizing amount from about 0.1 to about 10 percent of a voltage stabilizing additive. The voltage stabilizing additives include 2,4,6-trinitrotoluene; 2,4-dinitrotoluene; 2,6-dinitrotoluene; 2-nitrodiphenylamine; 2,4-dinitrodiphenylamine; o-nitroanisole; o-nitrobiphenyl; 2-nitroaniline; anthranilonitrile; 1-fluoro-2-nitrobenzene; chloranil; 2,6-dinitroaniline; diparame-thoxy diphenylamine; o-nitrotoluene; N-nitroso, N-phenyl, benzylamine; N-nitroso carbazole; N-nitroso diphenylamine; azobenzene; 4-methyl-2-nitroaniline; p-phenyl azoaniline; o-nitro styrene; 2,2'-dinitro biphenyl and mixtures thereof, mixtures thereof with diphenylamine; phenyl alpha-naphthylamine; phenyl-beta-naphthylamine; N,N'-diphenyl paraphenylene diamine or benzidine and mixtures of any of the above with m-dinitrobenzene; m-nitroaniline; p-nitroaniline; m-nitrotoluene; p-nitrotoluene; o-nitrochlorobenzene or p-nitrochlorobenzene.

3,522,184

**GRANULAR BLEACHING AGENT COMPOSITION AND METHOD FOR MAKING THEREOF**

Yunosuke Nakagawa, Chiba, and Iwao Maruta, Ichikawa-shi, Japan, assignors to Kao Soap Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 27, 1967, Ser. No. 634,124  
Claims priority, application Japan, May 2, 1966, 41/27,820

Int. Cl. C11d 7/18, 7/56

U.S. Cl. 252—99

3 Claims

A method of making a granular bleaching agent composition, and the resulting product, in which a solid powdery bleaching agent mixture containing sodium perborate and at least one granulating assistant selected from the group consisting of magnesium sulfate, beryllium sulfate, potassium chloride, potassium nitrate, sugar and sodium borate is moved while it is heated in order to granulate said mixture.

3,522,185

**SOLID DETERGENT CONTAINING THE CRYSTALLINE FORM OF A BIS-TRIAZINYLAMINO STILBENE OPTICAL BRIGHTENER**

Heinrich Hausermann, Riehen and Hans Schlapfer, Basel, Switzerland, and Christopher Johannes Tschanner, Warwick, R.I., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

Original application May 12, 1967, Ser. No. 638,065, now Patent No. 3,472,842. Divided and this application Feb. 28, 1969, Ser. No. 816,864

Claims priority, application Switzerland, May 13, 1966, 7,030/66

Int. Cl. C11d 1/02, 1/66, 9/00

U.S. Cl. 252—89

1 Claim

For incorporation in solid detergents, the thermostable  $\alpha$ -crystal form of the optical brightener, the disodium salt of 4,4'-bis-[2''-phenylamino-4''-(N-methyl- $\beta$ -hydroxy-ethylamino)-s-triazinyl-(6'')-amino]-stilbene-2,2'-disulfonic acid having an X-ray diffraction diagram as shown in the accompanying drawing, is produced by converting thermally instable forms of the

above-named optical brightener to thermostable sodium salts by heating the thermally instable forms with a water-soluble, colorless sodium salt electrolyte in certain critical amounts at a temperature of from about 100° to 200° C.

3,522,186

**ABRASIVE LIQUID DETERGENT COMPOSITIONS**  
Cushman Merila Cambre, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,740

Int. Cl. C11d 9/14, 9/20, 9/30

U.S. Cl. 252—112

8 Claims

Liquid detergent compositions suitable for cleaning hard surfaces which are capable of supporting particulate materials, e.g. abrasives; said detergent compositions contain tetrapotassium pyrophosphate, water-soluble soap, diethanol amides, water and a rheological modifier selected from the group of methanol and ethanol.

3,522,187

**HYDROUS OXIDE CATION EXCHANGERS**  
Kurt A. Kraus, Oak Ridge, Tenn., assignor of one-third each to James S. Johnson, Jr., and Harold O. Phillips, both of Oak Ridge, Tenn.

No Drawing. Application Jan. 28, 1965, Ser. No. 428,850, now Patent No. 3,382,034, which is a division of application Ser. No. 141,291, Sept. 28, 1961, which in turn is a continuation of application Ser. No. 631,065, Dec. 28, 1956. Divided and this application June 5, 1967, Ser. No. 655,702

Int. Cl. C09k 3/00

U.S. Cl. 252—182

6 Claims

Hydrous oxide cation exchangers containing a basic hydrous oxide and a non-siliceous acidic hydrous oxide, at least one of the hydrous oxides containing an element with an atomic number greater than 20 and preparation thereof.

3,522,188

**USE OF ALPHA-ALKYL (OR ALKENYL) BENZYLIDENE MALONONITRILES AS U.V. ABSORBERS, AND STABILIZED COMPOSITIONS AND LIGHT FILTERS CONTAINING SAME**

Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 27, 1962, Ser. No. 205,491

Int. Cl. C08f 45/60; C08g 51/60; F21v 9/06

U.S. Cl. 252—300

22 Claims

Compositions, especially organic compositions, having superior resistance to degradation deterioration when exposed to actinic radiation, particularly ultraviolet radiation, are provided by the incorporation therewith of alpha-alkyl (or alkenyl) benzylidene malononitrile, which functions as an ultraviolet absorber. Light filters are also provided by incorporating an alpha-alkyl (or alkenyl) benzylidene malononitrile in a light pervious support layer.

3,522,189

**LUMINESCENT MATERIAL OF TERBIUM DOPED CRISTOBALITE**

Haynes A. Lee, Jr., Sylvania, and Warren H. Turner, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Oct. 17, 1966, Ser. No. 587,180

Int. Cl. C09k 1/54

U.S. Cl. 252—301.4

1 Claim

A luminescent material of cristobalite as the host, with terbium ion activator in a selected dosage providing a high purity yellow fluorescence output.

3,522,190

**PHOTOLUMINESCENT GLASSES**

Warren H. Turner, Toledo, Ohio, and Marvin J. Albinak, Wheeling, W. Va., assignors to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Dec. 20, 1966, Ser. No. 603,147

Int. Cl. C03c 3/04; C09k 1/54

U.S. Cl. 252—301.4

4 Claims

Luminescent glass compositions, particularly magnesia-alumina-silica glasses doped with samarium, in part reduced to the divalent state, producing the luminescence of Sm<sup>2+</sup> under one wave length of ultraviolet radiation, and by the presence of Sm<sup>2+</sup> providing a bright blue-to-yellow-green luminescence under another wave length of ultraviolet radiation.

3,522,191

**LUMINOPHORS AND METHOD**

Warren H. Turner, Toledo, Ohio, and Marvin J. Albinak, Wheeling, W. Va., assignors to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Dec. 21, 1966, Ser. No. 603,413

Int. Cl. C03c 3/28; C09k 1/36, 1/66

U.S. Cl. 252—301.6

8 Claims

Luminescent glasses are provided wherein divalent europium is present in solution in the glassy phase along with substantial amounts of B<sub>2</sub>O<sub>3</sub> and/or P<sub>2</sub>O<sub>5</sub>, in which valence state the europium emits a bright blue-to-green output.

3,522,192

**PALLADIUM-MERCURY CATALYSTS**

Charles E. Maxwell III, Quaker Hill, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 7, 1966, Ser. No. 592,330

Int. Cl. B01j 11/82

U.S. Cl. 252—432

4 Claims

Hydrogenation catalysts useful in selectively reducing acetylenic bonds to ethylenic bonds are obtained by reducing a palladium salt with sodium borohydride or with formaldehyde and sodium tetraborate and depositing mercury on the resulting palladium metal by treatment with an aqueous mercuric salt solution.

3,522,193

**CATALYST AND METHOD OF PREPARING UNSATURATED ALDEHYDES AND ACIDS**

Jamal S. Eden, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Original application Aug. 30, 1965, Ser. No. 483,802, which is a continuation-in-part of application Ser. No. 338,617, Jan. 20, 1964. Divided and this application Sept. 29, 1967, Ser. No. 679,951

The portion of the term of the patent subsequent to Jan. 11, 1983, has been disclaimed

Int. Cl. B01j 11/82

U.S. Cl. 252—435

3 Claims

Useful catalysts for vapor phase oxidation of propylene and isobutylene to acrolein and acrylic acid and methacrolein and methacrylic acid contain manganese molybdate, tellurium oxide and phosphorus oxide.

3,522,194

**PROCESS FOR POLYMERIZING OLEFIN OXIDE**

Nobuhide Hada, Hisataka Komai, and Takanaki Sugimura, Yokohama, Japan, assignors to The Japanese Geon Company, Ltd., Tokyo, Japan, a corporation of Japan

Filed May 21, 1968, Ser. No. 730,864

Claims priority, application Japan, May 22, 1967, 42/32,063

Int. Cl. C08g 23/14

U.S. Cl. 260—2

1 Claim

A process for polymerizing or copolymerizing three-membered cyclic ethers using as catalyst a composition

prepared from an organoaluminum compound selected from the group consisting of aluminum alkyl, aluminum alkyl halide and aluminum alkyl hydride and an organic monocarboxylic acid ester (and preferably also water).

3,522,195

**PROCESS FOR PROVIDING A DURABLE ANTI-STATIC FINISH FOR SYNTHETIC TEXTILE MATERIALS**

Tsai Hsiang Chao, Somerville, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application Mar. 15, 1965, Ser. No. 439,996, now Patent No. 3,411,945, dated Sept. 19, 1968. Divided and this application June 5, 1968, Ser. No. 734,580

Int. Cl. C08g 23/10

U.S. Cl. 260—2

6 Claims

Process for producing a resinous composition comprising reacting a polyamine with a halohydrin ether of a polyalkylene polyhydric alcohol to form a condensate with cyanuric halide; and the resinous product obtained. The resinous composition is useful as an antistatic agent for application to hydrophobic textile materials.

3,522,196

**THERMOSETTING RESIN FOAMS AND METHOD FOR THEIR PREPARATION**

Paul Dorier, Lyon, and Jacques Potier, Clamecy, France, assignors to Plastugil, Lyon, France, a French body corporate

Filed Nov. 7, 1966, Ser. No. 592,478

Claims priority, application France Nov. 12, 1965, 38,087; July 21, 1966, 70,240

Int. Cl. C08g 51/78, 53/10

U.S. Cl. 260—2.5

9 Claims

An hydrous, non-acid and non-corrosive foams are obtained from thermosetting formaldehyde condensation resins by employing during the foaming of said resins a hardening catalyst having a high acidity and volatile at 100–140° C., drying the hardened foams within said temperature range and thereafter neutralizing the residual acid with a gaseous alkaline agent.

3,522,197

**GLUTEN HYDROLYSATE DERIVATIVES AND COMPOSITIONS COMPRISING THE SAME**

Catherine Aranyl, Chicago, Kurt Gutfreund, Park Forest, Ervin J. Hawrylewicz, Olympia Fields, and Joseph S. Wall, Peoria, Ill.; said Wall assignor to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Nov. 2, 1967, Ser. No. 680,030

Int. Cl. C08f 45/00

U.S. Cl. 260—8

2 Claims

Epoxy and imino derivatives of the large peptide fraction of partially hydrolyzed gluten have utility as internal plasticizers for polyanhydride, epoxy, and other resins and for the preparation of a variety of specialty films and adhesives.

3,522,198

**MODIFIED POLYPROPYLENE COMPOSITION**

Nobuo Yamada, Akira Ichikawa, and Munehiro Okumura, Ohtake-shi, Haruo Miyamoto, Nagoya, and Toshiyuki Nanbu, Ohtake-shi, Japan, assignors to Mitsubishi Rayon Co., Ltd., Tokyo, Japan, a corporation of Japan

Continuation-in-part of application Ser. No. 405,994, Oct. 23, 1964. This application Oct. 25, 1968, Ser. No. 770,623

Claims priority, application Japan, Oct. 22, 1963, 38/56,803; Dec. 25, 1963, 38/70,285; Sept. 10, 1964, 39/51,692

Int. Cl. C08c 11/70; C08f 45/52

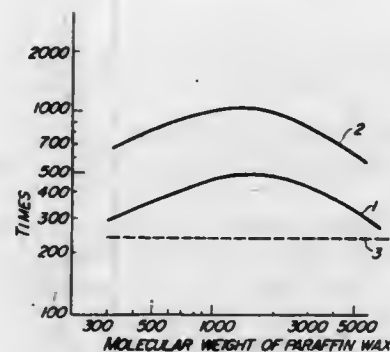
U.S. Cl. 260—28.5

4 Claims

Polypropylene composition with an abrasive resistance, comprising polypropylene having an isotactic index of



not less than 95%, and a molecular weight in terms of an intrinsic viscosity of 1.0 to 3.0 determined in Tetralin at 135° C., and 1 to 20% by weight, on the basis polypropylene, of a mixture consisting essentially of (A)



paraffin wax, microcrystalline wax, or low molecular weight polyethylene as paraffin, each having a mean molecular weight of 500 to 3,000 and (B) 5 to 20% by weight, on the basis of paraffin, of polyethylene.

3,522,199

#### AQUEOUS DISPERSIONS CROSS-LINKED IN AN ALKALINE MEDIUM, AND SHAPED ARTICLES PRODUCED THEREFROM

Wolfgang Keberle and Erwin Mueller, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Filed June 7, 1967, Ser. No. 644,071  
Claims priority, application Germany, June 8, 1966, F 49,425

Int. Cl. C08g 51/24, 22/00; B44d 1/44

U.S. Cl. 260—29.2 8 Claims  
Aqueous dispersions are prepared from NCO terminated prepolymers prepared by reacting an excess of an organic polyisocyanate and an organic compound containing active hydrogen atoms that are reactive with isocyanate groups and a compound containing at least one active hydrogen atom and at least one sulfuric acid semiester group present in the form of an alkali metal salt or ammonium salt. These dispersions can be rendered more basic by the inclusion of basic materials and coated onto suitable substrates to obtain water resistance, solvent resistance, films, foils and adhesives.

#### ERRATUM

For Class 260—29.6 sec:  
Patent No. 3,522,036

3,522,200

#### FILM-FORMING EMULSIONS

Dietrich Hardt and Dietrich Glabisch, Opladen, Heinrich Meckbach, Leverkusen, and Herbert Bartl, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Filed July 5, 1967, Ser. No. 651,157  
Claims priority, application Germany, Aug. 5, 1966, F 49,876; Sept. 27, 1966, F 50,295

Int. Cl. C08f 45/24, 29/22

U.S. Cl. 260—29.6 4 Claims  
Graft copolymer latices from ethylene vinyl chloride copolymers and methacrylic esters or styrene or vinylidene chloride and a process for their production and use in dispersion paints and coating agents.

#### 3,522,201 PHASE SEPARATION COATING COMPOSITIONS AND SUBSTRATES COATED THEREWITH

Alan K. MacNair, Keyser, W. Va., assignor to Westvaco Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 3, 1964, Ser. No. 394,348, now Patent No. 3,377,191, dated Apr. 9, 1968. Divided and this application Sept. 27, 1967, Ser. No. 680,283

Int. Cl. B44d 5/00; C08f 45/34; C08g 37/34

U.S. Cl. 260—32.8 8 Claims  
Coating compositions which can be rendered opaque in the absence of pigmentation by phase separating wet films of the compositions in the presence of water or steam, wherein the coating compositions comprise alcoholic or acetone solutions containing a water-insoluble partial ester of a carboxyl-containing styrene copolymer and a water-soluble amino resin, and optionally containing polyvinyl acetate and glyoxal.

3,522,202

#### RELEASE COATINGS CONSISTING OF THREE POLYORGANOSILOXANES

Tadashi Wada, Kunio Ito, and Masaki Kameya, Gunma-ken, Japan, assignors to The Shin-Etsu Chemical Industry Co., Ltd., Tokyo, Japan

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,926  
Claims priority, application Japan, Sept. 12, 1966, 41/60,285

Int. Cl. C08g 47/00, 51/34

U.S. Cl. 260—33.2 4 Claims  
Film-forming compositions consisting of (a) a methylpolysiloxane containing terminal silicon-bonded hydroxyl groups, (b) a methyl hydrogen polysiloxane and (c) a methylphenylpolysiloxane, containing terminal hydroxyl groups, which are useful in preventing sticky or adherent materials, such as asphalts, solid paraffins and ice, from sticking or adhering to bases such as wrapping paper, polyethylene films, metals and the like.

3,522,203

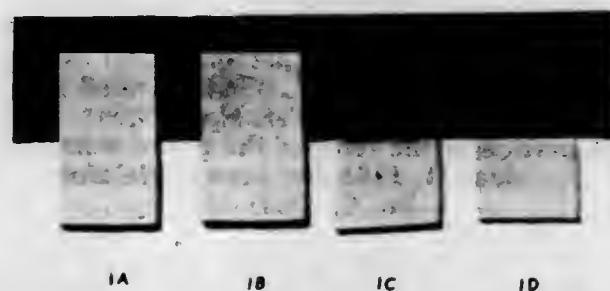
#### UNSATURATED POLYESTER RESINOUS COMPOSITIONS

Charles Henry Kroegel, Churchville, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

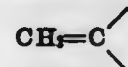
Filed July 20, 1966, Ser. No. 566,580

Int. Cl. C08f 43/08, 45/10

U.S. Cl. 260—40 16 Claims



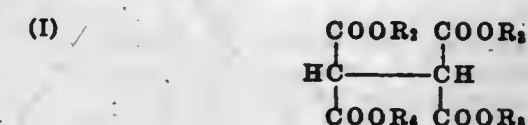
This invention provides a liquid, polymerizable composition of matter, suitable for molding glass fibrous reinforced articles with exceptionable smooth surfaces, said composition being curable under heat and pressure to form a rigid, cured product which is characterized by an optically heterogeneous appearance. The composition comprises an  $\alpha,\beta$ -ethylenically unsaturated polymerizable polyester having a molecular weight per double bond factor of 150 to 186, a monomer containing a



group copolymerizable with the unsaturated polyester, and a thermoplastic polymer which is soluble in the

monomer but which, when present during the copolymerization of the unsaturated polyester and the monomer, yields an optically heterogeneous cured composition.

which is selected from compounds having the following general formulae:



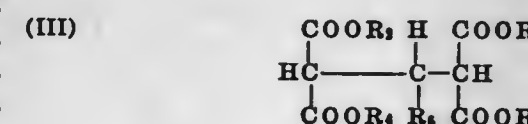
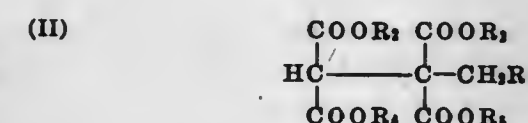
#### 3,522,204 SYNERGISTIC FLAME-RETARDANT COMPOSITIONS

Christos Savides, Piscataway Township, Middlesex County, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed July 1, 1968, Ser. No. 741,248

Int. Cl. C08f 45/58, 45/60; C08g 51/60

U.S. Cl. 260—45.8 10 Claims and  
Synergistic flame-retardant compositions comprising a phosphonic acid and 2,3-dicarboxy-5,8-endomethylene-5,6,7,8,9,9-hexachloro-1,2,3,4,4a,5,8,8a-octahydronaphthalene anhydride and its esters and compositions comprising a thermoplastic resin and said synergistic compositions are disclosed.



wherein  $R_1, R_2, R_3, R_4$  and  $R_5$  are monovalent substituents selected individually from the group consisting of alkyl, aryl, aralkyl, cycloalkyl, heterocyclic, and substituted alkyl, aryl, aralkyl, cycloalkyl and heterocyclic groups, and  $R_5$  is a monovalent substituent selected from the group consisting of aryl, aralkyl, heterocyclic and substituted aryl, aralkyl and heterocyclic groups. The invention also provides a method of preparing the ultraviolet light stabilized polymer compositions of the invention.

3,522,205

#### ETHYLENE SULFIDE POLYMERS STABILIZED WITH POLYAMINE ADDITIVES

Riad H. Gobran, George F. Bulbenko, and Elizabeth A. Peterson, Levittown, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 609,280, Jan. 12, 1967, which is a continuation of application Ser. No. 323,074, Nov. 12, 1963. This application Apr. 9, 1968, Ser. No. 719,839

Int. Cl. C08g 51/60

U.S. Cl. 260—45.9 14 Claims  
Ethylene sulfide polymers are stabilized against degradation during high temperature molding by the use of certain polyamines and modified polyamines as thermal stabilizers.

3,522,206

#### PROCESS OF STABILIZING POLYVINYL CHLORIDE RESINS AND THE PRODUCT

Arnold Schroeder, Deventer, and Paulus G. J. Nieuwenhuis, Apeldoorn, Netherlands, assignors to Koninklijke Industriële Maatschappij Noury & van der Lande N.V., Deventer, Netherlands, a corporation of the Netherlands

No Drawing. Filed Oct. 23, 1967, Ser. No. 677,067  
Claims priority, application Netherlands, Oct. 9, 1966, 6615781

Int. Cl. C08f 45/62

U.S. Cl. 260—45.75 9 Claims  
The present invention relates to a process for stabilizing polyvinyl chloride, and other polymers and copolymers which contain halogen, with a reaction product obtained from a dialkyl-tin-difluoride and a dialkyl-tin-sulphide, the reaction product being employed either as such or formed in situ.

3,522,207

#### LIGHT STABILIZED POLYMERS CONTAINING TETRACARBOXYLIC ACID ESTERS

Dieter H. A. Hayer, Stuttgart-Bad Cannstatt, and Lore Grozinger, Stuttgart-Feuerbach, Germany, assignors to G. Siegle & Co. G.m.b.H., Stuttgart, Germany

Continuation-in-part of application Ser. No. 435,512, Feb. 26, 1965. This application June 16, 1967, Ser. No. 646,508

Int. Cl. C08f 45/58; C08g 51/58

U.S. Cl. 260—45.85 9 Claims

Compositions containing organic polymers are stabilized against the deleterious effects of ultraviolet light by incorporating therewith an ultraviolet light absorber

#### 3,522,208 STABILIZED POLYOLEFIN COMPOSITIONS CONTAINING A BISPHENOL AND OPTIONALLY A THIODIESTER

Andrew J. Dietzler, David A. Gordon, and John M. Corbett, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Original application Apr. 4, 1962, Ser. No. 184,938. Divided and this application Sept. 29, 1967, Ser. No. 683,051

Int. Cl. C08f 45/58

U.S. Cl. 260—45.85 7 Claims  
Polyolefins such as polyethylene and polypropylene are stabilized against oxidative degradation by novel cycloalkylidenebis(o-cycloalkylphenols) and the corresponding alkylidene compounds, preferably in the additional presence of a dialkyl thiodipropionate. These bisphenols are made by reacting an o-cycloalkylphenol with the appropriate ketone or aldehyde in the presence of hydrogen chloride and preferably a thiol as reaction promoter.

3,522,209

#### INCORPORATION OF WATER INSOLUBLE ADDITIVES INTO AQUEOUS POLYMER SOLUTION

Lin-Fa Lee, Seaford, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 7, 1966, Ser. No. 599,717

Int. Cl. C08g 51/58

U.S. Cl. 260—45.95 2 Claims  
Water-insoluble, melt-compatible additives, e.g., antioxidants, can be readily dispersed in aqueous polyamide-forming solutions which are at high temperature and pressure, by incorporating the additives in said solutions as a suspension in another aqueous solution of the same polyamide-forming salt, wherein the salt is present in an amount within 5% by weight of the concentration at which the specific gravity of the suspension medium is equal to the specific gravity of the additive.



3,522,210

**CURABLE POLYGLYCIDYL ETHERS OF A DIHYDRIC PHENOL, CONTAINING FLEXIBLE LINKAGES**

Ralph F. Sellers, Somerset, and Samuel G. Smith, Jr., Hillsborough Township, N.J., assignors to Union Carbide Corporation, a corporation of New York  
No Drawing. Filed Mar. 1, 1965, Ser. No. 436,287  
Int. Cl. C08g 30/10

U.S. Cl. 260—47 12 Claims  
This invention relates to curable polyglycidyl ethers of dihydric phenols having the formula:



wherein E is the residuum of a dihydric phenol and R is a divalent organic radical having from 2 to 24 carbon atoms inclusive. The polyglycidyl ethers are used in fabrication of filament wound vessels and reinforced structures used in missiles, aircraft, and submersible vessels.

3,522,211

**POLYIMIDE-POLYAMIDES FROM MALEOPIMARIC ACID DERIVATIVES**

Walter H. Schuller and Ray V. Lawrence, Lake City, Fla., assignors to the United States of America as represented by the Secretary of Agriculture  
No Drawing. Filed Dec. 2, 1966, Ser. No. 599,346  
Int. Cl. C08g 20/32

U.S. Cl. 260—47 6 Claims  
New compositions of matter are prepared by reacting one mole of various diamines with two moles of the monoacid chloride of maleopimaric acid (MAC) to give bisamides. These bisamides are fused in mole to mole ratios with various diamines to give head-to-head and tail-to-tail linked, new polyimide-polyamide resins. New amide-amine-hydrochloride salts of maleopimaric acid are also prepared by reaction of MAC with a large excess of various diamines. The fusion of this product yields a new head-to-tail linked polyimide-polyamide resin. A third product is a new polyimide-polyamide resin prepared by the reaction of 1 mole of diamine with 1 mole of a triester prepared by reacting MAC with 3 moles of methanol.

The end products are useful for casting water-resistant films and for the preparation of synthetic fibers.

3,522,212

**COPOLYMERS OF PERHALOACETONE AND PROPYLENE SULFIDE**

Harry A. Smith, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed Feb. 19, 1968, Ser. No. 709,524  
Int. Cl. C08g 15/00

U.S. Cl. 260—63 9 Claims  
A novel polymer composition of a perhaloacetone and propylene sulfide and to a method of preparing the same. The method comprises reacting a perhaloacetone with propylene sulfide at a maximum temperature of about 100° C. for a period of up to 24 hours or more under autogenous pressures. The copolymer prepared from this method is useful as a lubricant, in the plasticizing of fluoroacetone epoxide polymers and a soil stabilizer.

3,522,213

**CROSS-LINKED URETHANES AND UREA'S**

Gerhard Grogler and Erwin Windemuth, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Filed Mar. 20, 1967, Ser. No. 624,218  
Claims priority, application Germany, Mar. 19, 1966, F 48,709  
Int. Cl. C08g 22/16, 22/04

U.S. Cl. 260—75 10 Claims  
A process for preparing iminopolymers by reacting an N-substituted ethylenimine which contains at least one

hydrogen atom reactive with an NCO group, with a urethane containing at least two free NCO groups and then cross-linking the iminopolymer to obtain cross-linked urethanes and ureas which are especially useful as coating compositions and casting resins.

3,522,214

**PROCESS AND APPARATUS FOR POLYMERIZING LIQUIDS**

Jack E. Crawford, Beaumont, Tex., and Ralph W. Edwards, Metuchen, Edward D. Henze, Bridgewater Township, Somerset County, and William C. L. Wu, East Brunswick, N.J., assignors to Mobil Oil Corporation, a corporation of New York  
Filed Apr. 13, 1967, Ser. No. 630,745  
Int. Cl. C08g 17/003

U.S. Cl. 260—75 13 Claims  
Viscous liquids, such as polyethylene terephthalate prepolymer, are polymerized to high molecular weight polymers while being transported through one or more heated reaction chambers by closely intermeshed, parallel, horizontal, counter-rotating screws and distributed on their outwardly moving, upper surfaces in layers thin enough for the elimination of gaseous products without excessive frothing under subatmospheric pressures. A small nip clearance between the intermeshing screw flights provides a wiping action that prevents accumulating material thereon and exposes fresh surfaces of the polymerizing liquid as well as regulating the thickness of the layer thereof carried upwardly by each screw even when great increases in viscosity occur during polymerization. Gas-tight seals between adjacent chambers are obtained by completely enclosing the intermeshing screws in close fitting barrels or tunnels and providing restricted orifices therein whereby the enclosed screw sections become completely filled with the polymerizing material.

3,522,215

**IMPACT RESISTANT AMORPHOUS COPOLYESTERS**

Kashinath S. Sardesai, Menlo Park, and Michel E. Muller, Princeton Junction, N.J., assignors to Mobil Oil Corporation, a corporation of New York  
No Drawing. Filed June 5, 1967, Ser. No. 643,344  
Int. Cl. C08g 17/08, 33/10

U.S. Cl. 260—75 7 Claims  
Amorphous copolyesters having a high heat distortion temperature and a high impact strength are prepared by copolyesterification of four monomers. One monomer is terephthalic acid or an ester thereof and another is 1,4-cyclohexane dimethanol (cis, trans, or a mixture of cis and trans isomers). The third monomer is a dicarboxylic acid having at least two (C<sub>4</sub>-C<sub>8</sub>) carboxylic rings or an ester thereof. The fourth monomer is a glycol or still another carbocyclic dicarboxylic acid.

3,522,216

**PREPARATION OF POLYESTERS WITH NICKEL, MANGANESE, ALUMINUM, OR CADMIUM BORATE AS POLYCONDENSATION CATALYSTS**

John A. Price, Swarthmore, and Mary J. Stewart, Riddlewood, Media, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware  
No Drawing. Filed June 21, 1967, Ser. No. 647,617  
Int. Cl. C08g 17/015

U.S. Cl. 260—75 7 Claims  
A process of preparing polyethylene terephthalate resin comprising carrying out a transesterification reaction between ethylene glycol and dimethyl terephthalate in the presence of a conventional transesterification catalyst, to form a polyester prepolymer and then polycondensing the resulting prepolymer in the presence of a catalytic amount

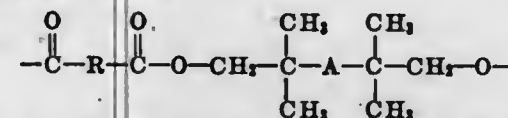
of a suitable metal borate polycondensation catalyst selected from the group consisting of nickel borate, manganese borate, lead borate, aluminum borate, and cadmium borate.

3,522,217

**POLYESTERS FROM p-BIS(HYDROXY-4-BUTYL)BENZENE AND p-BIS(HYDROXY-4-BUTYL)BIPHENYL**

Richard D. Weimar, Jr., Grifton, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Filed July 26, 1968, Ser. No. 747,820  
Int. Cl. C07c 31/18; C08g 17/08

U.S. Cl. 260—75 7 Claims  
Fiber-forming linear polyesters having a high degree of thermal stability characterized by recurring units of the structural formula



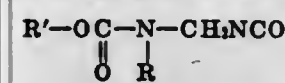
wherein A is a divalent aromatic radical selected from the group consisting of p-phenylene and p,p'-diphenylene, and R is a divalent organic radical of 6 to 20 carbon atoms and contains at least 1 aromatic nucleus.

3,522,218

**CROSSLINKABLE ADDITION PRODUCTS PREPARED BY REACTING A MONOISOCYANATE WITH AN ORGANIC COMPOUND CONTAINING HYDROGEN ATOMS REACTIVE WITH NCO GROUPS**

Josef Pedain, Cologne, Karl-Friedrich Zenner and Gunter Oertel, Cologne-Flittard, and Hans Holtschmidt, Leverkusen-Steinbuechel, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Filed Dec. 1, 1967, Ser. No. 687,144  
Claims priority, application Germany, Dec. 6, 1966, F 50,855, F 50,856  
Int. Cl. C08g 22/06

U.S. Cl. 260—77.5 9 Claims  
Crosslinkable polyaddition products are the reaction product of an organic compound containing active hydrogen atoms which are reactive with NCO groups and a monoisocyanate having the formula



where R is alkyl, alkenyl, cycloalkyl, aralkyl or chloroalkyl having 1 to 12 carbon atoms and R' is the same as R and also chloroalkyl having 1 to 12 carbon atoms, aryl and chloroaryl having 6 to 12 carbon atoms.

These products crosslink upon heating or by catalysis to solid elastic lacquers or sealing compounds.

3,522,219

**PROCESS FOR THE SUSPENSION POLYMERIZATION OF  $\beta$ -SUBSTITUTED- $\beta$ -LACTONES**

Aldemaro Claperoni, Bollate, Milan, and Giovanni B. Gechele, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy  
No Drawing. Filed Jan. 18, 1967, Ser. No. 610,019  
Claims priority, application Italy, Jan. 21, 1966, 1,434/66  
Int. Cl. C08g 17/017

U.S. Cl. 260—78.3 13 Claims  
A process for the preparation of polyesters by polymerizing a suspension of a  $\beta$ -substituted- $\beta$ -lactone in an inert liquid in the presence of a catalyst comprising the halides of the following elements: Cu, Zn, Hg, Cd, B, Al, Ge, In, Ti, Sn, Pb, P, V, Sb, Bi, As, Fe, Co and Ni, and complexes of such halides with halogenated organic compounds.

3,522,220

**SULFATED, HYDROXYLATED DIOLEFIN POLYMERS**

Thomas F. Rutledge, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Jan. 31, 1968, Ser. No. 701,833  
Int. Cl. C08f 27/06, 13/06; C11d 3/065

U.S. Cl. 260—79.3 10 Claims  
Sulfated, hydroxylated, unsaturated hydrocarbon polymers of conjugated diolefins are prepared by contacting conjugated diolefin with a mixture of sulfuric acid and an amide selected from the group consisting of oxamide, benzamide, sulfamide, and sulfamic acid. Typically, amide and concentrated aqueous sulfuric acid in mol proportions of 1:1.5 are suspended in an inert diluent and 0.8 to 10 molar proportions of conjugated diolefin are gradually introduced at 10 to 20° C. over a period of several hours. The recovered sulfated, hydroxylated, unsaturated polymer, in the form of its water-soluble salt, is a useful detergent component.

3,522,221

**THREE-COMPONENT POLYTHIOETHERS**

Irwin J. Gardiner, Fanwood, and Daniel N. Hall, Linden, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed Apr. 24, 1967, Ser. No. 632,950  
Int. Cl. C07c 154/02; C07d 7/04; C08f 15/00

U.S. Cl. 260—79.7 7 Claims  
Readily crosslinkable three-component polythioether compositions are formed by the polyaddition of a dithiol with an organic diunsaturate such as an alkyl acetylene in admixture with another diunsaturate containing a masked or potential thiol group. Examples of the latter include acetylenic and allenic thiol esters, S-acetylenic xanthates, 2-(tetrahydropyranyl) acetylenyl sulfides, and acetylenyl isothiuronium hydrohalides.

3,522,222

**CURING OLEFIN POLYMERS WITH ORGANIC PEROXIDES AND POLYVALENT METAL SALTS OF ACRYLIC AND METHACRYLIC ACIDS**

Ray D. Taylor, Brecksville, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York  
No Drawing. Continuation-in-part of application Ser. No. 491,376, Sept. 29, 1965. This application Sept. 19, 1968, Ser. No. 760,978  
Int. Cl. C08f 15/40

U.S. Cl. 260—80.78 10 Claims  
In the cure of elastomeric  $\alpha$ -olefin polymers such as copolymers of ethylene and propylene with organic peroxides, vulcanizates having improved physical properties are obtained when polyvalent metal salts of acrylic and/or methacrylic acids are employed in conjunction with the organic peroxide. Improved adhesion of  $\alpha$ -olefin polymers to non-primed metal surfaces is also obtained when the polymers contain organic peroxides and the polyvalent metal salts of acrylic or methacrylic acids.

3,522,223

 **$\alpha$ -OLEFIN ELASTOMERS**

Ray D. Taylor, Brecksville, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York  
No Drawing. Continuation-in-part of application Ser. No. 491,376, Sept. 29, 1965. This application Sept. 19, 1968, Ser. No. 760,979  
Int. Cl. C08f 15/40

U.S. Cl. 260—80.78 9 Claims  
In elastomeric  $\alpha$ -olefin polymers such as copolymers of ethylene and propylene, improved green strength is obtained by means of small amounts of an organic peroxide



and polyvalent metal salts of acrylic or methacrylic acid, without adversely affecting processability or other desirable properties of the polymer.

### 3,522,224 PROCESS FOR PREPARING INTERPOLYMERS OF SYMMETRICAL DICHLOROETHYLENE

Gordon Y. T. Liu, Baton Rouge, La., and Coleman J. Bryan, Merritt Island, Fla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 18, 1967, Ser. No. 668,641  
Int. Cl. C08f 15/06, 15/24, 15/28

**U.S. Cl. 260—86.3** **2 Claims**  
This invention is directed to a process for enhancing the rate of polymerization when preparing interpolymers of symmetrical dichloroethylene in the presence of catalyst systems comprised of (1) a compound of a metal of Groups II-B, IV-A, IV-B, V-B, VI-B, VII-B and VIII (including thorium and uranium) of the Periodic System, (2) an organo metallic compound of an alkali metal, an alkaline earth metal, zinc or aluminum and (3) a complexing agent for the organometallic compound. Specifically, the process comprises (a) admixing the prescribed amounts of catalyst component (1) with the symmetrical dichloroethylene monomer, (b) admixing catalyst components (2) and (3) with the copolymerizable monomer, and (c) subsequently admixing the mixtures of (a) and (b) and thereafter polymerizing the same under autogenous pressure at a temperature between about 10 and 150° C.

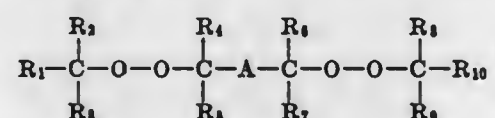
### 3,522,225 VULCANIZATION OF ELASTOMERIC OLEFINIC COPOLYMERS WITH ORGANIC DIPEROXIDES

Cesare Augusto Peri, Giorgio Sugni, and Augusto Portolani, Milan, and Giuliano Ballini, Ferrara, Italy, Robert Hügel, Mainz, Germany, and Spartaco Fontani, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Continuation of application Ser. No. 628,230, Mar. 30, 1967, which is a continuation-in-part of application Ser. No. 160,665, Dec. 19, 1961. This application Mar. 5, 1969, Ser. No. 806,029

**U.S. Cl. 260—88.2** **15 Claims**  
Int. Cl. G08f 15/04

Vulcanizable composition of (1) a vulcanizable polymer which is either a saturated elastomeric copolymer of ethylene with a higher alpha-olefin having the formula  $\text{CH}_2=\text{CHR}$  in which R is a lower alkyl radical, the copolymer having an ethylene content of from about 5 to 70 mol percent, or a low unsaturation terpolymer of ethylene with propylene or butene-1 and with a cyclic non-conjugated polyene, the terpolymer having an ethylene content of from about 20 to 80 mol percent and a polyene content of from about 0.1 to 20 mol percent, the molecular weight of the polymer being between about 60,000 and 800,000; (2) a diperoxide having the general formula:



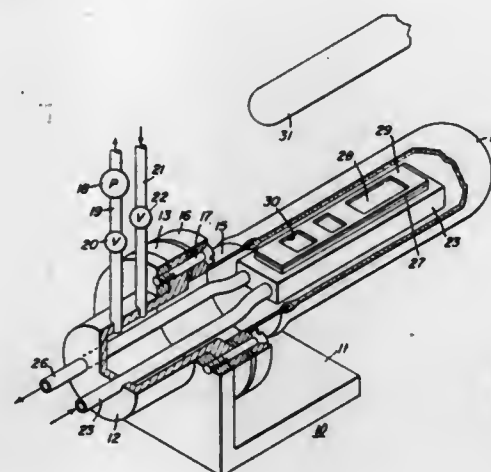
in which  $R_2$  to  $R_9$ , inclusive, are selected from the group consisting of unsubstituted and halogen-substituted lower alkyl radicals,  $R_1$  and  $R_{10}$  are selected from the group consisting of unsubstituted and substituted alkyl radicals containing from 1 to 6 carbon atoms and unsubstituted and substituted aromatic radicals containing from 6 to 20 carbon atoms, and A is an arylene radical selected from the group consisting of phenylene, diphenylene and naphthylene, in a concentration of from about 0.002 to 0.02

mol of diperoxide per 100 grams of the vulcanizable copolymer or terpolymer; and (3) a radical acceptor selected from the group consisting of sulfur, quinone compounds and dimaleimide compounds, in a concentration of from 0.1 to 20 grams per 100 grams of the vulcanizable copolymer or terpolymer.

### 3,522,226 POLYMERIZED HEXACHLOROBUTADIENE

Archibald N. Wright, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 1, 1966, Ser. No. 530,971  
Int. Cl. C08f 1/18, 3/20  
**U.S. Cl. 260—92.3** **2 Claims**



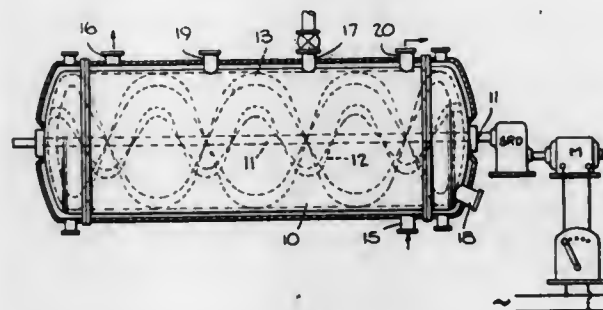
A method of making a continuous pinhole-free film or coating is provided, which involves the ultraviolet light surface polymerization of gaseous hexachlorobutadiene. The films and coatings provided can be formed on various substrates in configurational manner.

### 3,522,227 POLYMERIZATION OF VINYL CHLORIDE

Jean Claude Thomas, Lyon, France, assignor to Produits Chimique Pechiney Saint-Gobain, Neuilly-sur-Seine, France

Continuation of applications Ser. No. 345,944, Feb. 19, 1964, and Ser. No. 347,147, Feb. 25, 1964. This application June 11, 1969, Ser. No. 832,394  
Claims priority, application France, Feb. 26, 1963, 926,043

**U.S. Cl. 260—92.8** **9 Claims**  
Int. Cl. C08f 1/04, 1/10, 3/30



Polymers and homopolymers of vinyl chloride are produced, such polymers and homopolymers being in the form of regular, substantially spherical grains. In the disclosed embodiments of the method, polymerization is carried out in mass, that is, in the absence of solvent or diluents, in two stages of which the first proceeds to only

about 7 to 15% of completion with agitation of high turbulence, and the second proceeds to the selected end point with only mild agitation designed to maintain good heat exchange. In the preferred form of the invention the first stage is carried out in one autoclave and the second stage in another.

### 3,522,228 NOVEL METHOD FOR POLYMERIZING A VINYL COMPOUND IN THE PRESENCE OF A CARBON DIOXIDE MEDIUM

Kenichi Fukui and Tsutomu Kagiya, Kyoto, Hisao Yokota, Kobe, Yahiko Toriuchi, Toyonaka-shi, and Kunyoshi Fujii, Suita-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., and Sumitomo Atomic Energy Industries, Ltd., both of Osaka, Japan, both corporations of Japan

No Drawing. Filed May 15, 1967, Ser. No. 638,565  
Claims priority, application Japan, May 19, 1966, 41/32,247

**U.S. Cl. 260—94.9** **6 Claims**  
Int. Cl. C08d 1/00; C08f 1/16

Method for polymerizing vinyl monomer compounds in the presence of a catalyst comprising conducting polymerization in liquid carbon dioxide at a temperature of -78° to 100° C. and under super atmospheric pressure.

### 3,522,229 GLYCOPROTEIN FROM SALIVA OR SALIVARY GLANDS HAVING GASTRIC ACID SECRETION INHIBITORY AS WELL AS ANTI-ULCERATIVE ACTIVITY AND METHOD OF COLLECTING THE SAME

Masaaki Yamamoto and Masayoshi Kobayashi, Kawasaki-shi, and Tokutaro Miki, Tokyo, Japan, assignors to Telkoku Hormone Mfg. Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 25, 1968, Ser. No. 715,579  
Claims priority, application Japan, Mar. 29, 1967, 42/19,209; Mar. 15, 1968, 43/16,517

**U.S. Cl. 260—112** **16 Claims**  
Int. Cl. A61k 17/00; C07g 7/00

A glycoprotein having gastric acid secretion inhibitory and anti-ulcerative activity, obtained from saliva or salivary glands. A method of collecting the glycoprotein which comprises in combination steps of acidifying saliva or an aqueous extraction of salivary glands to pH 4.0 stepwise, adding zinc salt to mother liquor to precipitate complex, redissolving the precipitate by chelating agent, subjecting to dialysis, and adding water-miscible organic solvent to precipitate the glycoprotein.

### 3,522,230 PROCESS FOR SEPARATING LIGNIN FROM VEGETABLE MATERIAL USING A MIXTURE OF TRIETHYLENEGLYCOL AND ARYLSULFONIC ACIDS

Leonard F. Burkart, Nacogdoches, Tex., assignor, by mesne assignments, to Norman Quigley, Stateline, Nev.  
No Drawing. Continuation-in-part of application Ser. No. 499,001, Oct. 20, 1965. This application Jan. 23, 1969, Ser. No. 793,609

**U.S. Cl. 260—124** **6 Claims**  
Int. Cl. C07g 1/00; D21c 3/20

A method for treating lignocellulosic materials for removal of lignin and other non-carbohydrates as well as non-cellulosic carbohydrates from cellulosic matter. The removal is effected by means of a triethyleneglycol liquor containing phenolsulfonic or paratoluenesulfonic acids. The rich liquor is then mixed with an organic solvent under basic pH conditions so as to precipitate the non-carbohydrates and non-cellulosic carbohydrates for further separation.

### 3,522,231 ASYMMETRICAL 1:2 CHROMIUM COMPLEX AZO DYESTUFFS

Otto Bitterlin, Basel, Switzerland, assignor to J. R. Gely, A.G., Basel, Switzerland

No Drawing. Filed Nov. 4, 1966, Ser. No. 591,975  
Claims priority, application Switzerland, Nov. 22, 1965, 16,053/65

**U.S. Cl. 260—145** **9 Claims**  
Int. Cl. C09b 45/00, 45/06, 45/16

Asymmetrical 1:2 chromium complex azo dyestuffs composed of a nitrophenylene-azo-naphthylene sulfonic acid monoazo dyestuff moiety or a nitrophenylene sulfonic acid-azo-naphthylene sulfonic acid dyestuff moiety substituted at the naphthylene radical by a phenylsulfonylamino or a lower alkylphenylsulfonylamino radical, and of a monosulfonated naphthylene-azo-naphthylene monoazo dyestuff moiety, and their use for the dyeing of keratin material, particularly leather with good light fastness, excellent penetration and a level, neutral, full, strong grey shade are disclosed.

### 3,522,232 QUATERNIZED REACTIVE MONOAZO DYESTUFFS CONTAINING TRIAZINE AND ISONICOTINIC ACID GROUPS

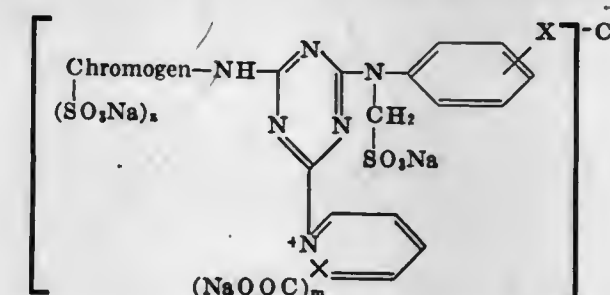
Sandro Ponzini, Saronno, Paolo Castelli, Cesano Maderno, and Jean S. Lawendel, Milan, Italy, assignors to Aziende Colori Nazionali Affini ACNA S.p.A., Milan, Italy

No Drawing. Original application July 16, 1965, Ser. No. 472,688, now Patent No. 3,416,875, dated Dec. 17, 1968. Divided and this application June 5, 1968, Ser. No. 749,899

Claims priority, application Italy, July 17, 1964, 15,658/64

**U.S. Cl. 260—146** **7 Claims**  
Int. Cl. C09b 62/78, 62/80, 62/82

Reactive triazine dyestuffs having the formula:



wherein the chromogen is a dyestuff residue selected from the group consisting of azo, metallized azo, anthraquinone and phthalocyanine dyestuff residues, said chromogen being attached to the —NH— bridging group through a carbon atom of an aromatic nucleus of said chromogen selected from the group consisting of benzene and naphthalene, wherein X is selected from the group consisting of H, CH<sub>3</sub>, OCH<sub>3</sub> and OC<sub>2</sub>H<sub>5</sub>; n is an integer from 1 to 4 and m is 1 or 2, are effective for dyeing cellulose fibers. The dyestuffs may be absorbed and fixed onto the cellulose fibers by known hot or cold dyeing techniques. Intense dyeings having very good fastness to washing are obtained.

### 3,522,233 ALIPHATIC AZO FORMATES AND FORMAMIDES

Chester Stephen Sheppard, Tonawanda, and Leonard Earnest Korczykowski, North Tonawanda, N.Y., assignors to Pennwalt Corporation, a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 409,306, Nov. 5, 1964. This application Nov. 21, 1967, Ser. No. 684,653

**U.S. Cl. 260—192** **9 Claims**  
Int. Cl. C07c 107/00

Unsymmetrical azodiformates, e.g. methyl ethyl azodiformate; acylazodiformates, e.g. ethyl benzoylazodiformate;



and acylazoforamides e.g. benzoylazo-N-n-butylformamide, having utility as dyes, polymerization catalysts, blowing agents, oxidizing agents and free-radical generators, are described.

3,522,234

**MONOAZO DYES OF THE AZOBENZENE SERIES**  
Wolfgang Groebke, Oberwil, Basel-Land, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland  
No Drawing. Filed Sept. 20, 1967, Ser. No. 669,250  
Claims priority, application Switzerland, Oct. 6, 1966, 14,455/66; Oct. 26, 1966, 15,532/66  
Int. Cl. C07c 107/06; D06p 1/02

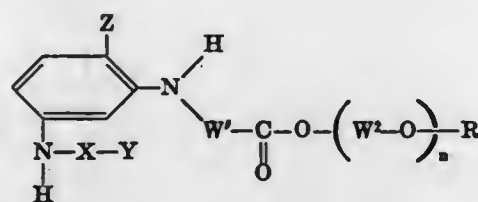
U.S. Cl. 260—207 4 Claims  
Disperse dyes of the 2,4-dinitro-4'-amino-1,1'-azobenzene series bearing a halogen atom or a cyano or acylamino group as substituent in the 5-position produce dyes with outstandingly good fastness properties on synthetic and semi-synthetic fibres made from high molecular organic materials.

3,522,235

# **WATER-INSOLUBLE AZO DYESTUFFS**

Thomas Douglas Baron and Brian Ribbons Fishwick, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
No Drawing. Continuation-in-part of application Ser. No. 480,119, Aug. 16, 1965. This application Sept. 19, 1968, Ser. No. 761,001  
Claims priority, application Great Britain, Aug. 26, 1964, 34,944/64  
Int. Cl. C07c 107/06; C09b 29/24

U.S. Cl. 260—207 5 Claims  
Water-insoluble azo dyestuffs derived from a diazo component of the benzene series and a coupling component of the formula



wherein

X is —CO—, —SO<sub>2</sub>— or —COO—

Y is lower alkyl, chloro lower alkyl, bromo lower alkyl, lower alkoxy lower alkyl, cyclohexyl, benzyl, phenyl, tolyl or methoxyphenyl;

Z is hydrogen, lower alkyl or lower alkoxy;

R is lower alkyl;

W' and W<sub>2</sub> are each lower alkylene; and

n is an integer of from 1 to 10; and the use of the said dyestuffs for colouring synthetic textile materials.

3,522,236

**2',4',6',3-TETRAHYDROXY-4-n-PROPOXYDIHYDROCHALCONE 4'-β-NEOHESPERIDOSIDE AND EDIBLE COMPOSITIONS CONTAINING SAME**  
Leroy O. Krbecek, Deerfield, and George Everett Inglett, Peoria, Ill., assignors to International Minerals & Chemical Corporation, a corporation of New York  
No Drawing. Continuation-in-part of application Ser. No. 622,098, Mar. 10, 1967. This application May 15, 1967, Ser. No. 638,623  
Int. Cl. C08b 19/00

U.S. Cl. 260—210 1 Claim  
The novel compound 2',4',6',3-tetrahydroxy-4-n-propoxydihydrochalcone 4'-β-neohesperidoside is useful as a sugar substitute and sweetening agent in edible formulations.

## **3,522,237 METHOD FOR THE PREPARATION OF O-SUBSTITUTED-6-AZACYTIDINES AND 6-AZACYTIDINE**

Vladimir Panteleevich Chernetsky and Inna Vladimirovna Alexeeva, Kiev, U.S.S.R., assignors to Institute Mikrobiologii Im. Akad. D.K. Zabolotnogo, Kiev, U.S.S.R.  
No Drawing. Continuation-in-part of applications Ser. No. 365,183, May 5, 1964, and Ser. No. 688,654, Dec. 7, 1967. This application May 24, 1968, Ser. No. 731,698  
Int. Cl. C07d 51/50

U.S. Cl. 260—211.5 11 Claims  
A method in which solutions of 2',3',5'-tri-O-substituted-4-thio-6-azauridines in organic solvents are treated with ammonia at atmospheric pressure to convert the substituted azauridines to 2',3',5'-tri-O-substituted-6-azacytidines which may then be converted, if desired, to free 6-azacytidine by dissolving the 2',3',5'-tri-O-substituted-6-azacytidine in an anhydrous solvent and treating some with a metal alcoholate at an alkaline pH.

3,522,238

## **ACIDIFIED ETHYLENIMINE MODIFIED CEREAL FLOURS**

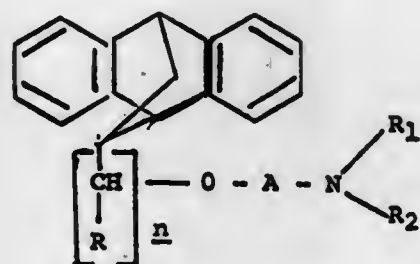
John C. Rankin and Charles R. Russell, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture  
No Drawing. Filed Jan. 11, 1968, Ser. No. 697,032  
Int. Cl. C08b 19/01

U.S. Cl. 260—233.3 1 Claim  
Cationic pigment retention aids for use in the manufacture of paper which aids are equally effective in both soft water and hard water are produced by acidifying cereal grain flours that have been reacted with 2 to 3 weight percent of ethylenimine. The acidified aminoethylated cereal grain flour derivatives contain from about 1.2 grams to 1.8 grams of chemically bound ethylenimine constituent per 100 grams dry basis weight of flour and a one percent aqueous dispersion of the acidified aminoethylated cereal grain flour has a pH of between about 4.0 to 5.0.

3,522,239

**AMINOETHER DERIVATIVES OF 9,10-ETHANO-9,10-DIHYDRO-ANTHRACENE**  
Jacques Robert Boissier, Paris, and Roger Ratouis, Saint-Cloud, France, assignors to Société Industrielle pour la Fabrication des Antibiotiques (S.I.F.A.), Paris, France, a French company  
No Drawing. Filed June 21, 1966, Ser. No. 564,466  
Claims priority, application France, July 1, 1965, 23,093; July 8, 1965, 23,942; Oct. 7, 1965, 34,100  
Int. Cl. C07d 41/04; C07c 93/06, 93/08

U.S. Cl. 260—239 6 Claims  
The products are new aminoether derivatives of 9,10-ethano-9,10-dihydro-anthracene and acid addition and quaternary ammonium salts thereof, said new aminoether derivatives corresponding to the formula:



(1)

where n is 0, 1 or 2, R represents hydrogen or a methyl radical (when n=2, R can only represent hydrogen), A represents a linear or branched alkylene radical with two to four carbon atoms, and R<sub>1</sub> and R<sub>2</sub>, which may be the same or different, represent hydrogen atoms or

lower alkyl radicals or, together with the nitrogen atom N, form a heterocyclic radical such as pyrrolidino, piperidino, morpholino or hexamethyleneimino.

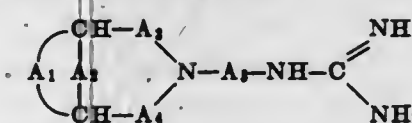
The aminoether derivatives are anti-Parkinson and anti-cholinergic medicaments.

3,522,240

## **(N,N-BICYCLOALKYLENIMINO)-LOWER ALKYL-CYANIDES AND -AMINES**

Robert Paul Mull, Florham Park, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Application Apr. 10, 1962, Ser. No. 186,362, now Patent No. 3,252,972, dated May 24, 1966, which is a continuation-in-part of application Ser. No. 54,593, Sept. 8, 1960, which in turn is a continuation-in-part of application Ser. No. 851,970, Nov. 10, 1959. Divided and this application May 23, 1966, Ser. No. 551,869  
Int. Cl. C07d 41/04

U.S. Cl. 260—239 1 Claim  
Antihypertensive bicycloalkyleneimino-lower alkylguanidines, e.g. those of the formula



A<sub>1,5</sub>=alkylene

A<sub>2-4</sub>=direct bond or alkylene salts, quaternaries and valuable intermediates thereof.

3,522,241

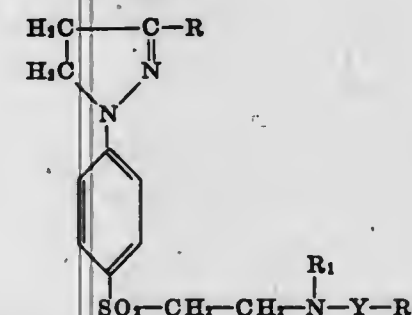
**SUBSTITUTED TRIAZEPINE COMPOUNDS AND  
IMPROVED METHOD FOR THEIR SYNTHESIS**  
Stanley J. Strycker, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed June 19, 1967, Ser. No. 647,183  
Int. Cl. C07d 55/54; A01n 9/22

U.S. Cl. 260—239 12 Claims  
The present invention is directed to certain substituted triazepine compounds and to an improved method for the synthesis of these, as well as other substituted triazepine compounds.

3,522,242

**1-[4'-(β-ACYLAMINO-ETHYLSULFONYL)-  
PHENYL]-3-ARYL-Δ<sub>2</sub>-PYRAZOLINES**  
Erich Schinzel, Frankfurt am Main, Siegfried Bildstein, Kelkheim, Taunus, and Karl Heinz Lebkucher, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany  
No Drawing. Filed July 14, 1967, Ser. No. 653,323  
Int. Cl. C07d 49/10

U.S. Cl. 260—239.9 8 Claims  
1-[4'-(β-acylamino-ethylsulfonyl)-phenyl]-3-aryl-Δ<sub>2</sub>-pyrazolines of the Formula A



wherein R represents phenyl or p-chloro-phenyl, Y stands for carbonyl or sulfonyl, R<sub>1</sub> represents hydrogen, alkyl containing up to 20 carbon atoms, phenyl, lower alkoxy phenyl, or benzyl, and R<sub>2</sub> represents alkyl containing

3,522,243

## **OMEGA-AMINO 1-ALKYNYL STEROIDS AND REDUCTION PRODUCTS THEREOF**

Robert G. Christiansen, Schodack, and Raymond O. Clinton, East Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Mar. 17, 1964, Ser. No. 352,674  
Int. Cl. C07c 173/10, 169/20

U.S. Cl. 260—239.5 35 Claims  
1. A steroid having a carbon skeleton selected from the group consisting of estrane, androstane, D-homoestrane and D-homoandrostane, having in the case of the estrane and androstane skeletons, both a hydroxy group and an omega-amino-lower-aliphatic hydrocarbon group in at least one of the 3- and 17α-positions, and, in the case of the D-homoestrane and D-homoandrostane skeletons, both a hydroxy group and an omega-amino-lower-aliphatic hydrocarbon group in at least one of the 3- and 17α-positions; wherein the steroid moiety has from eighteen to twenty-three carbon atoms exclusive of ester radicals and of the omega-amino-lower-aliphatic hydrocarbon group; and wherein the omega-amino-lower-aliphatic hydrocarbon group is a member of the group consisting of omega-amino-1-lower-alkynyl, omega-amino-1-lower-alkenyl and omega-amino-lower alkyl, wherein the omega-amino group is of the formula NZZ', wherein Z is a member of the group consisting of hydrogen, lower-alkyl, cycloalkyl of 5-6 ring members and phenyl-lower-alkyl, and Z' is a member of the group consisting of hydrogen, lower-alkyl, lower-alkanoyl, cycloalkyl of 5-6 ring members and phenyl-lower-alkyl, including compounds wherein NZZ' together is a member of the group consisting of piperidino, pyrrolidino, hexamethylenimino, morpholino, piperazino, and lower-alkylated piperidino, pyrrolidino, hexamethylenimino, morpholino and piperazino.

3,522,244

## **SALTS OF BETA-(PYRIDYL ALKYL) AMINES WITH 21-HYDROXY STEROID POLYVALENT ACID ESTERS**

Eric T. Fossel, Lexington, Mass., assignor to Unimed, Inc., Morristown, N.J.  
No Drawing. Filed Sept. 12, 1967, Ser. No. 667,084  
Int. Cl. C07c 173/00

U.S. Cl. 260—239.5 8 Claims  
This invention relates to steroid derivatives with reduced side effects, and more particularly to salts of beta-2- or 4-(pyridyl alkyl) amines and a 21-polyvalent e.g. polycarboxylic acid ester of a 21-hydroxy steroid.

3,522,245

## **4-OXO-6-STYRYL-3,4,5,6-TETRAHYDRO-α- PYRON COMPOUNDS, COMPOSITIONS CON- TAINING SAME, AND PROCESS OF MAKING SAME**

Hans Brinkhoff, Munich, Germany, assignor to Spezialchemie G.m.b.H. & Co., Munich, Germany, a company of Germany  
No Drawing. Filed July 26, 1967, Ser. No. 655,992  
Int. Cl. C07d 7/06

U.S. Cl. 260—240 10 Claims  
New therapeutically valuable 4-oxo-6-styryl-3,4,5,6-tetrahydro-α-pyrone compounds which may be substituted in the benzene ring by the methylenedioxy or methoxy group and which have pharmacological and therapeutic properties similar to those of kawain.

They are obtained by condensing a γ-bromo aceto acetic acid lower alkyl ester with a corresponding substituted or unsubstituted cinnamic aldehyde in the presence of a metal catalyst such as zinc and in an inert



organic solvent such as benzene, preferably at a temperature between about 70° C. and about 80° C.

Methoxylation of said condensation products, for instance, with dimethylsulfate yields kawain and other kava- $\alpha$ -pyron compounds.

The new compounds and pharmaceutical compositions containing same have sedative activity with low toxicity.

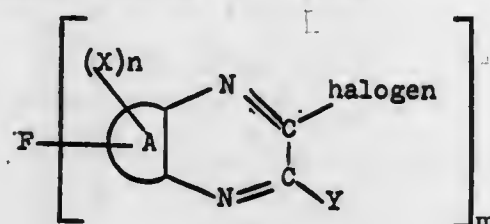
### 3,522,246 FIBER REACTIVE QUINOXALINE TYPE DYESTUFFS

Edgar Siegel, Leverkusen, and Klaus Sasse, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer, Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Application Dec. 11, 1964, Ser. No. 417,831, now Patent No. 3,377,336, dated Apr. 9, 1968, which is a continuation-in-part of application Ser. No. 171,269, Feb. 5, 1962. Divided and this application Oct. 24, 1967, Ser. No. 677,776

Int. Cl. C07d 51/78

U.S. Cl. 260—242 10 Claims  
Fiber reactive dyestuffs for use on cellulose containing textile materials having the formula



wherein F is the radical of an organic dyestuff, A is a five- or six-membered isocyclic or heterocyclic ring, X is hydrogen or an organic substituent, Y is hydrogen, halogen or an organic radical, "halogen" is a halogen atom, m a whole number and n a whole number from 1 to 3.

### 3,522,247 2-AMINO-6,7-DISUBSTITUTED-4H-1,3-BENZOTHI- AZINE-4-ONES AS BRONCHODILATORS

Timothy H. Cronin, Niantic, and Hans-Jürgen E. Hess, Groton, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 7, 1967, Ser. No. 681,088  
Int. Cl. C07d 93/12; A61k 27/00  
U.S. Cl. 260—243 6 Claims  
2-amino-6,7-disubstituted-4H-1,3-benzothiazine-4-ones, the 2-substituted amino derivatives thereof and pharmaceutically-acceptable salts thereof possess bronchodilatory activity and inhibit phosphodiesterase enzyme activity. The compounds are prepared by condensation of an o-mercaptobenzoic acid ester with a cyanamide in the presence of triethylamine.

### 3,522,248 PROCESS FOR THE ISOLATION OF CEPHALOSPORIN C

Walter Voser, Allschwil, Switzerland, assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 28, 1967, Ser. No. 686,343  
Claims priority, application Switzerland, Dec. 5, 1966, 17,309/66  
Int. Cl. C07d 99/24  
U.S. Cl. 260—243 9 Claims  
Process for isolating cephalosporin C from a dilute aqueous solution in the form of the N-trinitrophenyl derivative by reacting the cephalosporin C-containing solution with trinitrobenzene sulfonic acid.

3,522,249  
WITHDRAWN

### 3,522,250 DERIVATIVES OF 7-AMINOCEPHALO- SPORANIC ACID

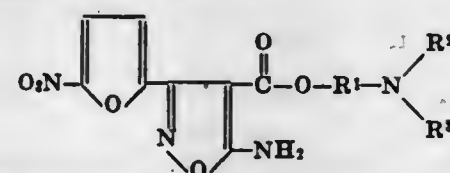
Richard M. Kerwin, West Chester, William Dvornch, Radnor, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 15, 1968, Ser. No. 767,827  
Int. Cl. C07d 99/24  
U.S. Cl. 260—243 3 Claims  
7-aminocephalosporanic acid (7-ACA) is directly produced in good yield from cephalothin by enzymatic deacylation using a strain of *Escherichia coli* identified as ATCC 9637 to provide the enzyme. The product is then reacylated with a carboxylic acid mixed anhydride or acid halide to produce new and useful cephalosporins having antimicrobial activity.

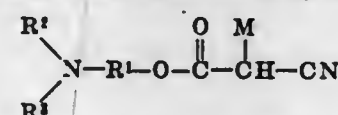
### 3,522,251 BASIC ESTERS OF 5-AMINO-3-(5'-NITROFUR-2'- YL)ISOXAZOLE-4-CARBOXYLIC ACID

Raymond Urgel Lemieux, Edmonton, Alberta, and Ronald George Micetich, Sherwood Park, Alberta, Canada, assignors to R & L Molecular Research Ltd., Edmonton, Alberta, Canada, a body corporate

No Drawing. Filed Apr. 3, 1968, Ser. No. 718,328  
Int. Cl. C07d 85/22  
U.S. Cl. 260—247.2 5 Claims  
Compounds of the formula:



wherein R<sup>1</sup> is lower-alkylene or together with R<sup>2</sup> and N, a ring of up to 10 carbons; R<sup>2</sup> and R<sup>3</sup> are lower-alkyl or together with N, a ring of up to 10 carbons; or a non-toxic pharmaceutically-acceptable acid addition salt thereof, are prepared by a process which comprises reacting a mixture of a compound represented by the formula:

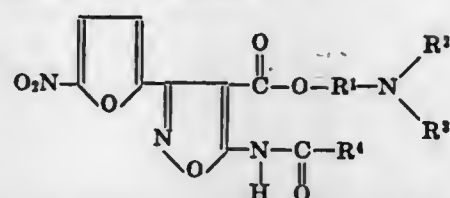


wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are as defined above and M is an alkali metal, with a N-nitrofuryl-2-haloaldehyde; and recovering the resulting compound from the reaction mixture. The compounds are antimicrobial agents and trichomonocides.

### 3,522,252 BASIC ESTERS OF 5-ALKANOYLAMINO-3-(5'- NITROFUR-2'-YL)ISOXAZOLE-4-CAR- BOXYLIC ACID

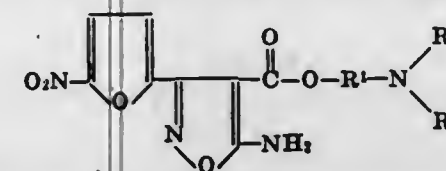
Raymond Urgel Lemieux, Edmonton, Alberta, and Ronald George Micetich, Sherwood Park, Alberta, Canada, assignors to R & L Molecular Research Ltd., Edmonton, Alberta, Canada, a body corporate

No Drawing. Filed Apr. 3, 1968, Ser. No. 718,336  
Int. Cl. C07d 85/22, 87/38  
U.S. Cl. 260—247.2 6 Claims  
Compounds of the formula:



wherein R<sup>1</sup> is lower-alkylene or together with R<sup>2</sup> and N, a ring system of up to 10 carbons, R<sup>2</sup> and R<sup>3</sup> are lower-alkyl, lower-alkenyl or together with N and up to one N, S or O atom, a ring system of up to 10 carbon atoms, and R<sup>4</sup> is lower-alkyl, lower alkenyl, mono-

halomethyl, dihalomethyl or trihalomethyl or a non-toxic, pharmaceutically acceptable acid addition salt thereof, are prepared by a process which comprises forming a mixture of an isoxazole compound of the formula:



wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are as defined above and an equimolar amount of an alkali metal hydride in an inert solvent under an inert atmosphere and at reduced temperatures whereby an alkali metal derivative of said isoxazole compound is formed; bringing said alkali metal derivative into reactive contact with and acylating agent capable of forming R<sup>4</sup>-CO- groups under reaction conditions whereby the amino group on the isoxazole nucleus is substituted with one acyl radical; and separating the resultant compound from the acylation mixture. The compounds are antimicrobial agents and trichomonocides.

### 3,522,253 PRODUCTION OF MONOMETHYL DIALLYL ISOCYANURATE

Edwin D. Little, Jr., and Charles R. Walter, Jr., Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,157  
Int. Cl. C07d 55/38  
U.S. Cl. 260—248 3 Claims  
Monomethyl diallyl isocyanurate is produced by a process which comprises reacting diallyl isocyanurate with dimethyl sulfate. The subject compound has been found to be useful as a monomer in the production of resinous polymers and copolymers.

### 3,522,254 PROCESS OF PREPARING HALOGENATED COMPOUNDS

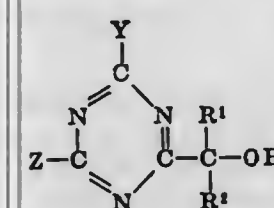
Raymond N. Mesiah, Somerset, N.J., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 16, 1968, Ser. No. 762,326  
Int. Cl. C07d 55/38  
U.S. Cl. 260—248 5 Claims  
Potassium chlorobromoisocyanurate is produced by continuously introducing potassium dichloroisocyanurate and an alkali metal bromide into an aqueous reaction medium and removing solid potassium chlorobromoisocyanurate which is formed. The solid product so recovered is in a form in which it can be filtered from its aqueous reaction medium and dewatered without difficulty.

### 3,522,255 SUBSTITUTED s-TRIAZINES

Werner Helmberger, Hanau am Main, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

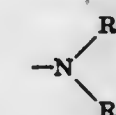
No Drawing. Filed Oct. 31, 1966, Ser. No. 594,647  
Claims priority, application Germany, Oct. 30, 1965, D 48,552  
Int. Cl. C07d 55/18, 55/20  
U.S. Cl. 260—249.9 5 Claims  
Compounds of the formula



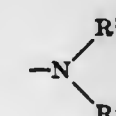
wherein R<sup>1</sup> and R<sup>2</sup> can be the same or different and are selected from the group consisting of hydrogen, alkyl of 1-6 carbon atoms and hydroxy alkyl of 1-6 carbon atoms; Y is selected from the group consisting of



and



wherein Hal is a halogen atom, preferably chlorine, R is selected from the group consisting of hydrogen, alkyl of 1-6 carbon atoms and alkyl of 1-6 carbon atoms substituted by —OH, —OR<sup>5</sup>, —NHR<sup>5</sup>, —N(R<sup>6</sup>)<sub>2</sub> or a halogen atom, R<sup>3</sup> and R<sup>4</sup> have the same significance as R<sup>1</sup> and R<sup>2</sup> and furthermore may be closed to a ring, possibly with the inclusion of a further heteroatom, such as piperazine, piperidine, phenoxazine, 9,10-dihydrophenazine or morpholine ring and R<sup>5</sup> is selected from the group consisting of aryl such as phenyl and alkyl of 1-6 carbon atoms, R<sup>6</sup> taken individually are aryl or alkyl of 1 to 6 carbon atoms and taken together can be closed to a ring with the nitrogen atom, possibly with inclusion of a further heteroatom, as described above with reference to R<sup>3</sup> and R<sup>4</sup> and Z is

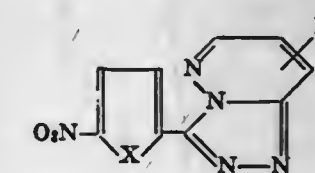


wherein R<sup>3</sup> and R<sup>4</sup> have the same significance as above. These compounds have a strong antiphlogistic action upon oral administration.

### 3,522,256 5-NITROFURAN AND 5-NITROTHIOPHENE DERIVATIVES

Herbert Berger, Sulzberg-Ried, Allgau, Rudi Gall, Mannheim-Feudenheim, Kurt Stach, Mannheim-Waldhof, and Wolfgang Voemel, Mannheim, Germany, assignors to Boehringer Mannheim Gesellschaft mit beschränkter Haftung, a corporation of Germany

No Drawing. Filed Apr. 20, 1967, Ser. No. 638,174  
Claims priority, application Germany, June 18, 1966, B 87,610  
Int. Cl. C07d 51/04  
U.S. Cl. 260—250 5 Claims  
A novel series of compounds characterized by antimicrobial properties having the following formula:



wherein X is an oxygen or sulfur atom and R indicates aryl hydrogen, halogen, alkyl, aralkyl, amino, acylated amino, hydroxyl, mercapto, alkoxy, alkylmercapto, aralkoxy, aralkyl-mercapto or a carboxylic acid group, which latter group may be esterified or amidated. Included within the scope of the invention are the medicinal agents containing the aforesaid novel compounds as well as the method of using the novel compounds.



3,522,257

## TETRAZAPENTACENE DYESTUFFS

Christian Zickendraht, Binningen, and Dieter Maesezahl, Allschwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Jan. 29, 1968, Ser. No. 701,073

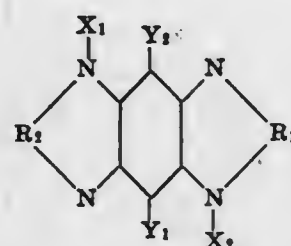
Claims priority, application Switzerland, Feb. 28, 1967, 2,951/67

Int. Cl. C07d 51/80

U.S. Cl. 260—250

5 Claims

The invention concerns new tetrazapentacenes which have brilliant red colors in acetylcellulose and polyacrylonitrile; they correspond to the formula



in which R<sub>1</sub> and R<sub>2</sub> each represents an ortho-arylene group containing a sulphone group, or a sulphonc acid ester or amide group, Y<sub>1</sub> and Y<sub>2</sub> each represents a halogen atom or an acylamino group and X<sub>1</sub> and X<sub>2</sub> each represents an aryl, aralkyl, cycloalkyl or unsubstituted or substituted alkyl radical.

3,522,258

## PIPERAZINE DI-(N-ACETYL-GLYCINATE)

Maria Luisa Ricciardi and Aurora Sanfilippo, Milan, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, an Italian corporation

No Drawing. Filed May 15, 1967, Ser. No. 638,601

Claims priority, application Italy, May 20, 1966, 11,603/66

Int. Cl. C07d 51/64

U.S. Cl. 260—268

1 Claim

Anthelmintic having low toxicity is disclosed. Piperazine di-(N-acetyl-glycinate) can be used in veterinary therapy. The compound is prepared by salifying piperazine hexahydrate with N-acetyl-glycine.

3,522,259

## 2-HETEROCYCLIC AMINO DERIVATIVES OF 10',11' - DIHYDROSPIRO CYCLOPROPANE-1,5'-5H-DIBENZO(a,d)CYCLOHEPTENE

Carl Kaiser, Haddon Heights, N.J., and Charles L. Zirkle, Berwyn, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Oct. 19, 1965, Ser. No. 498,151, now Patent No. 3,423,461, dated Jan. 21, 1969. Divided and this application Aug. 23, 1968, Ser. No. 754,944

Int. Cl. C07d 51/70

U.S. Cl. 260—268

7 Claims

Heterocyclic amino derivatives of 10',11'-dihydrospiro [cyclopropane-1,5'-5H-dibenzo(a,d)cycloheptene] where in the dibenzocycloheptene ring may be halogen, trifluoromethyl, lower alkyl, lower alkoxy or lower alkylthio sub-

stituted have antidepressant activity. The compounds are generally prepared via the 10',11'-dihydrospiro[cyclopropane - 1,5' - 5H-dibenzo(a,d)cycloheptene]-2-carboxylic acids.

3,522,260

## 1,2,3,4 - TETRAHYDRO - 5H - [1]BENZOPYRANO [3,4-d]PYRIDINES AND 1,2,3,4,13,14 - HEXAHYDRO-5H-[1]BENZOPYRANO[3,4-d]PYRIDINES

Alexander T. Shulgin, Lafayette, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Original application Sept. 27, 1965, Ser. No. 490,667, now Patent No. 3,429,889, dated Feb. 25, 1969. Divided and this application Feb. 19, 1968, Ser. No. 717,061

Int. Cl. C07d 99/04

U.S. Cl. 260—294.3

11 Claims

New 1,2,3,4 - tetrahydro - 5H - [1]benzopyrano[3,4-d]pyridines and 1,2,3,4,13,14 - hexahydro-5H-[1]benzopyrano[3,4-d]pyridines having useful central nervous system depressant activity are prepared by reaction of a 5-oxo - 1,2,3,4 - tetrahydro - 5H - [1]benzopyrano[3,4-d]pyridine with a lower-alkyl magnesium halide.

3,522,261

## ESTERS OF SULFONIC ACIDS CONTAINING QUATERNARY AMMONIUM GROUPS AND PROCESS FOR THE PREPARATION THEREOF

Calvin L. Stevens, Bloomfield Hills, Mich., Harry O. Michel, Towson, Md., Arthur B. Ash, Detroit, Mich., Joseph Epstein, Baltimore, Md., Peter Blumbergs, Oak Park, Mich., and Brennie E. Hackley, Jr., Joppa, Md.; said Stevens, said Ash, and said Blumbergs assignors to Ash Stevens, Inc., Detroit, Mich., a corporation of Michigan, and said Michel, said Epstein, and said Hackley assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Original application Oct. 23, 1965, Ser. No. 504,175, now Patent No. 3,410,858, dated Nov. 12, 1968. Divided and this application Apr. 17, 1967, Ser. No. 645,081

Int. Cl. C07d 31/48; C07c 143/00

U.S. Cl. 260—294.8

17 Claims

The preparation of new compounds is described, salts of alkyl esters of organic sulfonic acids containing quaternary amine cationic groups. They are prepared by the reaction of a dialkyl sulfate with an amine-containing or quaternary amine salt-containing sulfonic acid, a sulfane. The preparation of the aforementioned sulfonic acids is also described.

3,522,262

## 5-(PYRIDYLALKYL)-PYRIDOINDOLE DERIVATIVES

Leo Berger, Montclair, and Alfred John Corraz, Wayne, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 10, 1968, Ser. No. 758,712 The portion of the term of the patent subsequent to Nov. 5, 1985, has been disclaimed

Int. Cl. C07d 31/42

U.S. Cl. 260—296

23 Claims

5-(pyridylalkyl)pyridoindole derivatives having antiallergic activity, prepared by the condensation of the correspondingly substituted 4-piperidones and N-amino-N-arylaminoalkylpyridines, are described.

3,522,263

## DISPERSE DYES OF THE (1,9)-ISOTHIAZOL-ANTHRONE SERIES

Jacques Guenthard, Binningen, Basel-Land, Switzerland, and Roland Mislin, Village-Neuf, France, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed Aug. 2, 1966, Ser. No. 570,676 Claims priority, application Switzerland, Aug. 16, 1965, 11,486/65

Int. Cl. C07d 91/50

U.S. Cl. 260—303

7 Claims

4-arylamino - (1,9) - isothiazolanthrone disperse dyes build up excellently from aqueous dispersion on materials of fully synthetic or semisynthetic high-molecular substances.

3,522,264

## ANTHRAQUINONE DYESTUFFS

Christian Zickendraht, Binningen, and Arthur Buehler, Rheinfelden, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 521,421, Jan. 18, 1966. This application Dec. 17, 1968, Ser. No. 784,475

Claims priority, application Switzerland, Feb. 3, 1965, 1,492/65

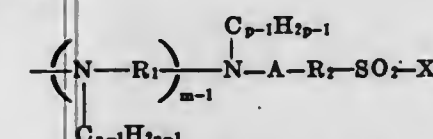
Int. Cl. C07d 91/50

U.S. Cl. 260—303

3 Claims

New anthraquinone dyestuffs free from carboxyl and sulphonic acid groups and which contain at one or more  $\alpha$ -positions of a monoanthraquinone nucleus a substituent of the formula

(1)





with hydrogen over a palladium catalyst supported on silica gel or silica gel having a silanol group density of 5-10 SiOH/10<sup>-18</sup> m.<sup>2</sup> surface area.

3,522,270

## POLYAMIDE-POLYIMIDE RESIN

David W. Glaser, St. Paul, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Aug. 26, 1966, Ser. No. 575,261

Int. Cl. C07d 27/52; C09d 11/06

U.S. Cl. 260—326

4 Claims

This invention relates to the reaction product of an alkylene diamine, a polymeric fat acid, an anhydride acid, and certain monocarboxylic acids. The polyamide-polyimide resins thus formed are useful as flexographic ink binders.

3,522,271

## METHOD OF MAKING N,N'-ARYLENE-BISMALEIMIDES

James Kalil, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 14, 1966, Ser. No. 557,355

Int. Cl. C07d 27/16

U.S. Cl. 260—326.3

4 Claims

N,N'-arylene-bismaleimides are prepared by mixing an arylene diamine and maleic anhydride in the presence of an alkali metal salt of a lower aliphatic carboxylic acid and a polar organic solvent to form an N-aryl-maleamic acid precursor and mixing therewith a lower fatty acid anhydride.

3,522,272

## INTERMEDIATES FOR THE PREPARATION OF 1-p-CHLOROBENZOYL-2-METHYL-3-INDOLYLACETIC ACID COMPOUNDS

John Martin Chemerda, Plainfield, and Meyer Slettinger, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 9, 1967, Ser. No. 659,541

Int. Cl. C07d 27/56

U.S. Cl. 260—326.12

4 Claims

The invention relates to processes for preparing 1-p-chlorobenzoyl-2-methyl-5-(methoxy) or (dimethylamino)-3-indolyl acetic acid by reducing a 1-p-chlorobenzoyl-2-substituted-5-(methoxy or (dimethylamino)-3-indolyl acetic acid. The intermediate 1-p-chlorobenzoyl-2-substituted-5-(methoxy) or (dimethylamino)-3-indolyl acetic acid compounds are also claimed.

3,522,273

## 2-(ETHYLAMINO)-2-(2-THIENYL)CYCLOHEXANONE AND ACID ADDITION SALTS

Robert F. Parcell, Ann Arbor, Mich., assignor to Parke Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 441,368, Mar. 19, 1965. This application Jan. 26, 1968, Ser. No. 700,756

Int. Cl. A61k 27/00; C07d 63/12

U.S. Cl. 260—332.3

4 Claims

2-(ethylamino)-2-(2-thienyl)-cyclohexanone and acid-addition salts. The compounds have pharmacological activity and can be produced by (a) heating 1-hydroxy-cyclopentyl 2-thienyl N-ethylketimine to produce a thermal rearrangement; or (b) reacting 2-amino-2-(2-thienyl)-cyclohexanone with an ethylating agent.

3,522,274

## 2,3-DIHYDRO-1-ALKYL-7-SULFAMOYL-4,1-BENZOXAZEPIN-5(1H)-ONES

Arthur A. Santilli, Havertown, Pa., and Thomas S. Osedene, Richmond, Va., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 24, 1967, Ser. No. 640,848

Int. Cl. C07d 87/54

U.S. Cl. 260—333

9 Claims

The compounds of the class of 2,3-dihydro-1-alkyl-7-sulfamoyl-4,1-benzoxazepin-5(1H)-ones useful as analgesic, diuretic and central nervous system depressant agents.

3,522,275

## PROCESS FOR PRODUCING PHENOLS AND XANTHENES

Arnold Factor, Scotia, Herman L. Finkbeiner, Schenectady, Robert A. Jerussi, Scotia, and Dwain M. White, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 11, 1967, Ser. No. 659,881

Int. Cl. C07c 39/12

U.S. Cl. 260—335

11 Claims

Substituted diphenyl ethers are heated to temperatures of from 200° C. to 450° C. in an inert atmosphere to undergo rearrangement to yield phenols and xanthenes. The yield of the xanthenes are increased by the addition of an oxidizing agent to the reaction. The phenols are useful in the production of polyphenylene oxides, polyesters, polycarbonates, etc., which are useful in producing films, fibers, molded products and the like.

3,522,276

SYNTHESIS OF 1-METHYL-2-HYDROXY-3-OXATRICYCLO(5.2.0.0<sup>4,9</sup>)NONANE; NOVEL INTERMEDIATE COMPOUNDS AND REACTIONS OF SAID SYNTHESIS

Thomas W. Gibson, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 16, 1966, Ser. No. 602,141

Int. Cl. C07d 5/32

U.S. Cl. 260—346.2

2 Claims

The synthesis of 1-methyl-2-hydroxy-3-oxatricyclo[5.2.0.0<sup>4,9</sup>]nonane and novel intermediates produced therein are disclosed. 1-methyl-2-hydroxy-3-oxatricyclo[5.2.0.0<sup>4,9</sup>]nonane is useful as a perfume.

3,522,277

## 3,6-ENDOETHYLENO-4-CYANO-CYCLOHEXANEDICARBOXYLIC-(1,2)-ANHYDRIDE AND PROCESS FOR DIELS-ALDER ADDITION USING CYCLOHEXA-3,5-DIENE-TRANS-1,2-DICARBOXYLIC ACID

Hubert Suter and Friedrich Brunnmueller, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Continuation of application Ser. No. 389,464, Aug. 13, 1964. This application May 28, 1968, Ser. No. 739,947

Claims priority, application Germany, Aug. 17, 1963, B 73,159

Int. Cl. C07c 61/28, 69/74, 121/48

U.S. Cl. 260—346.6

6 Claims

Production of bi- or tricyclic carboxylic acid derivatives by heating cyclohexadiene-3,5-trans-1,2-dicarboxylic acid

alone or with a dienophilic compound in the presence of an anhydride of a lower saturated carboxylic acid. The products produced by the process can be used as hardeners for epoxy resins and polyester resin lacquers.

an oxidizable material with peracetic acid. In particular, the invention includes the use of an organic solvent unreactive with the reactants in carrying out the process, and the production of epsilon-caprolactone by reaction of cyclohexanone and peracetic acid.

3,522,278

## PROCESS FOR THE PREPARATION OF TRIOXANE

Henri Montaubric, Bully les Mines, and Eugene Gombard, Mazingarbe, France, assignors to Houilleres du Bassin du Nord & du Pas-de-Calais, Foulons, Douai, Nord, France, a French public establishment

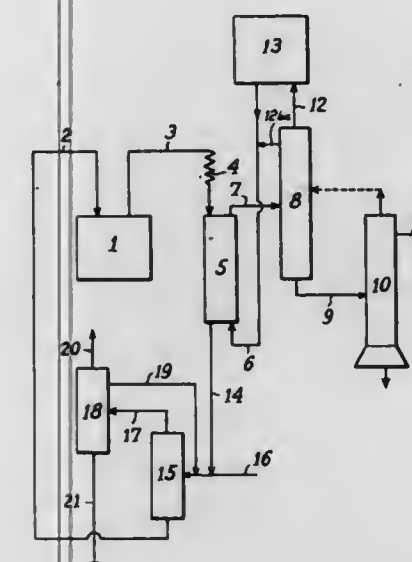
Filed July 26, 1966, Ser. No. 568,045

Claims priority, application France, July 28, 1965, 26,366

Int. Cl. C07d 19/00

U.S. Cl. 260—340

1 Claim





3,522,283

# PRODUCTION OF $\pi$ -ALLYL TRANSITION METAL-ANION COMPOUNDS

Gunther Wilke, Mulheim (Ruhr), Germany, assignor to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany

No Drawing. Original applications Aug. 6, 1964, Ser. No. 387,990, Feb. 21, 1967, Ser. No. 617,461, and Aug. 25, 1967, Ser. No. 663,229. Divided and this application Sept. 27, 1968, Ser. No. 763,360

Int. Cl. C07j 15/04

U.S. Cl. 260—439

14 Claims

Reaction of multiple olefin-transition metal complex with a  $H^+X^-$  in which  $X^-$  is an anionic radical, whereby producing a  $\pi$ -allyl-transition metal-anion compound.

3,522,284

# PRODUCTION FOR HALOGENATED PHENOXY-SILANES

Hans-Joachim Köttsch, Troisdorf, Germany, assignor to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany

No Drawing. Filed Feb. 9, 1967, Ser. No. 614,801

Claims priority, application Germany, Feb. 10, 1966, D 49,327

Int. Cl. C07f 7/06, 7/18

U.S. Cl. 260—448.3

11 Claims

Reaction of a halophenol with a halosilane having one hydrogen substituent on the silicon atom in the presence of a tertiary amine or a tertiary amine salt to produce a halophenoxy-silane.

3,522,285

# STABLE LIQUID POLYISOCYANATE COMPOSITIONS

Voldemar Kirss, Buffalo, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 463,360, June 11, 1965. This application Apr. 4, 1969, Ser. No. 813,771

Int. Cl. C07c 85/10, 119/04; C08a 22/46

U.S. Cl. 260—453

4 Claims

Polyisocyanate compositions are provided which do not deposit sediment and which do not undergo pronounced variations in their viscosities on prolonged storage by phosgenating a mixture of toluenediamines containing less than 1.5 weight percent of ortho toluenediamines.

3,522,286

# METHOD OF MAKING ORGANIC BORON COMPOUNDS HAVING THE GENERAL EMPIRICAL FORMULA $[RO]_3B_2O_3$

Antonio Salvemini, Milan, Franco Smal, Novate Milanese, and Giuseppe Leofanti, Canegrate, Italy, assignors to Montecatini-Edison-S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Nov. 16, 1966, Ser. No. 594,706

Claims priority, application Italy, Nov. 26, 1965, 26,364/65

Int. Cl. C07f 5/04

U.S. Cl. 260—462

6 Claims

This disclosure relates to a method of making organic boron compounds having the general formula  $[RO]_3B_2O_3$  whereby boric anhydride and aromatic esters of orthoboric acid are reacted in a reaction medium consisting of organic solvents, removable therefrom by vacuum distillation, and accelerated by this reaction medium which preferably is accompanied by a hydroxylated reaction promoter for catalyst e.g. ethylene glycol.

3,522,287

# CARBAMATES

Cyril Donninger, Sittingbourne, John H. Davies, Faversham, and Royston H. Davis, Rainham, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 591,986, Nov. 4, 1966. This application July 23, 1968, Ser. No. 746,750

Int. Cl. C07c 121/00

U.S. Cl. 260—465.4

6 Claims

Cyanoalkylthio oxime carbamates, such as 1-cyano-methylthioacetaldoxime N-methyl carbamate, having insecticidal activity, are described.

3,522,288

# HYDROCYANATION OF OLEFINS

William Charles Drinkard, Jr., Wilmington, Del., and Brian W. Taylor, Orange, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 6, 1967, Ser. No. 680,993

Int. Cl. C07c 121/04, 121/30

U.S. Cl. 260—465.8

13 Claims

Process of isomerizing 3-pentenitriles to 4-pentenitrile using compounds of chromium, molybdenum or tungsten of oxidation state +1 or less as catalyst and of adding hydrogen cyanide to carbon-carbon double bonds such as in 4-pentenitrile at from -25 to 200° C. using as catalysts an organophosphite complex of molybdenum or tungsten of oxidation state of +1 or less.

3,522,289

# PROCESS FOR PREPARING A 2[1-(2-AMINO-5-PHENYL)-1-PHENYLMETHYLAMINO]ACETIC ACID DERIVATIVE

Giles Allan Archer, Essex Fells, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application June 15, 1964, Ser. No. 375,292, now Patent No. 3,370,091, dated Feb. 20, 1968. Divided and this application Apr. 21, 1967, Ser. No. 632,560

Int. Cl. C07c 103/22

U.S. Cl. 260—471

4 Claims

A process for preparing a 2[1-(2-amino-5-phenyl)-1-phenylmethylamino]acetic acid derivative from a 2-amino benzhydryl halide or 2-amino benzhydryl amine. This derivative is a useful intermediate in the preparation of 1,3,4,5-tetrahydro-5-phenyl-2H-1,4-benzodiazepin-2-ones which are a known pharmaceutically useful class of compounds.

3,522,290

# BIS[o-(CARBO-2-ETHYLHEXOXY)-BENZOYL]-PEROXIDE

Hans G. Gerritsen, Deventer, Hendrik Hansma, Schalkhaar, and Hans Jaspers, Deventer, Netherlands, assignors to Koninklijke Industriële Maatschappij Noury & van der Lande N.V., Deventer, Netherlands, a corporation of the Netherlands

No Drawing. Filed Apr. 26, 1967, Ser. No. 633,703

Claims priority, application Netherlands, May 6, 1966, 6606159

Int. Cl. C07c 73/02

U.S. Cl. 260—475

1 Claim

The present invention relates to a new ortho-substituted dibenzoyl peroxide, viz bis[o-(carbo-2-ethylhexoxy)-

3,522,294

# PROCESS FOR PREPARING ALKYL ACRYLATES AND METHACRYLATES

Gianfranco Fregaglia, Milan, and Marco Agamennone and Luigi Cavalli, Novara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

Filed Apr. 21, 1966, Ser. No. 544,131

Claims priority, application Italy, Apr. 27, 1965, 9,496/65

Int. Cl. C07c 69/54

U.S. Cl. 260—486

4 Claims

Described is a process for preparing compounds selected from the group consisting of alkyl acrylates and methacrylates by oxidation of unsaturated aldehyde selected from the corresponding acrolein and methacrolein, by a free oxygen-containing gas in an alkaline medium and in the presence of a silver catalyst. The improvement comprises:

- oxidizing the unsaturated aldehyde in the presence of a tetralkylammonium base,
- thermally decomposing the tetralkylammonium salt thus obtained at temperatures comprised between 160° and 250° C., to give the corresponding alkyl ester.

3,522,295

# METHOD OF PREPARING MONOETHANOLAMINE SALT OF THIOGLYCOLIC ACID

Nikolai Alexandrovich Konstantinov, Ul. Khanzas 8, kv. 9, Riga, U.S.S.R.

No Drawing. Filed Aug. 26, 1965, Ser. No. 482,937

Int. Cl. C07c 149/22, 127/00

U.S. Cl. 260—501.19

2 Claims

A method for the preparation of the monoethanolamine salt of thioglycolic acid which comprises heating S-carboxymethylisothiurea and monoethanolamine in an aqueous medium at 80–105° C.

3,522,296

# METHOD FOR PRODUCING CHOLINE SALTS OF ORGANIC ACIDS FROM CHOLINE CHLORIDE

Georges Nagy, Montrouge, France, assignor to Societe Anonyme Etablissements Kuhlmann, Paris, France, a corporation of France

No Drawing. Filed July 25, 1966, Ser. No. 567,380

Claims priority, application France, Apr. 26, 1966, 59,041

Int. Cl. C07c 101/00

U.S. Cl. 260—501.11

14 Claims

A method for preparing choline salts of organic acids by passing choline chloride over the hydroxyl form of a strongly basic anion resin or over the bicarbonate form of a weakly basic anion resin to obtain choline or choline bicarbonate, respectively, fixing choline or choline bicarbonate on the hydrogen form of a weakly acidic cationic resin, washing the cationic resin until the chloride ion in the effluent disappears, and eluting the choline with a corresponding organic acid.

3,522,297

# PROCESSES FOR THE PRODUCTION OF ORGANIC SULFONATES

Charles J. Norton, Denver, Joe T. Kelly and Ned F. Seppi, Littleton, and Michael J. Reuter, Denver, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 14, 1966, Ser. No. 520,632

Int. Cl. C07c 139/12

U.S. Cl. 260—513

10 Claims

The present invention comprises a process for the production of organic sulfonates comprising in combination

benzoyl)]-peroxide capable of use as an initiator in the peroxidic polymerization of vinyl monomers and in the copolymerization of unsaturated polyester resins containing vinyl monomers as copolymerizable monomers; the invention also relates to a process for preparing bis[o-carbo-2-ethylhexoxy]-benzoyl]-peroxide and to the use of said peroxide as an initiator in the peroxidic polymerization of vinyl monomers and in the copolymerization of unsaturated polyester resins containing vinyl monomers as copolymerizable monomers.

3,522,291

# 1,2,2,2-TETRACHLOROETHYL ESTERS

Russell M. Bimber, Painesville, Ohio, assignor to Diamond Shamrock Corporation, a corporation of Delaware

No Drawing. Filed Aug. 4, 1967, Ser. No. 658,336

Int. Cl. C07c 69/78, 69/82

U.S. Cl. 260—475

2 Claims

Novel chemical compounds, which may be described as 1,2,2,2-tetrachloroethyl esters of terephthalic and chloro-substituted terephthalic and benzoic acids, are disclosed. The compounds, which may be prepared by reacting chloral with the appropriate acid chloride, are useful pesticides.

3,522,292

# PROPARGYLAMINOPHENYL CARBAMATES AND RELATED COMPOUNDS

Erwin Nikles, Liestal, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Aug. 20, 1968, Ser. No. 753,873

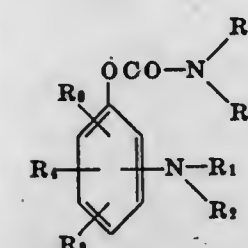
Claims priority, application Switzerland, Aug. 22, 1967, 11,773/67

Int. Cl. C07c 125/06

U.S. Cl. 260—479

11 Claims

The invention comprises new carbamates of formula



wherein  $R_1$  represents an alkynyl radical having 3 to 6 carbon atoms and  $R_2$  represents a lower alkyl, alkenyl or alkynyl radical,  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_6$  are identical or different and represent hydrogen or lower alkyl radicals, especially the methyl radical, and their salts. The carbamates of Formula I are used in pesticidal preparations.

3,522,293

# SELECTED 3-(TRIFLUOROMETHYLTHIO) PROPIONYL COMPOUNDS

John Ferguson Harris, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 276,072, Apr. 26, 1963. This application Mar. 26, 1965, Ser. No. 443,081

Int. Cl. C07c 69/24, 121/00, 69/62

U.S. Cl. 260—481

4 Claims

The novel lower-alkyl esters of 3-(trifluoromethylthio)propionic acid are described. All are useful as plant protectants.



the steps of preerating organic compounds containing non-aromatic carbon-to-carbon unsaturation by intimately contacting such compounds with an oxygen-containing gas until the reaction mixture has titratable peroxide number of at least about 10 milliequivalents of titratable peroxide per kilogram of reaction mixture and thereafter reacting the resulting titratable peroxide-containing, unsaturated organic mixture with a water-soluble, non-interfering bisulfite and recovering the organic sulfonates thus formed.

3,522,298

**TEREPHTHALIC ACID PURIFICATION PROCESS**  
Howard S. Bryant, Jr., New York, N.Y., Claiborne A. Duval, Jr., Westfield, N.J., and Albert L. Remsburg, Silsbee, Tex., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 538,604, Mar. 30, 1966. This application Dec. 13, 1966, Ser. No. 601,331

Int. Cl. C07c 51/42, 63/26

U.S. Cl. 260—525

28 Claims

Purification of terephthalic acid by vaporizing the crude acid contaminated with impurities (p-carboxybenzaldehyde) in admixture with an inert gaseous carrier (steam) and treating the vapor mixture by contact at elevated temperatures (600–1000° F.) with particles of a solid material possessing hydrogenation activity; the presence of molecular hydrogen during the contact treatment is optional but usually preferred or molecular oxygen may be charged; and thereafter solid terephthalic acid of higher purity is condensed from the treated vapor.

3,522,299

**PROCESS FOR THE OXIDATION OF OLEFINS TO ALDEHYDES AND ACIDS AND CATALYST THEREFOR**

Shigeo Takenaka and Goichi Yamaguchi, Takasaki-shi, Japan, assignors to Nippon Kayaku Company, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Nov. 1, 1966, Ser. No. 591,085

Claims priority, application Japan, Nov. 17, 1965, 40/70,157; Dec. 3, 1965, 40/74,050

The portion of the term of the patent subsequent to July 8, 1986, has been disclaimed

Int. Cl. C07c 45/04, 51/32

U.S. Cl. 260—533

10 Claims

Olefins such as propylene and isobutylene are oxidized to the corresponding unsaturated aldehydes and unsaturated carboxylic acids at temperatures of from 250° to 500° C. with molecular oxygen or air in the presence of a catalyst such as  $Ni_{4.5}Co_4FeBiAs_{0.5}P_{0.5}Mo_{12}O_{64}$ .

3,522,300

**PREPARATION OF  $\alpha$ -HYDROXY- $\beta$ -ALKOXYPROPIONIC ACIDS OR SALTS THEREOF**

Johannes Gielkens and Cornelis H. Vrinssen, Geleen, Anna M. van de Bosch, Heerlen, and Harmanus Bos, Geleen, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Jan. 26, 1967, Ser. No. 611,850

Claims priority, application Netherlands, Feb. 1, 1966, 6601300

Int. Cl. C07c 59/04

U.S. Cl. 260—535

1 Claim

Preparation of  $\alpha$ -hydroxy- $\beta$ -alkoxypropionic acids or salts by reaction of a salt of glycidic acid with an alcoholate by mixing said components in alcohol and heating the mixture, preferably at 30–150° C.

3,522,301

**10,11-DIHYDRO-7-HALO-3-HALOSULFONYL-5H-DIBENZO[a,d]CYCLOHEPTEN-5-ONE**

Edward L. Engelhardt, Gwynedd Valley, and Marcia E. Christy, Colmar, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application Sept. 24, 1962, Ser. No. 225,864, now Patent No. 3,306,934, dated Feb. 28, 1967. Divided and this application Oct. 21, 1966, Ser. No. 604,500

Int. Cl. C07c 143/70

U.S. Cl. 260—543

3 Claims

1. 10,11-dihydro - 7 - halo-3-halosulfonyl-5H-dibenzo [a,d]cyclohepten-5-one.

3,522,302

**p-(2-AMINOCYCLOALKYL)BENZENE-SULFONAMIDES**

Carl Kaiser, Haddon Heights, N.J., and Charles L. Zirkle, Berwyn, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 16, 1967, Ser. No. 638,770

Int. Cl. C07c 143/70, 143/80

U.S. Cl. 260—543

9 Claims

p-(2-aminocycloalkyl)benzenesulfonamides with hypotensive activity prepared by acylation of a phenylcycloalkylamine, chlorosulfonation, amination, and then hydrolysis. Cycloalkyl groups with 3 to 6 carbons are disclosed.

3,522,303

**PHOSPHOROUS COMPOUNDS**

Henri Ulrich, Northford, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

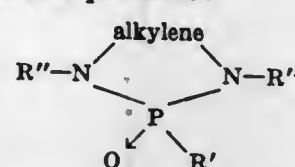
No Drawing. Filed Aug. 12, 1964, Ser. No. 389,193

Int. Cl. C07f 9/22

U.S. Cl. 260—551

11 Claims

Heterocyclic phosphorus-containing compounds of the following formula are provided:



where alkylene contains 1 to 8 carbon atoms with 1 to 3 carbon atoms in the chain separating the "N's", R'=hydrocarbyl, and R''=H, hydrocarbyl or

—CONHR''

where R'''=hydrocarbyl. The compounds are prepared from the appropriate diamine and phosphonic active H containing compounds useful in the preparation of polyurethane and like polymers. Those compounds where R'' is other than hydrogen are catalysts for the conversion of isocyanates to carbodiimides.

3,522,304

**PREPARATION OF POLYHYDROXY DIUREAS**

Herwart C. Vogt, Grosse Ile, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed July 3, 1967, Ser. No. 650,590

Int. Cl. C07d 51/70

U.S. Cl. 260—553

4 Claims

The preparation of polyhydroxy diureas by reacting a primary or secondary alkanolamine with a compound selected from the group consisting of diisocyanates and dicarbonyl chlorides, the latter being the reaction product of a primary or secondary diamine with phosgene.

3,522,305

**PRODUCTION OF UREA AND DERIVATIVES OF ETHYLENE AND ACETYLENE**

Danford H. Olson, Wood River, Ill., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

Filed Aug. 1, 1966, Ser. No. 575,913

Int. Cl. C07c 127/00

U.S. Cl. 260—555

6 Claims

The present invention relates to new processes and apparatus for the production of urea and derivatives of ethylene and acetylene, and in particular relates to such processes in which derivatives of ethylene, derivatives of acetylene and urea are all produced from the effluent of a hydrocarbon pyrolysis step.

3,522,306

**HALOAMINO DERIVATIVES OF ADAMANTANE AND ALKYLADAMANTANES AND PROCESS FOR PRODUCING SAME**

Gary L. Driscoll, Boothwyn, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed July 12, 1967, Ser. No. 652,715

Int. Cl. C07c 85/00, 87/40

U.S. Cl. 260—563

12 Claims

Compounds, namely, N,N-dihalo-1-amino- and N,N,N',N'-tetrahalo-1,3-diamino adamantanes and alkyladamantanes, are produced by heating N-halo-1-amino-, or N,N'-dihalo-1,3-diamino-, adamantane or alkyladamantane in non-aqueous, non-protonic solvent media. The compounds are useful halogenating agents and possess disinfectant properties.

3,522,307

**OCTAHYDROMETHENOPENTALENE-5-AMINE**

Claus Dieter Wels, Ariesheim, Basel-Land, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed Dec. 15, 1967, Ser. No. 690,751

Int. Cl. C07c 87/40; A61k 27/00

U.S. Cl. 260—563

2 Claims

Octahydro-1,2,4-methenopentalenyl-5-amine is prepared by several methods. This amine, acid addition salts thereof, and therapeutic compositions containing this amine or acid addition salts thereof possess antiviral properties and are used for controlling viral infections in mammals.

3,522,308

**2-TRICHLOROMETHYLMERCAPTO-1,3-DIPHENYL-2-THIOPSEUDOUREA**

Gerald L. Bachman and Joseph W. Baker, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 6, 1967, Ser. No. 673,304

Int. Cl. C07c 129/08

U.S. Cl. 260—564

9 Claims

This disclosure covers 2-trichloromethylmercapto-1,3-halogenated and unhalogenated diphenyl-2-thiopseudouras as new chemical compounds. These compounds have been found to be useful in the control of bacteria.

3,522,309

**REDUCTIVE ALKYLATION PROCESS FOR PRODUCTION OF N-ALKYLATED AMINES**

Arthur Francis Kirby, Willingboro, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 31, 1967, Ser. No. 664,649

Int. Cl. C07c 85/08, 85/10

U.S. Cl. 260—577

8 Claims

Improvement in the reductive alkylation of amines and nitro compounds through the use of promoter quantities

3,522,310

**REMOVAL OF O-DIAMINES FROM AN ISOMERIC MIXTURE OF TOLYLENE DIAMINES**

James M. Cross and David H. Chadwick, New Martinsville, W. Va., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 14, 1966, Ser. No. 593,627

Int. Cl. C07c 85/16, 87/58

U.S. Cl. 260—583

6 Claims

Isomeric mixtures of tolylene diamines containing o-tolylene diamine are heated at a hydrogen pressure of from about 15 p.s.i.g. to about 200 p.s.i.g. for about one to two hours at a temperature of about 180° C. to about 270° C. in the presence of a catalyst known to bring about the hydrogenation of nitrobenzene to aniline to remove the o-tolylene diamine isomers from the isomeric mixture of tolylene diamines.

3,522,311

**ALKYLSULFINYLPROPANEDIOLS**

Richard A. Hickner, Midland, Mich., assignor to Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 15, 1968, Ser. No. 721,196

Int. Cl. C07c 147/14; C08f 45/46; B01f 17/38

U.S. Cl. 260—607

6 Claims

Compounds have the structure  $RSOCH_2CHOHCH_2OH$  where R is an alkyl group of 1–16 C atoms. Compounds in which R is 1–7 are plasticizers and those where R is 7–16 are biologically active surfactants. They are made by oxidizing the corresponding thioethers.

3,522,312

**DISULFIDES PRODUCED BY THE OXIDATION OF DITHIOLS WITH DIALKYL SULFOXIDES**

Jack E. Reece, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Feb. 14, 1967, Ser. No. 615,913

Int. Cl. C07c 149/26; C08g 23/00

U.S. Cl. 260—608

4 Claims

Organo disulfide polymers having linkages of two sulfur atoms by a reaction at elevated temperature of dithiol and dialkyl sulfoxide, the polymers obtained having the sulfur atoms in regular sequence in the linkages and being low molecular weight liquid or semi-solid polymers and/or higher molecular weight rubbery polymers having molecular weights up to and including 1000 to 5000 or more. In a further modification a minor amount of one or more polyfunctional mercapto esters or mercaptans are used to provide cross linking sites to improve cure and bond strengths or reactivity of the ultimate polymers produced.

3,522,313

**1,5,10-DECANETRITHIOL**

Jack E. Reece and Donald H. Kubicek, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Feb. 16, 1968, Ser. No. 705,938

Int. Cl. C07c 149/06, 153/07; C08g 23/00

U.S. Cl. 260—609

1 Claim

1,5,10-decanetrithiol is prepared by reacting 1,5,9-decatriene with a carbothiolic acid (i.e., thiolacetic acid) to form a novel intermediate, a 1,5,10-decanetriyl tris-carbothiolate (i.e., 1,5,10-decanetrithiol acetate), saponi-



fying the intermediate, and thereafter recovering the 1,5,10-decanethioliol as a product of the process.

3,522,314

**MERCAPTO ALKYL THIOETHER ALKYL ETHERS**  
Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware  
No Drawing. Filed Aug. 3, 1967, Ser. No. 658,044  
Int. Cl. C07c 149/14; C09g 1/02

U.S. Cl. 260—609

7 Claims

The compound represented by



wherein each R is selected from saturated aliphatic hydrocarbon radicals having one to five carbon atoms and R' is selected from alkyl, cycloalkyl and alkaryl radicals having 8 to 20 carbon atoms, is prepared by the reaction of a dimercaptan with a monoolefin. The compounds have utility with paints, sealing compounds and silver or copper polish compositions. A preferred compound, 3-mercapto-propyl 3-(t-dodecylthio)propyl ether, is a very effective tarnish inhibitor for silver.

3,522,315

**THIODIMETHYLIDYNE TETRAKISPHENOLS**  
Edward F. Zaweski, Pleasant Ridge, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia  
No Drawing. Filed Oct. 11, 1967, Ser. No. 674,646  
Int. Cl. C07c 149/36; C08f 45/58

U.S. Cl. 260—609

7 Claims

Reaction of hydrogen sulfide with the hemi-quinone of a methylene bisphenol results in a tetranuclear phenol in which two molecules of the methylene bisphenol are bridged at their methylene groups through a sulfur atom. These are thiodimethylidene tetrakisphenols. The compounds are useful as antioxidants, either alone or in combination with a dialkylthiodialkanoate, a phosphite or a phosphonate synergist.

3,522,316

#### THIOBIS INDANOL AND NAPHTHOL COMPOUNDS

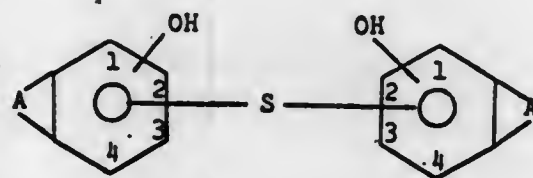
Ralph Arthur Coleman, Middlesex, Frank Meritt Furman, Bridgewater Township, Somerset County, and Jerry Peter Millions, Franklin Township, Somerset County, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Original application Apr. 1, 1964, Ser. No. 356,644, now Patent No. 3,364,174, dated Jan. 16, 1968. Divided and this application Nov. 17, 1967, Ser. No. 683,829

Int. Cl. C07c 149/36; C08f 45/58

U.S. Cl. 260—609

5 Claims

Substituted thio bis phenolic compounds of the structure:



wherein A is a trimethylene or a tetramethylene radical, the hydroxy groups are either on the 1- or the 2-position, and when the hydroxy groups is in the 1-position, the —S— is attached to the 4-position. These compounds are

useful as antioxidants for polyolefines. A species of these compounds is 7,7'-thiobis-(4-indanol).

3,522,317

#### METHOD OF PREPARING 3-HYDROXY AL-DEHYDES AND KETONES AND THEIR ACETALS

Siegfried H. Schroeter, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
No Drawing. Filed May 29, 1968, Ser. No. 732,853  
Int. Cl. C07c 41/06

U.S. Cl. 260—611

5 Claims

3-hydroxy substituted acetals are produced by the reaction of 2-alkoxyoxetanes with alcohols. The 3-hydroxy-acetals can be converted into 3-hydroxy-carbonyl derivatives by hydrolysis employing aqueous inorganic acids, and then into  $\alpha,\beta$ -unsaturated carbonyl compounds by heating the acid solution. The  $\alpha,\beta$ -unsaturated aldehydes, ketones or esters can be polymerized to give poly-carbonyl compounds such as polyacrylates. The acetals can also be copolymerized with ethylene, maleic anhydride, or esters of maleic acid to produce copolymers in the form of films, etc., useful for packaging.

3,522,318  
PHENOLS

Stanley Ashton, Norman Gunning Bromby, Ronald James Hurllock, and Vijay Ratna Sharma, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
No Drawing. Filed June 21, 1968, Ser. No. 738,840  
Claims priority, application Great Britain, June 26, 1967, 29,428/67

Int. Cl. C07c 43/20

U.S. Cl. 260—613

1 Claim

2,4,6-tris(3',5'-dialkyl-4'-hydroxybenzyl)phenyl ethers, preferably carrying alkyl groups in the 3 and 5 positions, are used as stabilisers for polymers, particularly polyolefins. These compounds are prepared from the corresponding 3,5-dialkyl-4-hydroxybenzyl alcohols by reaction with phenyl ethers optionally carrying alkyl groups in the 3 and 5 positions.

3,522,319

#### PHENOL SUBSTITUTED TETRAHYDRONAPHTHALENES USEFUL AS ESTROGENICS

William Laszlo Bencze, New Providence, and Charles Ferdinand Huebner, Chatham, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 339,578, Jan. 23, 1964, which is a continuation-in-part of application Ser. No. 222,627, Sept. 10, 1962, which in turn is a continuation-in-part of application Ser. No. 160,291, Dec. 18, 1961. This application Mar. 13, 1964, Ser. No. 351,842

Int. Cl. C07c 43/20, 43/22, 39/10

U.S. Cl. 260—619

6 Claims

A class of  $\alpha$ -phenyl- $\beta$ -phenyl-tetrahydronaphthalenes useful as estrogenics.

3,522,320

#### METHOD OF MAKING BARIUM STYHPNATE

Harold F. Blum, Tamaqua, Pa., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 17, 1964, Ser. No. 360,756  
Int. Cl. C07c 79/30

U.S. Cl. 260—622

2 Claims

Crystalline barium styphnate of uniform, fine particle size prepared by reacting at a temperature of about 25° to about 80° C. a solution of styphnate salt selected from the group consisting of ammonium styphnate and alkali

metal styphnate with a water-soluble barium salt useful as an ignition mixture, explosive initiator and as propellants in explosively actuated motors.

3,522,321

#### DIMERIZATION OF ISOPRENE

Edwin L. DeYoung, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
No Drawing. Filed Feb. 21, 1968, Ser. No. 707,319  
Int. Cl. C07c 3/20

U.S. Cl. 260—666

5 Claims

Isoprene is dimerized in the presence of certain organo metallic catalysts at dimerization conditions to produce novel compositions of matter which are useful as aroma chemicals.

3,522,322

#### REACTIONS OF ALKALI METAL TETRAALKYLALUMINUM COMPOUNDS WITH BENZYL HALIDES

David L. Skinner, Arlington Heights, Ill., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio  
No Drawing. Original application Dec. 20, 1966, Ser. No. 603,099, now Patent No. 3,468,971, dated Sept. 23, 1969. Divided and this application Apr. 14, 1969, Ser. No. 832,876

Int. Cl. C07c 15/04

U.S. Cl. 260—668

7 Claims

A process for alkylating active halogen compounds, such as benzyl halides and halogens, by reacting the active halogens with alkali metal tetraalkylaluminum compounds at a temperature of from 0° C. to 200° C.

3,522,323

**TWO-STAGE OXYDEHYDROGENATION PROCESS**  
Roy B. Duke, Jr., Littleton, Colo., George M. Bailey, Houston, Tex., and Michael J. Reuter, Denver, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

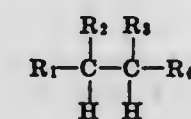
No Drawing. Continuation-in-part of application Ser. No. 722,170, Apr. 18, 1968. This application Aug. 20, 1969, Ser. No. 851,737

Int. Cl. C07c 5/18, 15/10

U.S. Cl. 260—668

35 Claims

Our invention describes a two-stage process for oxydehydrogenating hydrocarbons of the following structure:



where R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> may be hydrogen, alkyl, alicyclic, aromatic or alkenyl or mixtures thereof, said process being conducted in the vapor phase by forming a reaction mixture of the hydrocarbon, a halogen, or halogen-containing compound, and oxygen, or an oxygen-containing gas, thereafter passing said reaction mixture through a reactor containing two zones, the first consisting either of substantially free-space or containing a substance substantially inert to its reaction with the halogen, and the second containing a catalyst consisting of metallic salts, hydroxides, or oxides, or mixture thereof, of the elements of Groups Ia, IIa, Ib, VIIb, VIII, and Lanthanide Series of the Periodic Table of the Elements, said reaction mixture being passed first through the substantially free-space or inert substance, and secondary, through the catalyst zone, at temperatures between 300° and 1300° F. and at gaseous hourly space velocities between 5 and 1500 hr.<sup>-1</sup>.

Our invention further comprises the use of: hydrocarbons having from 2 to about 20 carbon atoms; chlorine,

bromine or iodine as the halogen; a molar ratio of oxygen to hydrocarbons of about 0.1 to about 3.0; a molar ratio of halogen to hydrocarbon of about 0.001 to about 0.1; inert materials such as clays, ceramic compositions, glass, Carborundum,<sup>1</sup> Mullite,<sup>2</sup> Vermiculite,<sup>3</sup> Alundum,<sup>2</sup> granular rocks, and the like; chromite containing catalysts.

<sup>1</sup> Trademark of Carborundum Company, P.O. Box 477, Niagara Falls, N.Y. 14302, used on abrasives and refractories of silicon carbides, etc.

<sup>2</sup> Trademarks of Norton Company, 1 New Bond St., Worcester, Mass. 01608, Alundum, trademark for a line of fused-alumina refractory and abrasive products. Mullite, an aluminum silicate formed by heating other aluminum silicates (such as cyanate, sillimanite, and andalusite) to high temperatures, and the only stable member of the group.

<sup>3</sup> Trademark of Zonolite Div. of W. R. Grace & Co., Dept. TR-68,185 S. La Salle, Chicago, Ill., a general term for hydrous silicate, the granules of which expand greatly at high temperatures. Webster's Unabridged Inv. Dictionary, 1968.

3,522,324

#### ALKYLATION OF AROMATICS USING ORGANIC ALUMINUM HALIDE-ALKYL HALIDE CATALYST SYSTEM

Walter A. Butte, Jr., West Chester, Pa., assignor to Sun Oil Corporation, Philadelphia, Pa., a corporation of New Jersey

Filed Sept. 10, 1968, Ser. No. 758,769  
Int. Cl. C07c 3/56, 15/00

U.S. Cl. 260—671

11 Claims

A highly selective process by which aromatic hydrocarbons are alkylated by monoolefinic hydrocarbons at a temperature of —50° C. to +50° C., preferably —30° C. to +30° C., with a catalyst comprising (1) an organic aluminum halide which is RAlX<sub>2</sub>, R<sub>2</sub>AlX or R<sub>3</sub>AlX<sub>3</sub>, where R is an alkyl group containing 1 to 8 carbon atoms and X is Cl, Br or I and (2) an alkyl chloride, bromide or iodide having 3 to 8 carbon atoms. An example of the selectivity of this process is indicated by the high yields of 1,2,3,5-tetraisopropylbenzene when alkylating 1,3,5-triisopropylbenzene with propylene.

3,522,325

#### ISOPRENE SYNTHESIS

Eugene Aristoff, Newtown Square, Pa., and Richard W. Sauer, Cherry Hill, N.J., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 23, 1967, Ser. No. 640,472  
Int. Cl. C07c 1/30, 17/10

U.S. Cl. 260—680

6 Claims

Isoprene is synthesized from a 2-methylbutene-2 feed stock by chlorinating the feed to yield primarily monochloroamylenes which are then subjected to a dehydrohalogenation catalyst on a carrier having an average pore diameter of at least 80 angstroms and a surface area of at least 30 square meters per gram. The isoprene is obtained in high yield and purity with respect to the monochloroamylenes.

3,522,326

#### GRAFT COPOLYMERS OF POLYPHENYLENE ETHERS

Edgar E. Bostick, Scotia, and Allan S. Hay and Alan J. Chalk, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Oct. 5, 1967, Ser. No. 673,022  
Int. Cl. C08b 43/02

U.S. Cl. 260—823

10 Claims

Polyphenylene ethers can be metalated with alkali metals to introduce alkali metal atoms onto the backbone or onto the  $\alpha$ -carbon atom of an alkyl side chain. These metalated polymers readily react with anionically polymerizable monomers to product graft copolymers compris-



ing a polyphenylene ether backbone having grafted onto it, a polymer of the anionically polymerizable monomer. By controlling the amount of anionically polymerizable monomer, not only can the chain length of the graft polymer be controlled, but a different anionically polymerizable monomer may thereafter be added to produce a block copolymer graft. The graft polymers so produced by this process are useful for the making of molded, extruded or otherwise shaped articles, such as, films, fibers, etc., in the same way as the polyphenylene ethers. The effect of the polymeric side chains grafted onto the polyphenylene ethers modifies their properties, for example, their mechanical and electrical properties and permits the production of polymers with tailor made properties. Where the anionically polymerizable monomer has hydrolyzable groups, for example, acrylic esters, methacrylic esters, acrylic nitrile, etc., such groups may be hydrolyzed so that the resulting polymers have ion exchange, anti-static, surfactive or electrical conductivity properties.

3,522,327

# CURABLE ORGANOPOLYSILOXANE COMPOSITIONS CONTAINING PLATINUM COMPLEXES

Nicou Parasko, Lyon, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Mar. 14, 1968, Ser. No. 712,961

Claims priority, application France, Mar. 29, 1967, 100,664

Int. Cl. C08g 47/00

U.S. Cl. 260—825

5 Claims

The invention provides new complexes of platinum chloride with triaminophosphines which are useful as catalysts for promoting the reaction between alkenyl groups and hydrogen attached to silicon e.g. in curable organopolysiloxane compositions.

3,522,328

# MODIFIED POLYESTER COMPOSITIONS CONTAINING POLYAMIDES PREPARED FROM AROMATIC DIAMINES

John R. Caldwell and Russell Gilkey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 11, 1967, Ser. No. 674,645

Int. Cl. C08g 41/04

U.S. Cl. 260—857

2 Claims

A polyester composition having one or more improved properties such as dyeability, stability and stiffness, comprising a polyester component blended or reacted with a polyamide component prepared from diamines or amino acids in each of which the amino groups are attached directly to an aromatic ring system.

3,522,329

# COMPOSITION COMPRISING POLYESTER AND POLYETHER-POLYAMIDE BLOCKCOPOLYMER

Kaoru Okazaki and Asaharu Nakagawa, both of 8 Denjiyama, Narumi-cho, Midori-ku, Nagoya, Japan; Yoshimitsu Ichikawa, 2-27 Bunkyo-cho, Mishima-shi, Shizuoka-ken, Japan; and Yuzaburo Nakayama, 8 Denjiyama, Narumi-cho, Midori-ku, Nagoya, Japan

No Drawing. Filed Feb. 6, 1968, Ser. No. 703,243

Int. Cl. C08g 41/04

U.S. Cl. 260—857

5 Claims

Synthetic resinous compositions improved as to deficiencies of polyesters such as frictional static charge accumulation and poor hygroscopicity can be obtained by

blending polyesters with block copolymers in which polyether is bonded with polyamide in linear linkage.

3,522,330

# POLYMER BLENDS

Charles W. Montgomery, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Original application Aug. 28, 1964, Ser. No. 392,912, now Patent No. 3,390,208 dated June 25, 1968. Divided and this application Jan. 8, 1968, Ser. No. 721,897

Int. Cl. C08f 37/18

U.S. Cl. 260—889

4 Claims

The invention comprises blends of (1) from about 5 to 200 parts of an ethylene/vinylchloride copolymer containing about 10 to 80% ethylene and (2) about 100 parts of polystyrene or butadiene/styrene rubber.

3,522,331

# 4,5-BENZO-2-CHLORO-1-OXA-3-THIA-2-PHOSPHOLANES

James L. Dever, Lewiston, and James J. Hodan, Williams, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

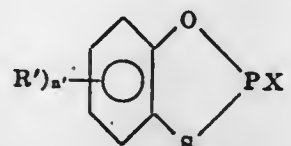
No Drawing. Filed June 14, 1967, Ser. No. 645,873

Int. Cl. C07f 9/14; C08f 45/58

U.S. Cl. 260—937

10 Claims

Compounds are described of the structure:



wherein R' is selected from the group consisting of alkyl of 1 to 18 carbon atoms, aryl of 6 to 12 carbon atoms and cyclohexyl; X is a halogen selected from the group consisting of chlorine, bromine and iodine; and n' ranges from 0 to 4. The compounds are prepared by reacting an orthomercaptophenol compound with phosphorus trihalide. The resulting compounds can be used to impart fire retardancy to plastic compositions, in particular polystyrene.

This invention is directed to novel compounds useful as flame retardants for plastics, such as polystyrene, polypropylene, polyethylene, polyvinyl halides—as polyvinyl chloride, for example, and the like.

3,522,332

# PROCESS FOR THE PREPARATION OF 1,2-POLYBUTADIENE

Mitsuo Ichikawa, Yasumasa Takeuchi, and Akira Kogure, Yokkaichi-shi, Japan, assignors to Japan Synthetic Rubber Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed May 29, 1968, Ser. No. 732,827

Claims priority, application Japan, June 2, 1967, 42/34,863

Int. Cl. C08d 3/06

U.S. Cl. 260—94.3

14 Claims

Process for preparation of polybutadiene having up to 99% of vinyl configuration by polymerizing butadiene in a halogenated hydrocarbon solvent with a catalyst prepared by mixing (A) a dialkyl aluminum chloride, (B) a cobalt compound, (C) an organic phosphine having not more than one aryl group, in the presence of water in an amount less than equimol to the dialkyl aluminum chloride.

3,522,333

# PHOSPHONAMIDE SULFONATES

Robert E. Leary, Somerville, and Leslie M. Schenck, Mountainside, N.J., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

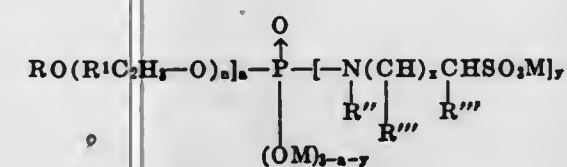
No Drawing. Filed June 1, 1967, Ser. No. 642,728

Int. Cl. C07f 9/924; C11d 3/36; C10m 7/46

U.S. Cl. 260—947

8 Claims

An anionic surfactant comprising a compound having the following empirical formula:



wherein R represents an alkyl group containing 8 to 22 carbon atoms or an alkylphenol group containing 12 to 24 carbons, R' represents hydrogen or a lower alkyl group containing 1 to 4 carbon atoms, n is an integer varying from 1 to 150, a is an integer varying from 1 to 2, R'' represents hydrogen, an alkyl group containing 1 to 6 carbon atoms, cycloalkyl and aryl radicals, R''' represents hydrogen, methyl or ethyl, x is an integer varying from 1 to 5, y is an integer varying from 1 to 2, and M is selected from the group consisting of hydrogen, ammonium and a metal. The products of the above formula are useful as anionic surfactants as well as being useful antistats, emulsifiers, lubricants, petroleum additives and the like. The products are prepared by reaction of a sulfonated aliphatic amine with a chlorophosphate, the latter prepared by the reaction of phosphorus oxychloride and an alkylated phenol or alcohol.

3,522,334

# PREPARATION OF SPHERICAL SOLID OXIDIZER PELLETS FROM NITRONIUM PERCHLORATE-LITHIUM PERCHLORATE MIXTURE

Edward A. Hunter, Westfield, and Herman Bleber, Kenilworth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 9, 1961, Ser. No. 110,611

Int. Cl. C06b 21/02

U.S. Cl. 264—3

4 Claims

1. The method of preparing smooth spherical pellets of a nitronium perchlorate-lithium perchlorate mixture having a melting point below 120° C. which comprises dispersing spherical molten globules of the mixture in an inert immiscible fluid in which the globules are cooled and hardened to solid spherical pellets, and collecting the resulting solid pellets.

3,522,335

# METHODS FOR PRODUCING REVERSE OSMOSIS MEMBRANE AND THE COMPOSITION UTILIZED

Martin E. Rowley, Rochester, N.Y., assignor to Eastman Kodak Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 29, 1968, Ser. No. 709,226

Int. Cl. B29d 27/04; C08b 21/04, 27/52

U.S. Cl. 264—49

27 Claims

Processes for manufacturing membranes suitable for use in "reverse osmosis" water purification from cellulosic film-forming materials involve the steps of,

- preparing a "dope" of the cellulosic dissolved in a solvent mixture comprising acetic acid and acetone,
- casting the dope in the form of a film,
- carefully removing the solvents from the film, and
- tempering the film.

The addition to the dope of a small amount of a soluble amine salt of a strong inorganic acid (such as pyridine sulfate, for example) or a soluble quaternary ammonium compound (such as tetraethyl-ammonium iodide, for example) results in the formation of membranes having unusually high flux and unusually high salt rejection properties.

3,522,336

# METHOD AND APPARATUS FOR MOLDING A BLOCK

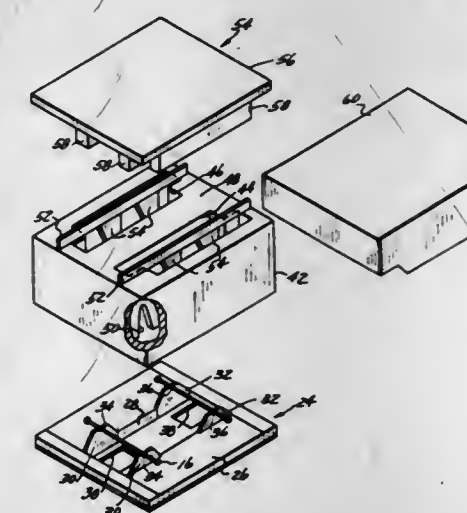
Robert J. Piper, Detroit, and Frank K. Locke, Hudson, Mich., assignors to Stearns Manufacturing Co., Flat Rock, Mich., a corporation of Michigan

Filed June 8, 1967, Ser. No. 644,608

Int. Cl. B28b 1/08

U.S. Cl. 264—71

7 Claims



Method and apparatus for mounting a pair of metal pins within a mold for forming a block consisting of a pair of separated sections joined by the pins. The pins are supported on a pair of arms in a mold box which is then filled with a concrete mixture so that the ends of the pins are embedded in the concrete. The mold box is vibrated while the support arms are moved away from the pins. The compacting concrete, upon assuming a sufficient density to independently support the pins, separates the pins from the arms which are then removed from the molding box.

3,522,337

# METHOD AND APPARATUS FOR CONTACTING THE INTERIOR SURFACE OF TUBULAR ARTICLES

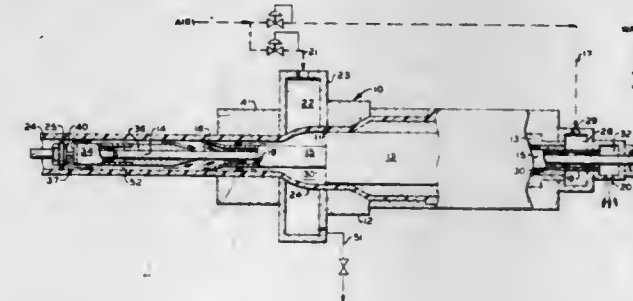
Lawrence J. Ball, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 26, 1968, Ser. No. 724,363

Int. Cl. B29c 17/00; B29d 23/04

U.S. Cl. 264—95

5 Claims



This invention relates to a method and apparatus for contacting the interior of a tubular article in a restricted



length. Conveying means for a first and second fluid are disposed internally in said article such that said second fluid is conveyed to one extremity of said restricted length and said first fluid is conveyed to the other extremity, the direction of flow of said first fluid is reversed and the interior of said article is contacted with said first fluid flowing in the opposite direction of said second fluid, said first fluid is removed from contact with the interior of said article by the abrupt collision with said second fluid whereby said first and second fluids are forced into an exit conveying means internally disposed in said article.

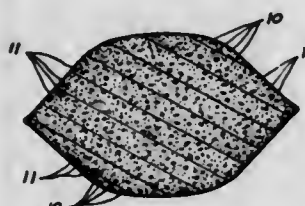
3,522,338

### METHOD FOR HOT BRIQUETTING CALCIUM PHOSPHATE ORE

Theodore E. Kass, Westport, Conn., and Robert J. Gleason, Iselin, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware  
Filed May 31, 1968, Ser. No. 733,545  
Int. Cl. B01j 6/00

U.S. Cl. 264—125

3 Claims



A mixture of washed calcium phosphate ore and phosphate ore flotation concentrate, reduced to 35 to 150 mesh size, is heated to 1400-1900° F. to calcine the mixture and while still within this temperature range is compressed under high pressure into briquettes in which the silica sand contained in the ore is bonded together with essentially fused phosphate ore.

3,522,339

### METHOD OF MAKING ELECTRICAL MONOGRAN LAYER

Ties Siebolt Te Velde, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Phillips Corporation, New York, N.Y., a corporation of Delaware

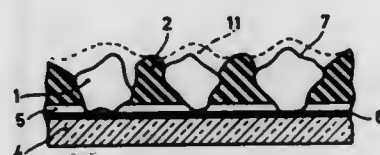
Filed Aug. 1, 1966, Ser. No. 569,248

Claims priority, application Netherlands, Aug. 4, 1965, 6510097

Int. Cl. C04b 35/00; B29d 9/00; B29c 24/00

U.S. Cl. 264—129

15 Claims



A method of making electrical monograin layers using semiconductor grains in which the grains are partly embedded in a liquid adhesive layer and then a binder flowed around the free surfaces of the grains and hardened to bind and support the grains. Next, the adhesive is selectively dissolved to expose the formerly embedded grain surfaces and electrode means provided to effect electrical charge transport to the exposed grain surfaces.

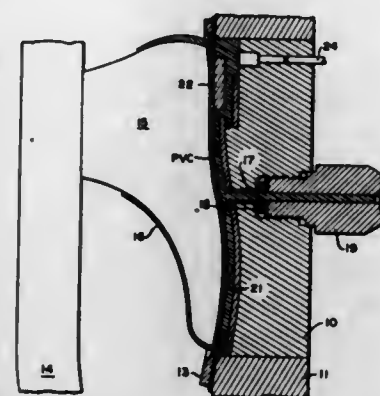
3,522,340

### INJECTION MOLDING PROCESS

Kenneth E. Corcoran, Boston, and Robert F. Filippini, Bridgewater, Mass., assignors to Joseph F. Shoe Co. Inc., Stoughton, Mass., a corporation of Massachusetts  
Continuation of application Ser. No. 657,108, July 31, 1967. This application Sept. 17, 1969, Ser. No. 860,163  
Int. Cl. B29c 17/08; B29d 3/02; B29h 7/08

U.S. Cl. 264—161

1 Claim



A process of injection molding shoe bottoms employing a nozzle with ports in its sidewalls within the body of an impaled sole piece of leather or other wear material.

3,522,341

### PREPARATION OF HIGH TENACITY POLYVINYL FLUORIDE STRUCTURES

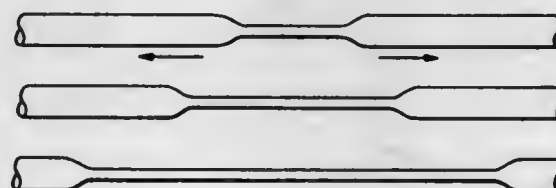
Myron J. Coplan, Natick, Howard I. Freeman, Sharon, and Joseph S. Panto, Dover, Mass., assignors to Diamond Shamrock Corporation, Cleveland, Ohio, a corporation of Delaware

Filed May 4, 1964, Ser. No. 364,731

Int. Cl. D01d 5/12; D01f 3/10

U.S. Cl. 264—210

7 Claims



Polyvinyl fluoride structures exhibiting a high degree of tenacity are produced by extruding a dispersion of polyvinyl fluoride in a latent solvent therefor and rapidly quenching the extruded and coalesced polyvinyl fluoride structure in order to prevent any significant molecular orientation of the extruded structure. Following this quenching operation, a sufficient quantity of the latent solvent is removed from the extruded structure to allow the structure to be drawn with a sharp neck. Finally, after the drawing stage, the drawn structure is heat set to remove the remaining latent solvent and provide a structure having the desired degree of strength.

3,522,342

### APPARATUS AND METHOD FOR MAKING BRISTLES HAVING A FILLER

Harvey J. Nungesser, Norristown, Pa., and Francis J. Rielly, Cherry Hill, N.J., assignors to Nypel, Inc., West Conshohocken, Pa., a corporation of Delaware

Filed July 3, 1967, Ser. No. 650,874

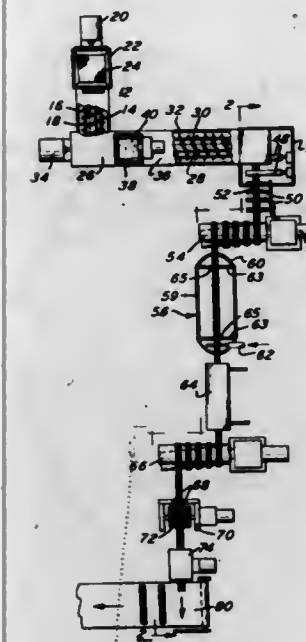
Int. Cl. D01d 5/12

U.S. Cl. 264—210

9 Claims

Producing bristles by pre-plasticizing and liquifying a plastic material, adding a filler to the plasticized plastic, extruding the mixture through a die directing into a bath, arranging the extruded material into a ribbon of material,

stretching the ribbon of material over godet rolls having sacrificial surfaces thereon, passing the ribbon through a hot water bath, removing the excess water from the ribbon as it exits from the hot water bath by a blast of air, thoroughly drying the ribbon by passing the same under a radiant heater, passing the ribbon over a second



set of godet rolls having sacrificial surfaces thereon, crimping the ribbon on a conventional crimping mechanism, cutting the crimped ribbon into individual bristles and conveying the bristles from the cutter to a desired location. The apparatus is constructed and arranged so that all operations are performed in a continuous process.

3,522,343

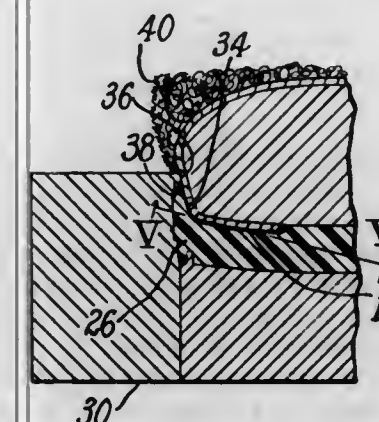
SHOEMAKING BY MOLDING WITH AN ADHESIVE  
Edmond A. Chandler, Somerville, Ralph E. Pearsall, Gloucester, Kenelm W. Winslow, Chestnut Hill, and Walter W. Yarrison, Beverly, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Feb. 12, 1968, Ser. No. 704,680

Int. Cl. A43d 65/00; B29h 7/08

U.S. Cl. 264—25

16 Claims



A shoemaking process in which plastic material is molded directly onto the bottom of a shoe and the union between the molded-on material and the shoe is improved by disposing a very thin sheet of heat-activatable adhesive on the attaching surface of the shoe before the molding material is formed. The heat of the molding material activates the adhesive to improve the union of the molding material to the shoe.

3,522,344

### FLEXIBLE SELF-SUPPORTING CUT RESISTANT WRITING ELEMENT

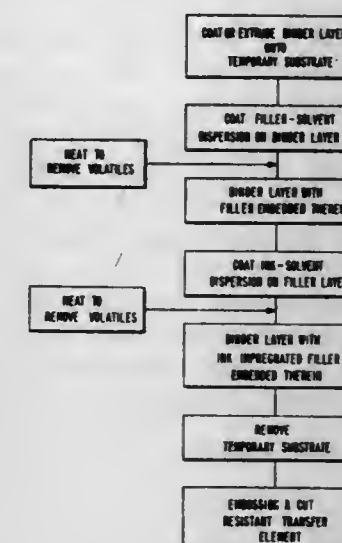
Hugh T. Findlay, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed May 10, 1968, Ser. No. 728,236

Int. Cl. B32b 31/30; B41m 5/10

U.S. Cl. 264—255

4 Claims



A flexible, self-supporting, cut resistant, reusable writing element is formed by coating on a polymer film such as polyurethane a dispersion of an ink receptive particulate filler material such as woodflour dispersed in a liquid which is at least a partial solvent for the polymer film. The liquid is evaporated to form a layer of filler material embedded in the surface of the polymer film. The filler material is then impregnated with a nonvolatile liquid ink.

3,522,345

### PREMADE HEEL UNIT FOR SHOES AND A METHOD OF MAKING THE SAME

Bent-Ove Olsen, Heimdalsvej 23,

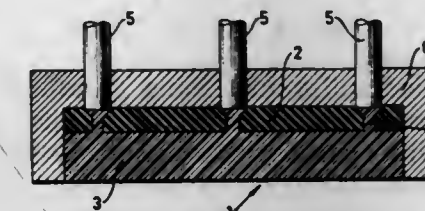
Helsingør, Denmark

Filed Oct. 23, 1967, Ser. No. 677,291

Int. Cl. B29c 7/00; B29d 3/00

U.S. Cl. 264—273

2 Claims



A method of making heel units for shoes is disclosed. The heel unit is prefabricated from a rubber heel and a heel base of a synthetic plastic material, the heel base being formed by injection molding of a synthetic thermoplastic resin. The rubber heel is provided with undercut openings which communicate with the heel base and, when filled with plastic, provide means to secure the parts together. An outsole may also be attached to the heel base by providing it with undercut openings in the heel area, which openings communicate with the mold cavity. When the heel base is formed by the injection molding process, the plastic is inserted through the outsole and fills the undercut openings to hold the parts securely together.



3,522,346

**NONTHROMBOGENIC MICROCAPSULES**

Thomas M. S. Chang, Montreal, Quebec, Canada, assignor to Research Corporation, New York, N.Y., a non-profit corporation of New York  
No Drawing. Filed May 31, 1968, Ser. No. 733,314  
Int. Cl. A61k 17/18, 19/00, 23/02

U.S. Cl. 424—35 6 Claims  
Nonthrombogenic microcapsules containing a hydrophilic composition or solid particle encapsulated in macromolecular membranes are produced by incorporating in or on the surface of the macromolecular membranes a quaternary-heparin complex. The quaternary-heparin complex may be incorporated in or on the membranes in the course of formation of the membranes or subsequent to the formation of the membranes. The heparin complex may be formed by reacting heparin with quaternized macromolecules forming the membranes or with quaternized components of the membrane. When placed in a nonthrombogenic extracorporeal shunt chamber, such microcapsules, unlike those not containing the quaternary heparin complex, do not cause clotting or reduce the blood level of erythrocytes, leucocytes or platelets of blood perfusing through these microcapsules.

3,522,347

**TOXOID COMPOSITIONS**

Frank Buonfiglio Abbondi, Pearl River, N.Y., and Murray Sam Cooper, Dumont, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Filed Jan. 25, 1968, Ser. No. 700,384  
Int. Cl. A61k 23/00

U.S. Cl. 424—92 7 Claims  
Toxoid compositions are provided containing a toxoid and a water insoluble, aluminum or lanthanum salt of a substituted or unsubstituted salicylic acid. Exemplary of such toxoid compositions is a composition containing tetanus toxoid and aluminum acetyl salicylate. The salicylate adsorbs the toxoid and enhances its immunizing effect while reducing inflammation and irritation at the site of injection.

3,522,348

**CRYSTALLINE SULFUR-CONTAINING GLYCOLIPID AND METHOD FOR OBTAINING THE SAME**

Yasunao Ogawa and Atsushi Kurosawa, Osaka Prefecture, and Haruo Nishimura, Hyogo Prefecture, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan  
No Drawing. Filed June 9, 1967, Ser. No. 644,818  
Claims priority, application Japan, June 14, 1966, 41/38,743  
Int. Cl. A61k 17/00

U.S. Cl. 424—95 1 Claim  
A crystalline sulfur-containing glycolipid being useful as a medicament having protective effects against various infections with pathogenic microorganisms and some other physiologically or pharmacologically beneficial effects, and a method for obtaining the same from animal tissues by solvent extraction and crystallization.

3,522,349

**ANTIBIOTIC AC-541 AND PRODUCTION THEREOF**

Werner Karl Hausmann, Chazy, Vladimir Zbinovsky, Nanuet, and Anthony Joseph Shay, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
Continuation-in-part of application Ser. No. 359,193, Apr. 13, 1964. This application Aug. 27, 1969, Ser. No. 857,282  
Int. Cl. A61k 21/00

U.S. Cl. 424—116 1 Claim  
A new antibiotic is produced, designated AC-541 by cultivating a new strain of *Streptomyces hygroscopicus*

NRRL 3111. The new antibiotic is active against gram-positive and gram-negative organisms and thus is useful in inhibiting the growth of such bacteria wherever they may be found.

3,522,350

**PROCESS FOR EXTRACTING AN ANTI-INFLAMMATORY AND ANTI-IRRITANT PRINCIPLE FROM YARROW AND THE PRODUCT PRODUCED THEREBY**

Arthur Goldberg, 790 Concourse Village W., New York, N.Y. 10451; Edward Eigen, 8 Glenside Court, East Brunswick, N.J. 08816; Lewis Stone Reeve, 290 River Road, Piscataway, N.J. 08854; Salvatore Joseph De Salva, 83 De Mott Lane, Somerset, N.J. 08873; Robert Anthony Evans, 280 Goldfinch Road, Somerville, N.J. 08876; and Sidney Weiss, 76 Juniper Drive, Levittown, Pa. 19056  
No Drawing. Filed Nov. 10, 1969, Ser. No. 875,593  
Int. Cl. B01d 15/08

U.S. Cl. 424—195 3 Claims  
A process for extracting an anti-inflammatory and anti-irritant principle from yarrow, *Achillea millefolium*, including the steps of extraction of the active principle with water, precipitation with lead acetate, decomposition with sodium carbonate, cation exchange chromatography, cellulose column chromatography, chromatography on nylon, and gel-filtration chromatography on Sephadex G-75 and G-50.

3,522,351

**METHODS AND COMPOSITIONS FOR TREATING BACTERIA WITH N<sup>1</sup>-ACETYL-N<sup>1</sup>-(CYCLOPROPYL-2-PYRIMIDINYL)-SULPHANILAMIDES**

Markus Zimmermann, Riehen, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York  
No Drawing. Original application Mar. 14, 1967, Ser. No. 622,902. Divided and this application Mar. 6, 1968, Ser. No. 731,351  
Claims priority, application Switzerland, Apr. 13, 1966, 5,350/66  
Int. Cl. A01n 27/00

U.S. Cl. 424—229 6 Claims  
N<sup>1</sup>-acetyl-N<sup>1</sup>-(2-pyrimidinyl)-sulphanilamides substituted by a cyclopropyl group in 4-, 5- or 6-position, which are antibacterial agents against gram positive bacteria such as Staphylococci, Streptococci, Pneumococci and against gram-negative bacteria such as Salmonella, Escherichia and Klebsiella strains; pharmaceutical compositions containing the aforesaid pyrimidines as antibacterial ingredients, and a method of treating diseases caused by such bacteria, by administration of such pyrimidines or pharmaceutical compositions containing them.

3,522,352

**METHOD OF INHIBITING FUNGAL GROWTH WITH LEAD MERCAPTIDES**

Malcolm C. Henry, Harvard, Mass., and Adolf W. Krebs, Heidelberg, Germany, assignors, by direct and mesne assignments, to International Lead Zinc Research Organization, Inc., New York, N.Y., a non-profit corporation of New York  
No Drawing. Original application Apr. 1, 1963, Ser. No. 269,771, now Patent No. 3,322,779, dated May 30, 1967. Divided and this application Apr. 27, 1967, Ser. No. 634,071  
Int. Cl. A61l 13/00; A01n 9/00

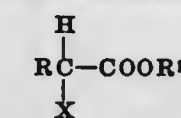
U.S. Cl. 424—245 5 Claims  
Di- and triphenyllead mercaptides exhibiting marked antifungal activity, having the formula: Ph<sub>n</sub>Pb(SR)<sub>4-n</sub> wherein Ph is a phenyl group, R is an alkyl, aryl, or acyl radical and n is the integer 2 or 3.

3,522,353

**PROMOTING THE GROWTH OF ANIMALS WITH HALOACIDS**

Gino J. Marco, Webster Groves, Mo., and Eugene S. Erwin, Phoenix, Ariz., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed June 26, 1967, Ser. No. 648,994  
Int. Cl. A61k 27/00

U.S. Cl. 424—317 12 Claims  
Animal feed composition containing at least one growth promoting compound of the formula



wherein X is halogen (Cl, Br, and I), R is selected from the group consisting of hydrogen and alkyl of not more

than 20 carbon atoms and R<sup>1</sup> is selected from the group consisting of hydrogen and alkyl of not more than 4 carbon atoms.

3,522,354

**METHOD OF TREATING HEPATIC ENCEPHALOPATHY WITH SORBITOL**

William Robley Ebert, Columbus, Ohio, assignor to Phillips Roxane Laboratories, Inc., Columbus, Ohio, a corporation of Delaware  
No Drawing. Filed Nov. 29, 1967, Ser. No. 686,701  
Int. Cl. A61k 27/00

U.S. Cl. 424—343 3 Claims  
A method of treating patients with hepatic encephalopathy which comprises administering daily to said patients a small but effective amount of sorbitol.

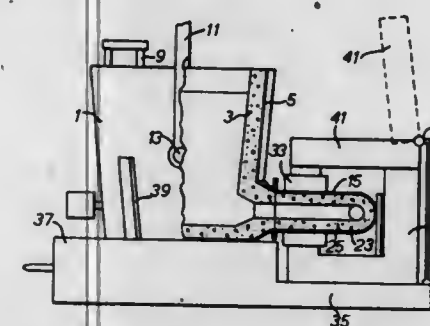
## ELECTRICAL

3,522,355

**INDUCTION HEATING ARRANGEMENTS**

Charles Peter Brittain, Whittington, near Lichfield, England, assignor to Associated Electrical Industries Limited, London, England  
Filed Oct. 16, 1967, Ser. No. 675,674  
Claims priority, application Great Britain, Oct. 19, 1966, 46,690/66  
Int. Cl. H05b 5/14, 9/02

U.S. Cl. 13—29 5 Claims



An induction heating arrangement for ladles or other refractory vessels comprising an annular core mounted in an upright position and generally having a vertical disposed limb or other member which is capable of movement to one side, so as to provide an opening through which part of a duct, preferably of U-shape, can pass so as to thread the core and provide inductive coupling. There are also two horizontally disposed members of the core, in preference, which may be moved with a vertically disposed limb. In this case the three limbs may be mounted on a trolley arranged to run on rails.

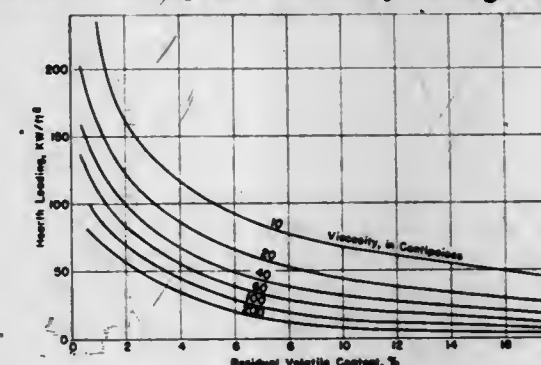
3,522,356

**ELECTRIC FURNACE CORONA MELTING PROCESS**

Leonard E. Olds, 2637 Stony Point Road, Grand Island, N.Y. 14072; Nicholas J. Themelis, 24 Fieldfare Ave., Beaconsfield, Quebec, Canada; Fritz O. Wlenert, 394 Roosevelt Ave., Niagara Falls, N.Y. 14305; and Murray C. Udy, deceased, late of Niagara Falls, N.Y., by Mary S. Udy, executrix, 818 Cayuga Drive, Niagara Falls, N.Y. 14304  
Filed May 27, 1968, Ser. No. 732,469  
Int. Cl. H05b 3/60; C21c 5/52

U.S. Cl. 13—31 9 Claims  
The higher the power input to an electric furnace during smelting and/or melting operations, the higher the output will be. In conventional operation, slag foaming and refractory damage limit the power input, particularly in the later stages of a heat. In the present invention, the electrodes are exactly positioned for "corona" heating and, by correlating slag temperature, composition and viscosity, and charging rate, with the degree of metalliza-

tion of the charge, power input and metal production are maximized. Foaming and refractory damage are avoided.

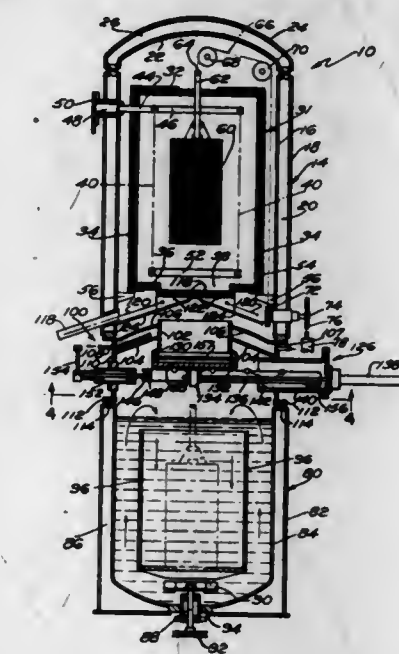


The invention is particularly adapted to producing iron and steel from all types of iron and iron oxide-bearing charge materials.

3,522,357

**VACUUM FURNACE HAVING A LIQUID QUENCH AND A VERTICALLY MOVABLE WORK HOLDER**

Wilson C. Pine, Cranston, Herbert W. Westeren, Barrington, and William H. Kimball, Providence, R.I., assignors to C. I. Hayes Inc., Cranston, R.I., a corporation of Rhode Island  
Filed Feb. 3, 1969, Ser. No. 796,085  
Int. Cl. H05b 3/60, 3/62; F27b 1/00  
U.S. Cl. 13—31 15 Claims



An electric furnace for heat treating metallic articles under vacuum and including a quench zone to which the heat treated articles are directed after the heat treating operation, the heating chamber in the furnace being lo-







other. A central core positioned between the two leg portions defines two openings for receiving conductors; one opening, in the form of a trough bore, is defined by the base portion and a side of the central core; the other opening, in the form of an open-sided channel, is defined by another side of the core together with the extending ends of the leg portions. Interlocking recesses and projections on the core and on one or both of the leg portions assure that the connector parts will all lock together when compression force is applied.

3,522,366

**ELECTRICAL INSULATORS**

Peter John Lambeth, Brookham, Surrey, England, assignor to Transmission Developments Limited, Gloucester, Gloucestershire, England, a British company

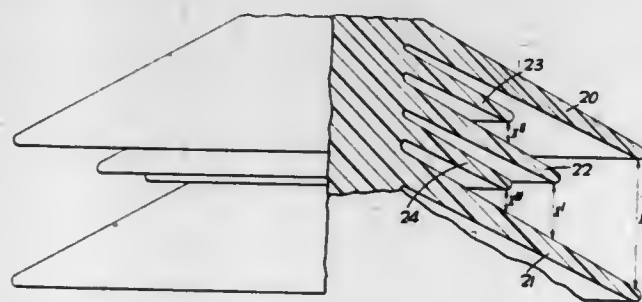
Filed Apr. 1, 1969, Ser. No. 811,764

Claims priority, application Great Britain, Apr. 1, 1968, 15,576/68; Dec. 19, 1968, 60,467/68

Int. Cl. H01b 17/56

U.S. Cl. 174-212

13 Claims



A shedded insulator, particularly a rod type insulator for suspending conductors of overhead transmission lines has sheds of different diameters arranged in a repeating pattern. There are described a porcelain insulator with sheds of two sizes and a synthetic resin insulator with sheds of three sizes. If there are  $N$  sizes of sheds, the repeating pattern is of sets of  $2^{(N-1)}$  sheds arranged as follows: Calling the shed sizes, in order of increasing diameter, size 0, size 1, size 2 . . . and the positions in the set as position 1, position 2 . . . upwards from the lowest shed, the shed size number for each position in a set is given by the highest power of 2 that is exactly divisible into the position number. The length of the creepage path  $L$  between the lowest point on the rim of any shed and the point immediately below it on the next shed of the same or larger diameter is related to the shortest distance  $X$  between the two points in such a way that the maximum value of  $X/L$  does not exceed the minimum value by more than 50% and the total creepage path between the ends of the insulating material is at least 4 times and typically 10 times the axial length.

3,522,367

**OPTICAL INFORMATION DISPLAY SYSTEM**

John L. Jones, Gardena, and Robert J. Cirillo, Manhattan Beach, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Mar. 10, 1967, Ser. No. 622,203

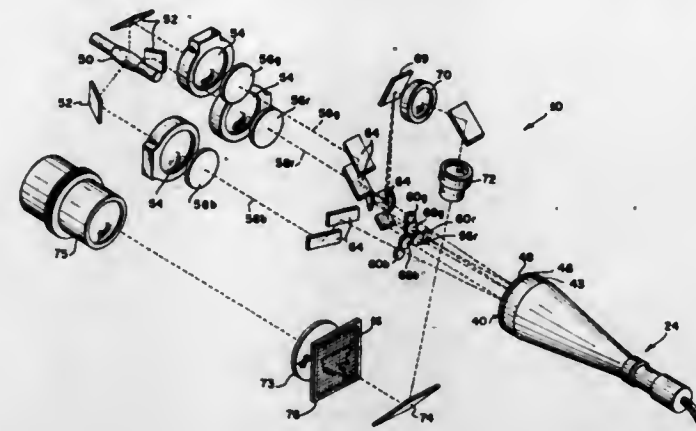
Int. Cl. H04n 9/12

U.S. Cl. 178-5.4

7 Claims

A light projection system that provides for the synthesis of multiple colored light beams whereby colored images can be projected for suitable visual display onto a viewing screen. The colored light beams are imaged by reflecting them off normally specular surface areas selectively provided with similar continuously changing non-specular images. A lens system in the path of each light beam provides an optimum arrangement for the projection components to minimize aberrations that occur as a result

of angular projection. Such a lens system reduces angular projection by concentrating the light beam into a small area in front of the specular surface and then directing the light beam as a diverging cone onto the image-bearing reflective surface at a near normal angle. The reflected light beam is then directed at a similar near normal angle



as a converging cone back into a concentrated area adjacent to the area of concentration of the direct light beam. The concentrated areas of the three reflected light beams are arranged closely together and they are similarly projected at a near normal angle onto a common image plane where the beams are integrated.

3,522,368

**COLOR DISPLAY SYSTEM**

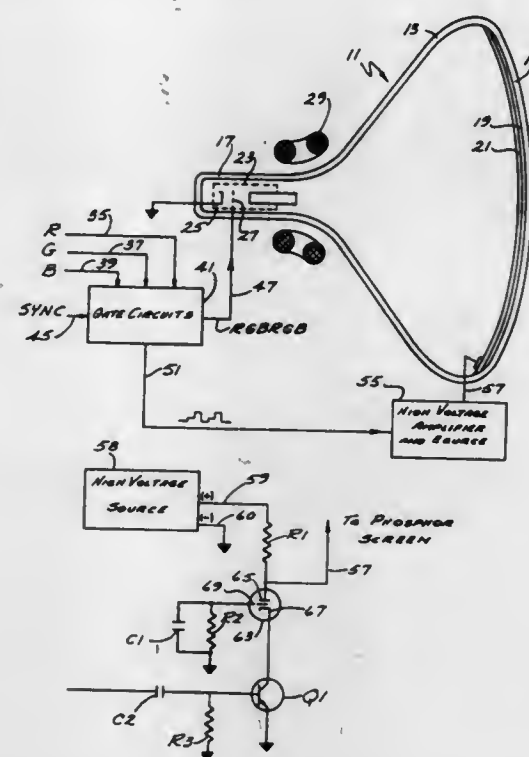
Robert E. Smith, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Apr. 10, 1967, Ser. No. 629,433

Int. Cl. H04n 9/12, 9/22

U.S. Cl. 178-5.4

8 Claims



The disclosure describes apparatus for applying different electron accelerating voltages to a phosphor viewing screen of the type which emits light of different colors when struck by electrons of different energies. A vacuum tube is employed for handling the high accelerating voltages and, to improve the switching speed of the tube, conduction therein is controlled by a transistor the collector-emitter circuit of which is connected in series with the cathode of the tube.

3,522,369

**CONTROL PULSE GENERATING CIRCUIT FOR COLOR TELEVISION RECEIVER**

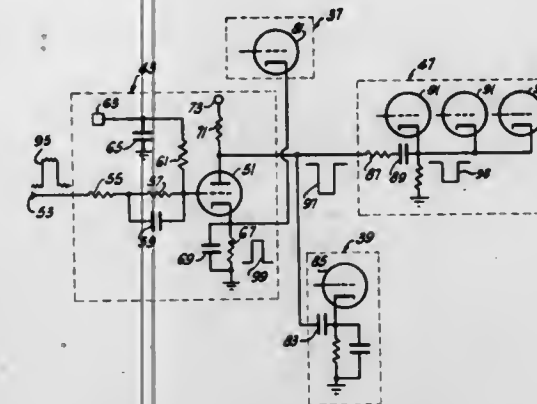
Robert Charles Wheeler, Batavia, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 12, 1967, Ser. No. 637,970

Int. Cl. H04n 9/02

U.S. Cl. 178-5.4

5 Claims



A single stage pulse generating circuit for the chroma channel of a color television receiver wherein horizontal retrace pulses are applied to the control electrode of an electron discharge device. A pulse taken from the first output electrode of the electron discharge device is applied to the bandpass amplifier of the chroma channel, the pulse being of the proper polarity, shape and magnitude to blank out the bandpass amplifier during horizontal retrace. The pulse taken from the second output electrode is applied to the burst amplifier of the chroma channel to gate on the burst amplifier during the horizontal retrace thereby allowing the amplification and passage of the burst of color synchronizing pulses for further signal processing. The pulse from the second output electrode of the electron discharge device may also be applied to matrix amplifiers in the chroma channel to further assure the blanking of the cathode ray display tube during the retrace cycle.

3,522,370

**COLOR DISPLAY SYSTEM EMPLOYING A STRIPED PENETRATION TYPE CRT**

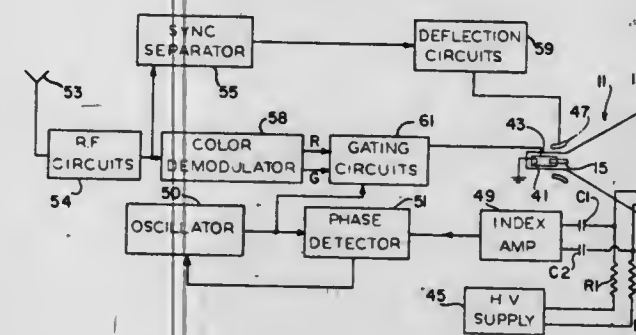
Morton E. Jones, Richardson, and William H. Clingman, Jr., Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 15, 1967, Ser. No. 646,280

Int. Cl. H04n 9/22

U.S. Cl. 178-5.4

3 Claims



A color kinescope construction is disclosed in which a viewing screen is covered with a phosphor material which emits light of different colors when energized by electrons of different energies. The phosphor material covers the screen uniformly and is overlaid with a series of parallel conductive stripes. The thickness of the stripes

is such that the energies of impinging electrodes are reduced in penetrating the stripes so that the phosphor material beneath the stripes emits light of a different color than the phosphor material which is not covered by the stripes. Alternate stripes are connected together at one side of the screen and the intervening stripes are connected together on the other side of the screen so that, as the screen is scanned by an electron beam, a potential difference comprising an indexing signal is generated between the two sets of stripes. The screen is scanned by a beam of electrons produced by a conventional electron gun. The indexing signal generated by the scanning of the beam is employed to control gating means for applying different color signals to the gun in sequence to vary the electron beam intensity as the beam traverses the covered and uncovered portions of the phosphor material respectively so that the signals produce image components in light of the respective colors.

3,522,371

**APPARATUS FOR RECORDING AND REPRODUCING COLOR PICTURE INFORMATION ON A MONOCHROME RECORD**

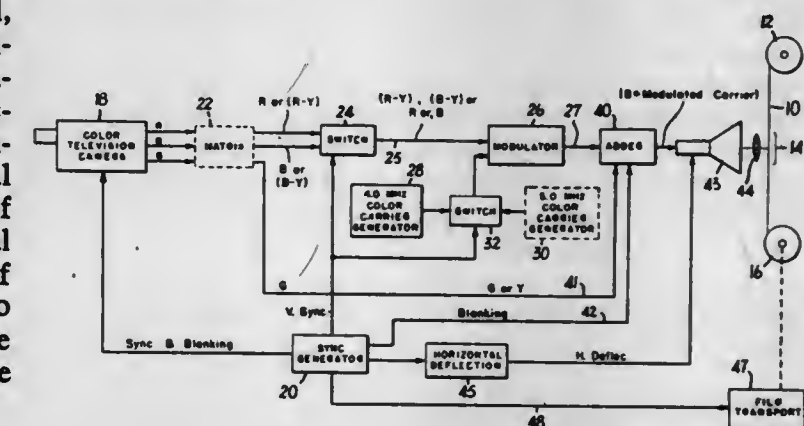
Peter C. Goldmark, Stamford, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York

Filed Dec. 1, 1967, Ser. No. 687,223

Int. Cl. H04n 5/84

U.S. Cl. 178-5.4

21 Claims

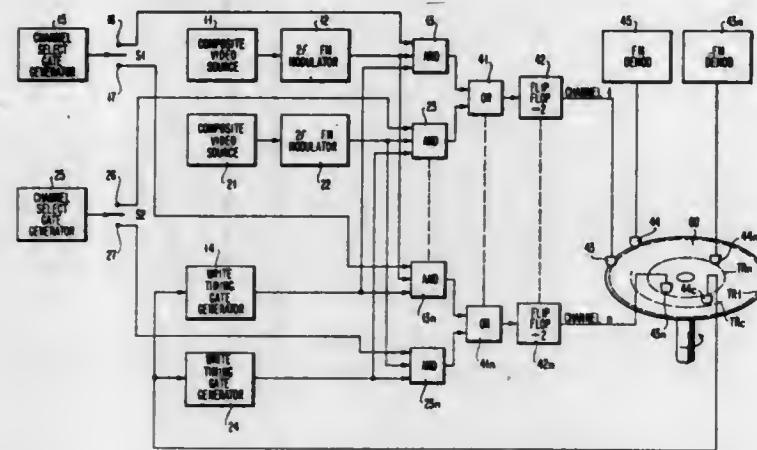


Apparatus for recording and reproducing motion picture color information on a monochrome film, in which a first component of color information is used to modulate a carrier waveform signal that is recorded in a first series of longitudinally displaced frames on a monochrome film. A second component of color information is used to modulate the same or a different carrier signal which is to be recorded in a second series of frames alternating with the frames of the first series. The carrier frequency is a multiple of the horizontal line frequency used in recording the information so that each frame comprises a succession of mutually displaced transverse lines in which the tone density variations corresponding to the amplitude of carrier waveform are essentially in longitudinal alignment.

During reproduction, the lines in the respective frames of each series are scanned either simultaneously, or alternately by sampling, and the modulation detected to continuously present two color component signals which may be reproduced in a conventional television receiver. In addition, a representation of picture brightness information may be recorded in superimposed relation to the waveforms in each frame, with the picture brightness information having frequency components distinct from the carrier and carrier sidebands for frequency selective extraction during reproduction.

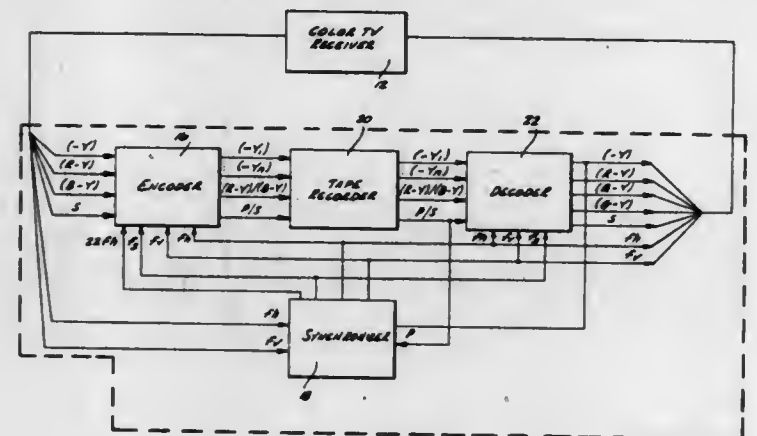


**3,522,372**  
**FREQUENCY MODULATED SIGNAL SWITCHING WITH FREQUENCY DIVIDED OUTPUT**  
 John L. Adkisson and Albert B. Manildi, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
 Filed Nov. 13, 1967, Ser. No. 682,432  
 Int. Cl. H04L 27/12; H04N 5/78; G11b 5/04  
 U.S. Cl. 178—6 **6 Claims**



A multi-channel storage system for frequency modulated video information having a plurality of sources of frequency modulated information. Each of the sources has a center frequency twice the center frequency of the stored signal. The modulators are switched into a desired channel by standard logic circuitry for storage in a disk type storage. After, however, the information has been switched toward the desired channel, the center frequency is divided by two and then stored in a storage disk. By so doing, only the turn-off or the turn-on times of the logic circuitry are employed so that the turn-off and turn-on times of the logic circuitry do not have to be equal or symmetrical. Thus the difference between the turn-on and turn-off times of the logic circuitry will not produce phase distortion.

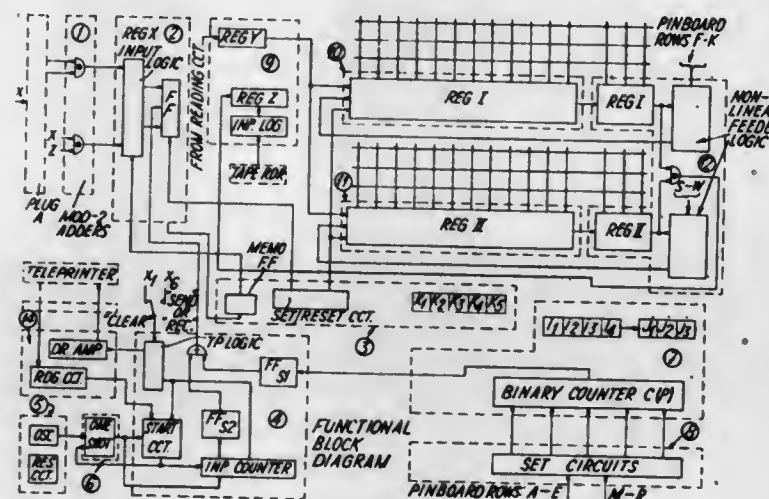
**3,522,373**  
**DUAL MODE TELEVISION SIGNAL SYNCHRONIZER PHASE LOCK LOOP**  
 Walter H. Bockwoldt, Woodland Hills, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware  
 Filed May 8, 1967, Ser. No. 636,695  
 Int. Cl. H04N 5/76, 5/78  
 U.S. Cl. 178—6.6 **12 Claims**



A synchronizer circuit connected to receive a vertical sync signal and a horizontal sync signal of a television signal during an encoding mode of operation for generating a tone burst signal, a horizontal sync signal, a vertical sync signal and a sample or pilot signal for encoding the

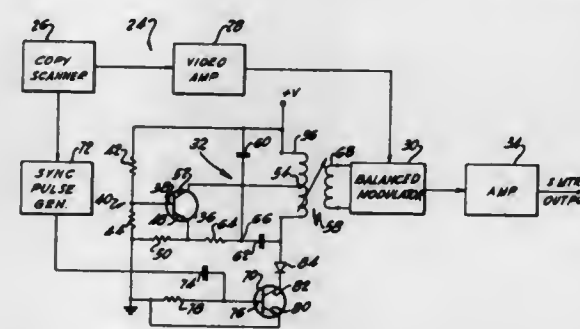
video signal, all in synchronism with one another; or on decode operation being coupled to receive the sample or pilot signal for generating a horizontal sync signal, a vertical sync signal and a sampling sync signal, all in synchronism with one another for decoding and reconstructing the encoded video signal.

**3,522,374**  
**CIPHERING UNIT**  
 Per R. Abrahamsen, Kjeller, and Kaare Ragnar Meisingset, Stabekk, Norway, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware  
 Filed June 12, 1967, Ser. No. 645,315  
 Int. Cl. H04L 9/04  
 U.S. Cl. 178—22 **2 Claims**



A ciphering unit is provided which may be used in connection with pseudo-random key material generators for increasing security. The ciphering unit comprises a multi-stage register where each stage comprises a modulo-2 adder and a flip-flop circuit, where any outlet may be connected to any inlet and where information from a memory may be used for interconnecting the stages so that the register will follow a defined cycle when supplied with shift pulses.

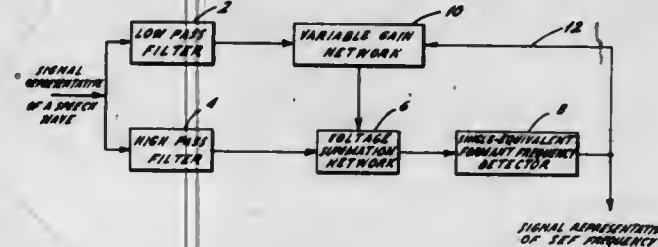
**3,522,375**  
**FACSIMILE CARRIER OSCILLATOR CIRCUIT INCLUDING MEANS FOR SYNCHRONIZING THE CARRIER WITH RESPECT TO THE SCANNER**  
 Frans Brouwer, Glencoe, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia  
 Filed July 28, 1967, Ser. No. 656,777  
 Int. Cl. H04N 1/02  
 U.S. Cl. 178—69.5 **10 Claims**



A circuit for improving the facsimile reproduction of copy documents wherein a free running frequency signal oscillator providing the modulation carrier is synchronized

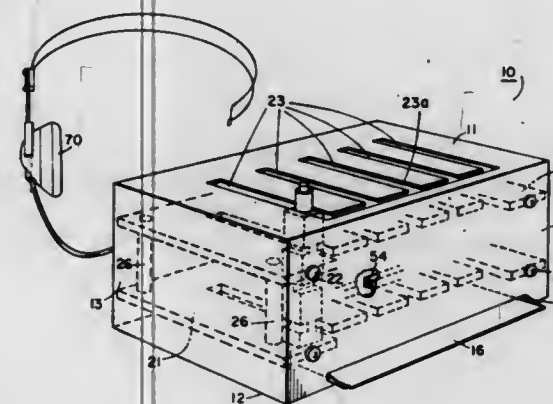
in time and phase relationship with the copy scanner between each scanning segment by stopping and restarting the oscillations with each synchronizing pulse to eliminate certain distortions in the reproduced copy including the roping effects of vertical lines.

**3,522,376**  
**SINGLE-EQUIVALENT FORMANT PRE-NORMALIZER UTILIZING FEEDBACK**  
 Louis R. Focht, Huntingdon Valley, and Charles F. Teacher, Philadelphia, Pa., assignors to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware  
 Filed Feb. 2, 1968, Ser. No. 702,623  
 Int. Cl. G011 1/00  
 U.S. Cl. 179—1 **5 Claims**



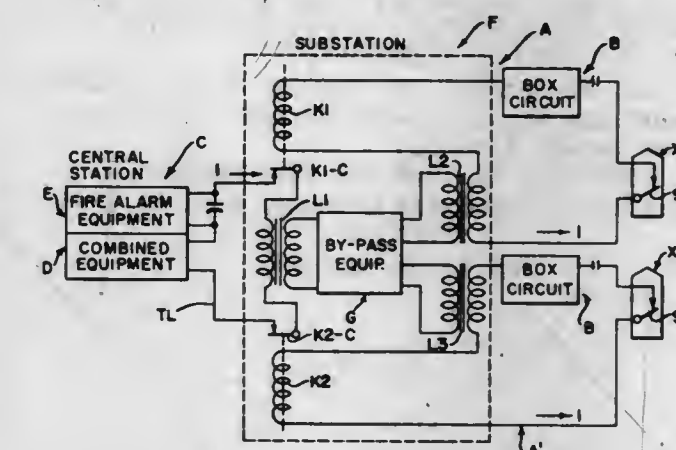
A single-equivalent formant speech analysis system in which the amplitude of the low frequency formants of a sound are decreased when a dominant high frequency formant is detected or increased when a dominant low frequency formant is detected. This is accomplished by using the output of the single-equivalent formant detector as a feedback signal to regulate the amplitude of the low frequency formants.

**3,522,377**  
**AUDIOMETER**  
 Everett P. Merrill, 3626 Grafton, Dallas, Tex. 75211  
 Filed May 8, 1968, Ser. No. 727,422  
 Int. Cl. H01r 29/00; G01k 10/00  
 U.S. Cl. 179—1 **9 Claims**



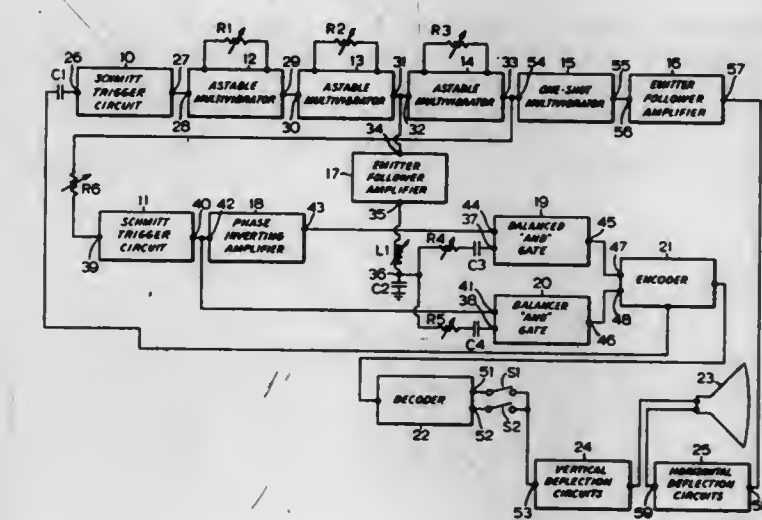
An audiometer includes a pair of parallel mounted circuit boards having respective slots within each board mutually aligned with one another, conductive patterns on each board providing terminal portions which are electrically coupled to internal circuitry for varying the frequency and intensity of a signal tone. A single control switch unit having contact projections for shorting select terminal portions together is adapted to slide within the mutually aligned slots, a retractable marker being included with the switch unit for contacting the face of a record card inserted in the audiometer for recording hearing loss information thereupon.

**3,522,378**  
**TELEPHONE-TELEGRAPH COMMUNICATION SYSTEM**  
 Robert B. McLeod, Clinton, Mass., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware  
 Filed Sept. 18, 1967, Ser. No. 668,593  
 Int. Cl. H04m 19/02  
 U.S. Cl. 179—3 **19 Claims**



A combined telephone-telegraph communication system including a central station, a substation and a plurality of local stations connected together by coupling transformers. The substation includes bypassing equipment that permits telephones and telegraph communication signals between any of the local stations and the central station to be balanced, amplified and isolated so that usable telephone and telegraph signals are routed to the units for which they are intended.

**3,522,379**  
**TESTING OF DECODERS FOR F.M. RECEIVERS AND TEST SIGNAL GENERATORS FOR USE IN SUCH TESTING**  
 Harry W. Verlinden, Waterloo, Ontario, Canada, assignor to Electrohome Limited, Kitchener, Ontario, Canada  
 Filed Feb. 28, 1968, Ser. No. 709,132  
 Int. Cl. H04J 1/16  
 U.S. Cl. 179—15 **31 Claims**



A test signal generator produces a test signal for aligning a multiplex decoder. A switching signal is applied to two input terminals of two gating devices, while an audio signal is applied to two other input terminals of the two gating devices. The audio signal appears at the output terminals of the gating devices in the form of pulses of audio signal that occur during certain time intervals at



one output terminal and different time intervals at the other output terminal. These latter signals are supplied to multiplex encoder that produces a conventional composite signal of the form

$$(L+R) + (L-R) \cos \omega t + P \cos \frac{\omega}{2} t$$

### 3,522,380 CIRCUIT ARRANGEMENT FOR AN EXCHANGE SYSTEM OPERATING ACCORDING TO THE TIME MULTIPLEX PRINCIPLE

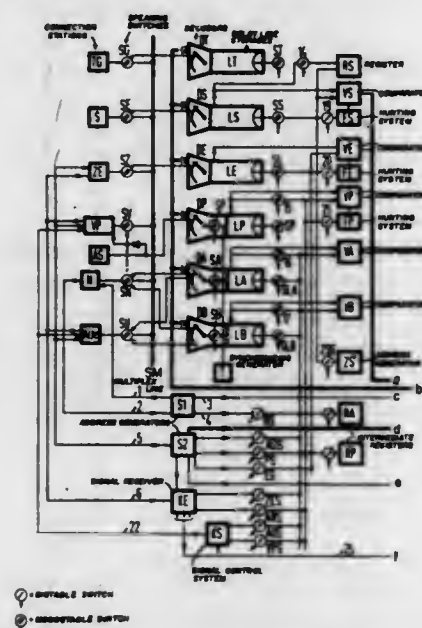
Otto Kneisel, Herbstrasse 18, Gauting b; Albert Fisch, Bushingstrasse 65; and Horst Honold, Cimbernstrasse 66, all of Munich, Germany

Filed Sept. 16, 1966, Ser. No. 580,034  
Claims priority, application Germany, Sept. 28, 1965, S 99,734

Int. Cl. H04j 3/00

U.S. Cl. 179-15

7 Claims



A time multiplex telephone exchange system in which a central control system performs the necessary connection processes asynchronously with respect to the pulse phases in which connection stations are connected to the multiplex line.

### 3,522,381 TIME DIVISION MULTIPLEX SWITCHING SYSTEM

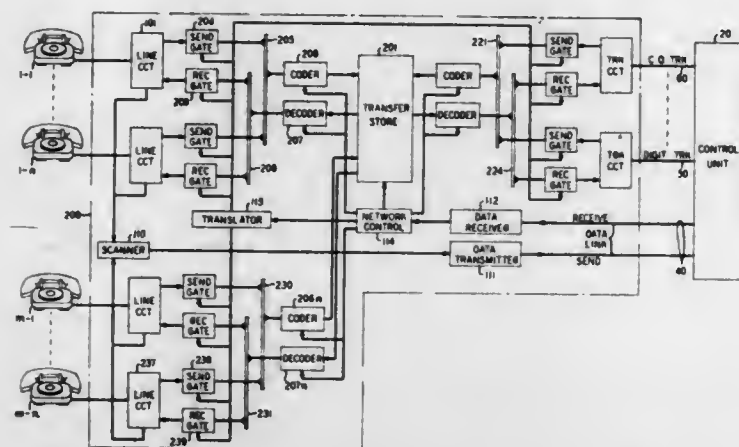
Herbert S. Feder, Matawan, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Dec. 13, 1967, Ser. No. 690,319

Int. Cl. H03j 3/00

U.S. Cl. 179-15

12 Claims



A communication system is described in which intelligence signals are transferred between stations in communication via a 4-wire path. The signals are sampled on a time division basis, coded in a digital form and routed

through a temporary storage medium, replacing the conventional switching network, to the appropriate destination.

### 3,522,382 SWITCHING DEVICE EMPLOYING A PIEZO-ELECTRIC CERAMIC RESONATOR

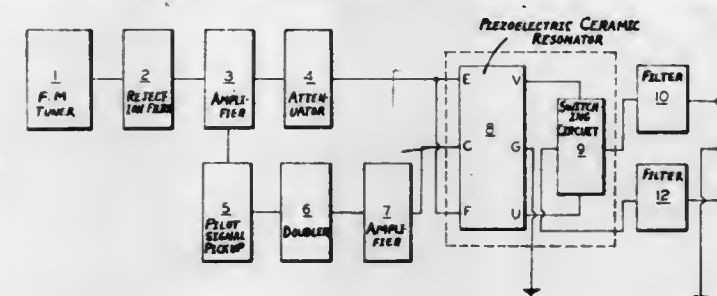
Yukihiko Ise, Osaka, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Apr. 8, 1968, Ser. No. 719,364  
Claims priority, application Japan, Apr. 18, 1967, 42/25,645; Apr. 19, 1967, 42/25,550

Int. Cl. H04r 5/04

U.S. Cl. 179-15

4 Claims



A switching device which has a switching circuit and a piezoelectric ceramic resonator. The resonator comprises a rectangular thin plate and has its fundamental resonance frequency at a longitudinal extensional vibration mode. Said resonator is provided with pairs of electrodes applied to both large surfaces thereof along the longitudinal axis. Said pairs of electrodes are combined with pairs of terminals respectively and are divided into three groups; input terminals, output terminals, and ground terminals. One of said input terminals is supplied with a subcarrier signal capable of vibrating said resonator. The other input terminals are supplied with a composite signal which includes a mixture of two distinct signals for subcarrier suppression. One of said output terminals transmits a first signal including a large amplitude signal from the subcarrier and the other output terminal transmits a second signal which is demodulated and is opposite in phase from said first signal. The switching circuit has two input terminals coupled to the resonator output terminals for receiving said first and said second signals, respectively and two output terminals. One of said two output terminals transmits a single distinct demodulated signal from said first signal and the other, a single distinct demodulated signal from said second signal.

### 3,522,383 BLOCK PRECODING FOR MULTIPLE SPEED DATA TRANSMISSION

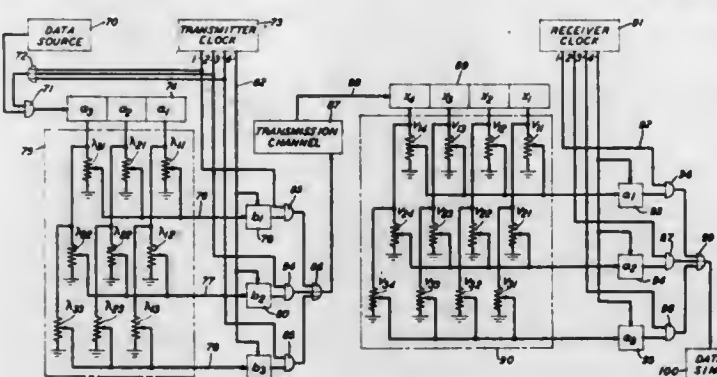
Robert W. Chang, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed June 13, 1967, Ser. No. 645,811

Int. Cl. H04b 1/66; H04j 3/18

U.S. Cl. 179-15.55

8 Claims



Circuit apparatus for block precoding and transmission of serial data information symbols over band-limited facilities as coefficients of orthonormal basis vectors by

means of resistive matrices attains different effective transmission rates less than the theoretical maximum rate without alteration of the characteristics of the transmission facility.

### 3,522,384 CONSTANT CURRENT OPERATION OF CENTRAL OFFICE TELEPHONE EQUIPMENT

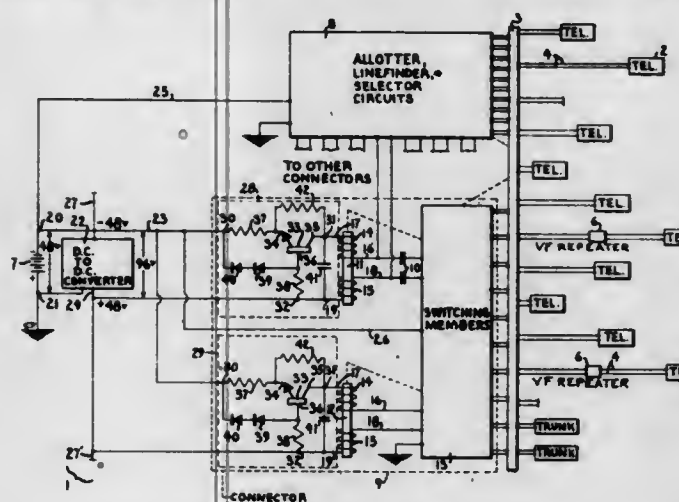
James T. Ricketts and Johnny L. Ricketts, Amarillo, Tex., assignors to Tri-State Communication Service, Inc., Amarillo, Tex., a corporation of Texas

Filed Jan. 16, 1968, Ser. No. 698,222

Int. Cl. H04q 1/28

U.S. Cl. 179-16

8 Claims



Central office telephone equipment includes constant current regulators in the connector circuits between a common battery current source, which may be elevated above normal central office battery potential, and the feed coils of the transmission relays, providing several advantages which may include the elimination of long line adapters, improvements in transmission quality, better overall signalling capability and less battery drain.

### 3,522,385 CALLING SUBSCRIBER IDENTIFICATION CIRCUIT

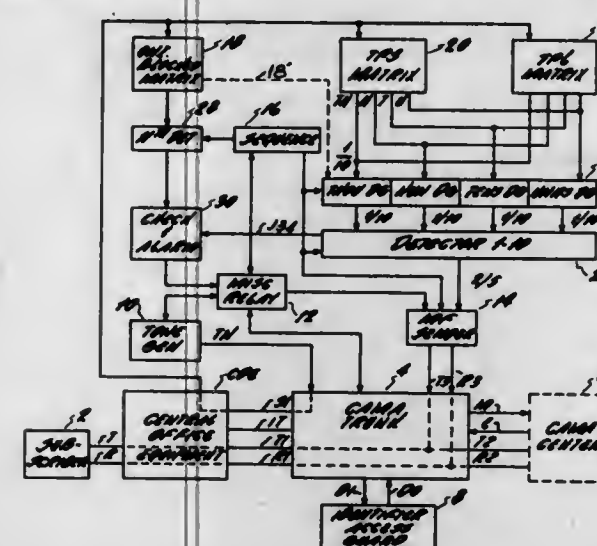
James L. Stepan, Humboldt, and Doyle V. Carmody, John S. Welch, and Ahmet A. Unseren, Milan, Tenn., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Sept. 22, 1966, Ser. No. 581,371

Int. Cl. H04q 3/72

U.S. Cl. 179-18

15 Claims



A calling subscriber identification system is provided for use with a toll center. The system employs a special trunk responsive to an incoming call for determining which line is calling. It provides a tone in response to a signal from the toll center indicating the toll center has

accepted the call and is available to receive identifying signals. It then provides output signals which identify the caller to the toll center for toll purposes.

### 3,522,386 LINEFINDER CIRCUIT RESPONSIVE ONLY TO FULL PULSES

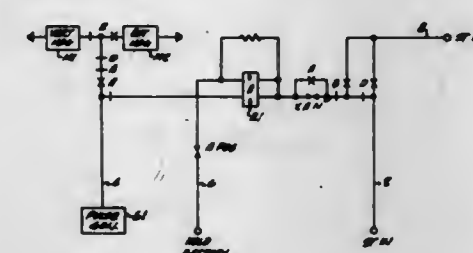
Robert V. Judy, Chicago, Ill., assignor to International Telephone and Telegraph Corp., New York, N.Y., a corporation of Maryland

Filed Apr. 26, 1967, Ser. No. 633,739

Int. Cl. H04q 3/26

U.S. Cl. 179-18

8 Claims



A linefinder is provided to operate from a common pulse generator. If a demand-for-service signal is received at the same time a dial pulse is being received, a differential relay will be operated to prevent the further application of the dial pulse, which may be of too short duration to operate stepping switches. Operation of the differential relay will also close appropriate sets of contact points so that the next dial pulse, which will then be a full pulse, will be made available to operate the stepping switches. Erroneous results from attempts to operate step-by-step telephone circuits using poorly shaped pulses are prevented by the common generator and errors due to poor timing of the first pulse are eliminated by use of the differential relay.

### 3,522,387 CIRCUIT ARRANGEMENT TO CONTROL A NUMBER OF FUNCTIONAL UNITS HAVING A CENTRAL LOGIC IN COMMON

Hilmar Schonemeyer, Ditzingen, and Hans-Dieter Seibel, Munchingen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

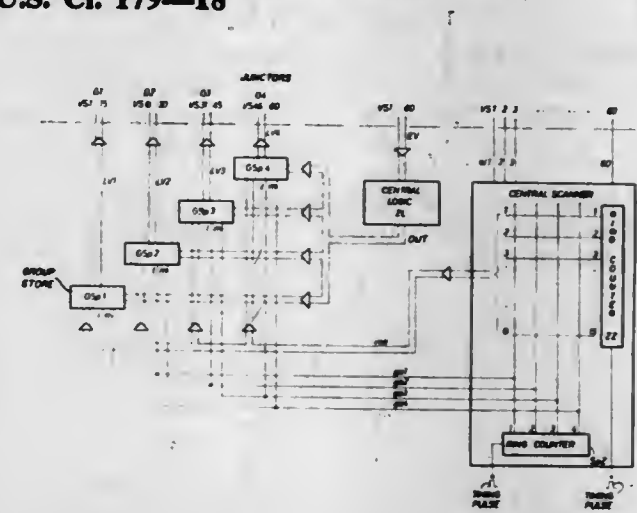
Filed June 15, 1967, Ser. No. 646,247

Claims priority, application Germany, June 24, 1966, St 25,576

U.S. Cl. 179-18

Int. Cl. H04q 3/54

5 Claims



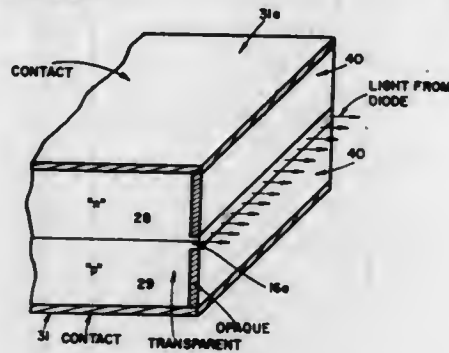
Relates to central control of a switching system. A central logic is employed to provide control of a large number of junctors. The junctors are divided into groups, group storage is provided for each group and one junctor is activated per cycle. Each group scanning cycle is started with a different junctor.



3,522,388

**ELECTROLUMINESCENT DIODE LIGHT SOURCE HAVING A PERMANENT IMPLANTED OPAQUE SURFACE LAYER MASK**

Allan S. Miller, Wellesley, Mass., assignor, by mesne assignments, to Norton Research Corporation  
 Filed Nov. 30, 1966, Ser. No. 598,094  
 Int. Cl. G11b 7/18; G01d 9/42; H05b 33/00  
 U.S. Cl. 179-100.3 2 Claims

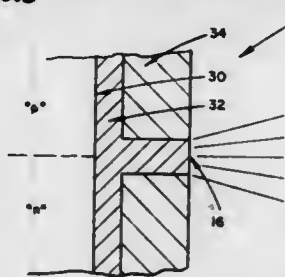


An electroluminescent diode is employed as the light source in a photographic data recording system. A mask defining a narrow light-transmitting slit is formed on one surface of the diode by selectively diffusing an impurity into the surface of the diode to render the mask portion opaque.

3,522,389

**MASKED FILM RECORDING ELECTROLUMINESCENT DIODE LIGHT SOURCE HAVING A TRANSPARENT FILLED MASK APERTURE**

Donald R. Bumiller, Winchester, Mass., assignor, by mesne assignments, to Norton Research Corporation  
 Filed Dec. 6, 1966, Ser. No. 599,638  
 Int. Cl. G11b 7/18; G01d 9/42; H05b 33/00  
 U.S. Cl. 179-100.3 3 Claims

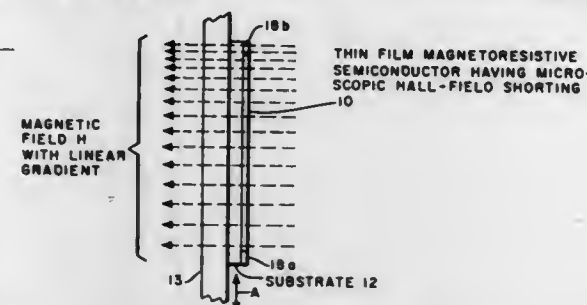


An electroluminescent diode is employed which has a mask defining a narrow light-transmitting slit secured to one surface of the diode; the light entering the mask from the diode may be diffused.

3,522,390

**MAGNETORESISTIVE TRANSDUCER HAVING MICROSCOPIC HALL FIELD SHORTING**

Harry H. Wleder, Riverside, Calif., assignor of twenty percent to Nathan Cass, Palos Verdes Peninsula, Calif.  
 Filed Apr. 12, 1965, Ser. No. 447,261  
 Int. Cl. H01c 7/16; H04r 23/00; H01l 15/00  
 U.S. Cl. 179-100.41 12 Claims



A magnetoresistive transducer formed so as to provide a magnetoresistive thin film element for which Hall voltage shorting occurs on a microscopic level. The magnetoresistive thin film is mounted to a vibrating member for

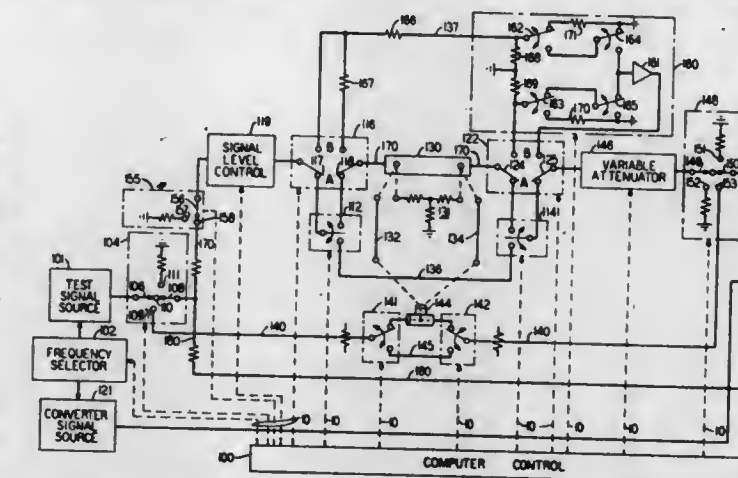
movement relative to a perpendicularly applied non-uniform magnetic field.

3,522,391

**TRANSMISSION MEASURING METHOD UTILIZING SELF-MEASURING TECHNIQUES TO DETERMINE TRANSMISSION MEASUREMENT ERRORS DUE TO IMPERFECTIONS OF AN AUTOMATIC TRANSMISSION MEASURING SET**

Walter J. Geldart, Holmdel, and Raymond G. Schleich, Lincroft, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Aug. 14, 1967, Ser. No. 660,352  
 Int. Cl. H04b 3/46; H04m 1/24  
 U.S. Cl. 179-175.3 10 Claims



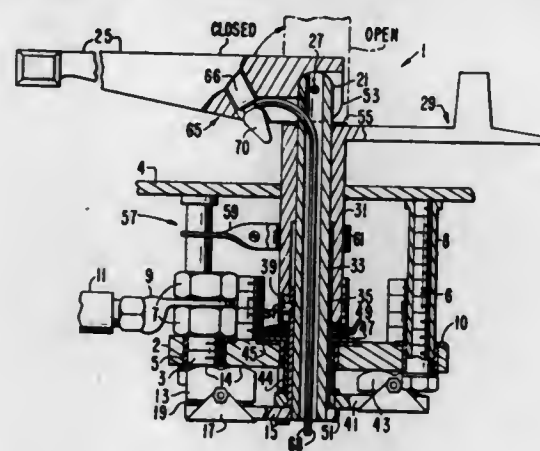
An automatic transmission measuring set is utilized to self-measure the transmission characteristics of its internal transmission components with the same measuring instrumentation that is used to measure the transmission characteristics of two port electrical networks. The self-measurements are conducted by isolating the causes of selected test signal disturbances that adversely affect test measurements and measuring the signal level induced in the measuring instrumentation due to each isolated disturbance. The isolation is achieved by selective signal injections, test circuit interruptions and bridging measurements of the various transmission components of the measuring set.

3,522,392

**HIGH CURRENT ROTARY SWITCH FOR CONNECTING ONE OF A FIRST SET OF TERMINALS TO A SELECTED ONE OF A SECOND SET OF TERMINALS**

Daniel F. Rohrer, Hillsboro, Oreg., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Sept. 19, 1967, Ser. No. 668,808  
 Int. Cl. H01h 25/06  
 U.S. Cl. 200-4 8 Claims



A manually operated panel mounted selector switch for connecting one of a first set of terminals to a

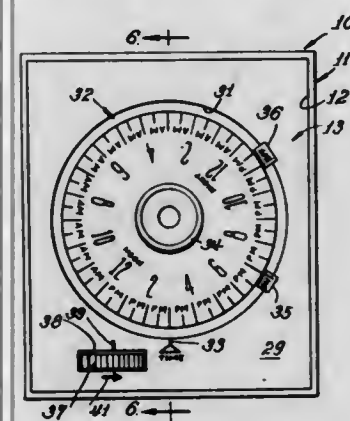
selected one of a second set of terminals, is capable of carrying hundreds of amperes of current. The controls are concentrically mounted on a single shaft protruding through the panel. Means are provided for de-energizing the contacts and releasing contact pressure before the contact position is changed, thus avoiding arcing and contact abrasion and reducing the force required to move the contacts between positions.

3,522,393

**TIME SWITCH**

Eugene D. Banathy, Skokie, Edward F. Condon, Jr., Oak Park, and Julius R. Rosenski, Chicago, Ill., and Robert K. Pfeiffer, Miami, Fla., assignors to International Register Company, Chicago, Ill., a corporation of Illinois

Filed July 26, 1968, Ser. No. 747,970  
 Int. Cl. H01h 43/10  
 U.S. Cl. 200-38 14 Claims



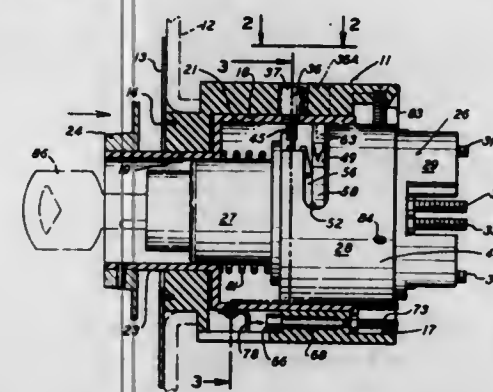
Switch contacts located between front and rear insulating frame sections are closed and opened by a rotatable switch operator that is driven in stepwise fashion by on and off trip levers that are alternately pivoted by switch on and off members adjustably mounted on and rotatable with a time driven dial that is located in a cavity in the front frame section. A manually rotatable dial is geared to the switch operator. The time dial and switch members can be moved axially outwardly to cause them to skip the trip levers. An insulating housing open on one side encloses the frame sections.

3,522,394

**COMBINED AUTOMOBILE IGNITION AND LIGHT SWITCH**

Donald W. Bellrose, 810 N. Dos Robles Place, Alhambra, Calif. 91801

Filed Jan. 24, 1969, Ser. No. 793,857  
 Int. Cl. H01h 9/28, 27/00  
 U.S. Cl. 200-44 4 Claims



A conventional key-operated automobile ignition switch has a partly open case. A switch arm accessible through the opening and which changes position with change in condition of the switch is combined with a surrounding housing containing a rotatable contactor spindle. The spindle is spring biased axially and has a guide pin lodged in a guide path in the housing. A guide pin extension is

contacted by the switch arm. The housing carries headlight contacts which are connected to complete a circuit when the spindle rotates. Axial pressure on the spindle moves the guide pin into the path of the rotating switch arm. The housing guide path is such that the connector on the spindle is moved out of contact with the lighting circuit when the ignition switch is turned off.

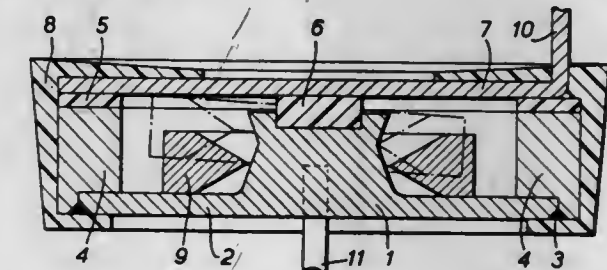
Conventional automobile ignition switches are wired so that the electrical accessories are turned off when the ignition is turned off, but the exterior lights are independently controlled such that the condition of the ignition switch does not affect the condition of the headlights and taillights. The purpose of linking the accessories to the ignition switch is to prevent battery drain if accessories, such as the radio, are left on. An even faster battery drain condition exists if the headlights are inadvertently left on.

3,522,395

**GYROSCOPICALLY ACTUATED ELECTRIC SWITCHES**

Walter W. H. Clarke, Eversley, England, assignor to C. B. Associates Limited, London, England, a British company

Filed Dec. 9, 1968, Ser. No. 782,403  
 Int. Cl. H01h 35/14  
 U.S. Cl. 200-61.45 4 Claims



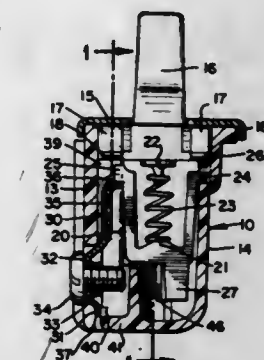
The invention relates to gyroscopically actuated electric switches and in particular to such switches which are intended to provide a switching action in a projectile having a high speed of rotation when the projectile changes its velocity and/or orientation suddenly, as upon impact.

3,522,396

**ELECTRICAL SNAP SWITCH**

Alexander R. Norden, New York, N.Y., assignor to Slater Electric Inc., Glen Cove, N.Y., a corporation of New York

Filed Jan. 8, 1968, Ser. No. 696,452  
 Int. Cl. H01h 13/28  
 U.S. Cl. 200-67 10 Claims



The disclosure herein describes an electrical snap switch of the type generally known as a D.C. switch, in which the contact members are rigid and the usual toggle spring is utilized to provide the contact pressure as well as to provide the toggle action. Additionally, the construction is such that the final "make" of the circuit is effected on surfaces other than those on which the initial circuit completion occurs, so that arcing which may exist and cause roughening of the surfaces does not roughen the



surfaces at which contact is made while the switch is at rest. As will be apparent, the use of rigid contact members makes manufacture of the switch relatively inexpensive and easy, since the rigid parts in addition to being made of less expensive material may be shorter and therefore cost less than the resilient parts which they replace.

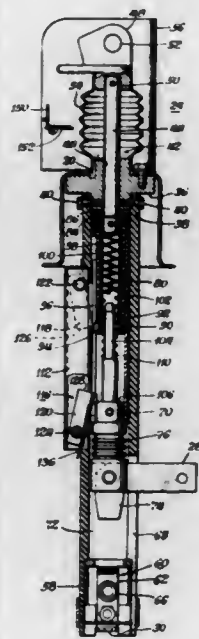
3,522,397

**ELONGATED SECTIONALIZING SWITCH**

Donald E. Dodson, Washington, and John E. Smith, Murray, Pa., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware  
Filed Aug. 28, 1967, Ser. No. 663,706  
Int. Cl. H01h 15/18

U.S. Cl. 200—78

4 Claims



A switch having a fixed contact and a spring loaded moving contact structure actuated by a plunger arm and moved along a straight line to engage or be disengaged from the fixed contact. The moving contact is held in its respective engaged and disengaged positions by a dog at each position. Movement of the plunger arm either toward or away from the moving contact compresses a spring against the moving contact and then trips a dog to cause the moving contact to snap from one of its engaged or disengaged positions to the other position.

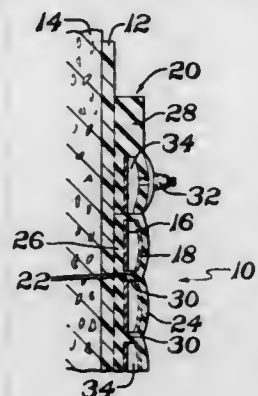
3,522,398

**ELECTROPNEUMATIC PANEL SWITCH**

Wayne K. Helmann, Stow, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York  
Filed Nov. 13, 1967, Ser. No. 682,007  
Int. Cl. H01h 3/14

U.S. Cl. 200—86

4 Claims



An electropneumatic panel switch featuring a pair of parallel conductive foils mounted to the opposing inner walls of an inflatable elastomer body and normally held in a spaced open switch relationship by the inflation of the elastomer body, and further featuring interconnecting

tie-in elements throughout the panel switch providing the fully inflated panel switch with a generally "quilted" configuration of substantially uniform thickness over the entire switch contact surface.

3,522,399

**VACUUM-TYPE CIRCUIT INTERRUPTER WITH CONTACTS HAVING PARTICULARLY SHAPED CIRCUMFERENTIALLY SPACED SLOTS**

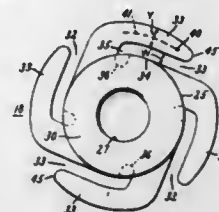
Donald W. Crouch, Newtown Square, Pa., assignor to General Electric Company, a corporation of New York

Filed Mar. 8, 1968, Ser. No. 711,613

Int. Cl. H01h 33/64

U.S. Cl. 200—144

5 Claims



Contact structure for a vacuum-type circuit interrupter comprising a disc-shaped contact having circumferentially spaced slots formed therein for producing arc-rotation. The slots extend substantially tangential to a large centrally-located contact-making button having an outer periphery concentric with the outer contact periphery. The slots are relatively wide, having an average width over half that of the circumferentially-extending fingers formed between the slots and the outer contact periphery.

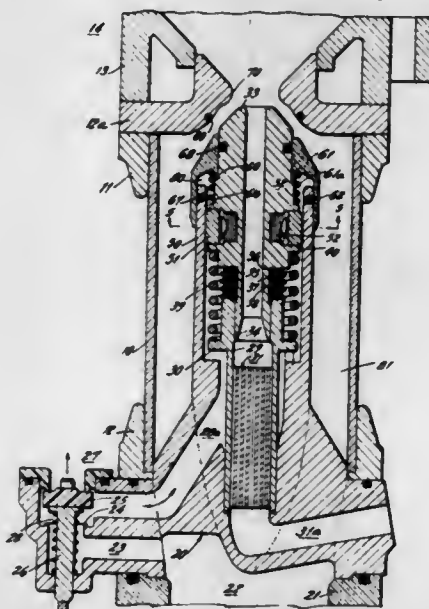
3,522,400

**ANNULAR SLIDING VALVE FOR AIR BLAST CIRCUIT BREAKER**

John Golota, Los Angeles, Calif., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware  
Filed Dec. 15, 1966, Ser. No. 601,985  
Int. Cl. H01h 33/83

U.S. Cl. 200—148

7 Claims



A compressed gas circuit breaker in which an axially extending movable contact carries a blast valve slidably mounted thereon. One end of the movable contact engages a nozzle opening in a stationary contact and the blast valve mounted on the end of the movable contact engages a sealing ring on the stationary contact. The blast valve, when closed, isolates a high-pressure source from a low-pressure source. When the blast valve slides down on the movable contact, high-pressure air is immediately adjacent the point of contact separation between the movable and stationary contacts.

## DESIGNS

JULY 28, 1970

218,137

**MOLDED FOOD PRODUCT**

Orville M. Smith, 2106 McKinney, Houston, Tex. 77003, and Kenneth S. Wiscamb, Houston, Tex., assignors, by direct and mesne assignments, of eighty percent to said Smith and twenty percent to Coast Properties Company, Houston, Tex., a corporation of Texas

Filed Mar. 24, 1969, Ser. No. 16,411

Term of patent 14 years

Int. Cl. D1—01

U.S. Cl. D1—16



218,138

**MOLDED FOOD PRODUCT**

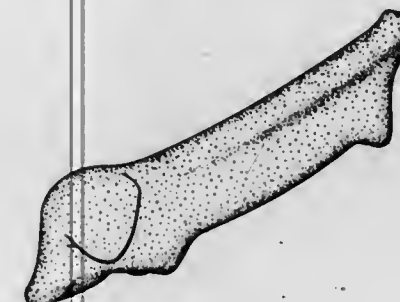
Orville M. Smith, Houston, Tex., assignor of twenty percent to Coast Properties Company, Houston, Tex., a corporation of Texas

Filed Mar. 24, 1969, Ser. No. 16,415

Term of patent 14 years

Int. Cl. D1—01

U.S. Cl. D1—16



218,139

**AIRCRAFT FUEL SUMP DRAINING TOOL**

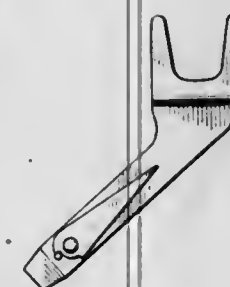
Taso P. Anthan, 3207 NW Oakcrest Drive, Kansas City, Mo. 64151

Filed Dec. 24, 1968, Ser. No. 15,108

Term of patent 14 years

Int. Cl. D8—02

U.S. Cl. D8—16

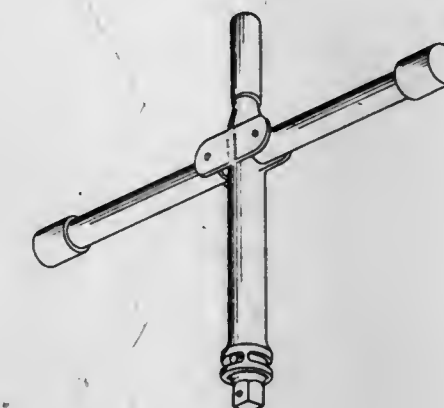


218,140

**IMPACT WRENCH**

Kurt Gerhardt Johannsen, Flagstaff Hill, Adelaide, South Australia, Australia, assignor to Undoolya Pty. Limited, Adelaide, South Australia, Australia  
Filed May 6, 1969, Ser. No. 17,030  
Term of patent 14 years  
Int. Cl. D8—02

U.S. Cl. D8—29



218,141

**MULTI-PURPOSE ELECTRICIAN'S TOOL**

Ted Neff, La Habra, Calif., assignor to Hunter Industries, Santa Fe Springs, Calif., a corporation of California

Filed July 31, 1969, Ser. No. 18,498

Term of patent 14 years

Int. Cl. D8—02

U.S. Cl. D8—58



218,142

**CASTER HORN**

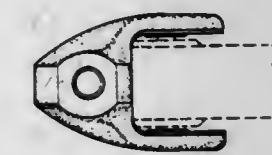
Michael G. Forman, Evansville, Ind., assignor to Bliss & Laughlin Industries, Incorporated, Oak Brook, Ill., a corporation of Illinois

Filed Oct. 25, 1968, Ser. No. 14,178

Term of patent 14 years

Int. Cl. D8—03

U.S. Cl. D8—226

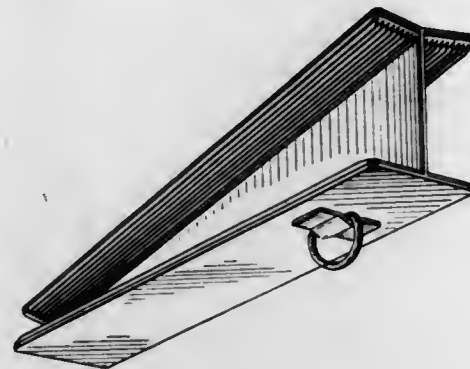




**218,143**  
**WIND GUST LOCK FOR AIRCRAFT**  
**CONTROL SURFACES**

James H. Kinder, 322 8th St., Des Plaines, Ill. 60016; Kenneth A. Johnson, 155 Big Oaks Road, Cary, Ill. 60013; and Everett A. Johnson, 15 S. Prospect Ave., Park Ridge, Ill. 60068  
Filed May 6, 1968, Ser. No. 11,802  
Term of patent 14 years  
Int. Cl. D8—03

U.S. Cl. D8—229



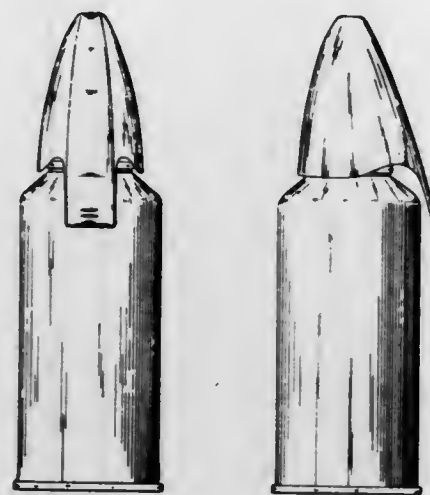
**218,144**  
**CARTON FLAP RETAINER**  
Paul Branson, 2302 N. Lynhurst Drive, Apt. A, Indianapolis, Ind. 46224  
Filed Feb. 4, 1969, Ser. No. 15,620  
Term of patent 14 years  
Int. Cl. D8—03; D15—07

U.S. Cl. D8—259



**218,145**  
**DISPENSING CONTAINER**  
Jay Doblin, Chicago, Ill., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware  
Filed Aug. 20, 1969, Ser. No. 18,775  
Term of patent 14 years  
Int. Cl. D9—01

U.S. Cl. D9—9



**218,146**  
**BOTTLE OR SIMILAR ARTICLE**  
Ernest F. Thomson, New York, N.Y., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

Filed Aug. 18, 1969, Ser. No. 18,728  
Term of patent 14 years  
Int. Cl. D9—01

U.S. Cl. D9—34



**218,147**  
**DISPENSING CONTAINER OR SIMILAR ARTICLE**  
Robert H. Jordan, Chicago, Ill., assignor to Morton International, Inc., Chicago, Ill., a corporation of Delaware  
Filed July 25, 1968, Ser. No. 12,890  
Term of patent 14 years  
Int. Cl. D9—01

U.S. Cl. D9—83



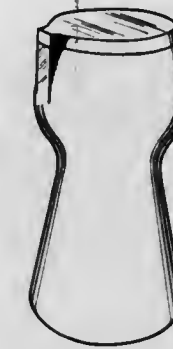
**218,148**  
**DISPENSING CONTAINER**  
Androus D. Noyes, Ossining, and Robert N. Marona, Harrison, N.Y., assignors to Morton International, Inc., Chicago, Ill., a corporation of Delaware  
Filed Dec. 30, 1968, Ser. No. 15,149  
Term of patent 14 years  
Int. Cl. D9—01

U.S. Cl. D9—118



**218,149**  
**DISPENSING CONTAINER**  
Androus D. Noyes, Ossining, and Robert N. Marona, Harrison, N.Y., assignors to Morton International, Inc., Chicago, Ill., a corporation of Delaware  
Filed Dec. 30, 1968, Ser. No. 15,150  
Term of patent 14 years  
Int. Cl. D9—01

U.S. Cl. D9—118



**218,150**  
**DISPENSING CONTAINER**  
Androus D. Noyes, Ossining, and Robert N. Marona, Harrison, N.Y., assignors to Morton International, Inc., Chicago, Ill., a corporation of Delaware  
Filed Dec. 30, 1968, Ser. No. 15,151  
Term of patent 14 years  
Int. Cl. D9—01

U.S. Cl. D9—118



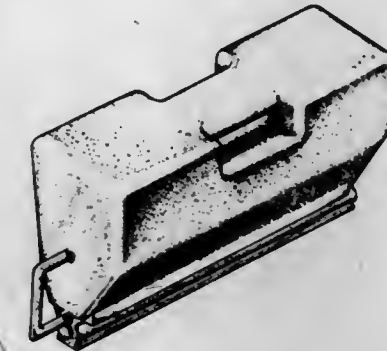
**218,151**  
**DISPENSING CONTAINER**  
Androus D. Noyes, Ossining, and Robert N. Marona, Harrison, N.Y., assignors to Morton International, Inc., Chicago, Ill., a corporation of Delaware  
Continuation of design applications Ser. No. 15,148 and Ser. No. 15,153, both dated Dec. 30, 1968. This application June 20, 1969, Ser. No. 17,789  
Term of patent 14 years  
Int. Cl. D9—01

U.S. Cl. D9—156



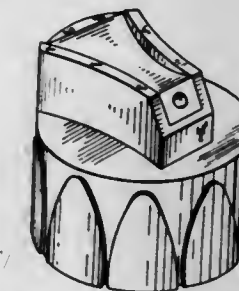
**218,152**  
**CONTAINER FOR XEROGRAPHIC POWDER**  
William C. Emerson, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York  
Filed Feb. 6, 1969, Ser. No. 15,677  
Term of patent 14 years  
Int. Cl. D9—99

U.S. Cl. D9—207



**218,153**  
**DISPENSING CLOSURE**  
Horace P. Abbott, Old Greenwich, Conn., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine  
Filed June 16, 1969, Ser. No. 17,723  
Term of patent 14 years  
Int. Cl. D9—02

U.S. Cl. D9—279



**218,154**  
**COMBINED CAN OPENER AND SPOUT**  
Charles G. Campbell, Miamisburg, Ohio, assignor to The Huffman Manufacturing Company, Miamisburg, Ohio, a corporation of Ohio  
Filed Aug. 8, 1969, Ser. No. 18,592  
Term of patent 14 years  
Int. Cl. D9—99

U.S. Cl. D9—290



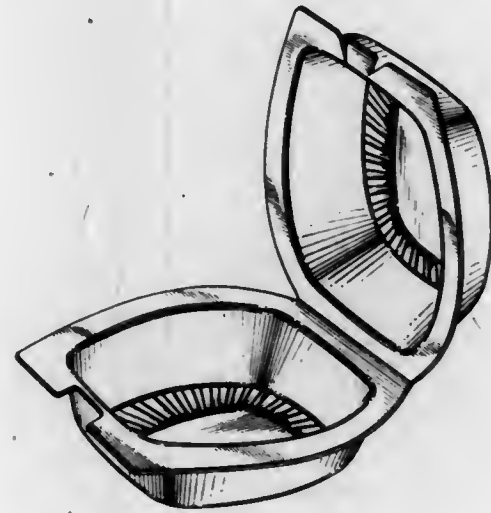


218,155

**COVERED FOOD DISH OR THE LIKE**

Thomas M. Britt, Red Bank, N.J., assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio  
Filed June 6, 1969, Ser. No. 17,552  
Term of patent 14 years  
Int. Cl. D9—04

U.S. Cl. D9—182



218,156

**PORTABLE TOILET BUILDING**

Logan W. Johnson, Minnetonka, Minn., assignor to Satellite Service Company, Minneapolis, Minn., a corporation of Minnesota  
Filed July 3, 1969, Ser. No. 18,044  
Term of patent 14 years  
Int. Cl. D25—04

U.S. Cl. D13—1



218,157

**PORTABLE TOILET BUILDING**

Logan W. Johnson, Minnetonka, Minn., assignor to Satellite Service Company, Minneapolis, Minn., a corporation of Minnesota  
Filed July 3, 1969, Ser. No. 18,053  
Term of patent 14 years  
Int. Cl. D25—04

U.S. Cl. D13—1

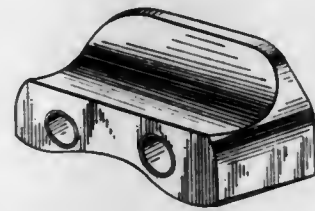


218,158

**ENDLESS TRACK WHEEL GUIDE LUG**

Edouard Martin Comellas, 1410 Stanley St., Room 411, Montreal, Quebec, Canada  
Filed Sept. 13, 1968, Ser. No. 13,526  
Term of patent 14 years  
Int. Cl. D12—14

U.S. Cl. D14—30



218,159

**OFFICE CHAIR**

Bent Harlang, 21 Sigridsvej, Hellerup, Denmark, and Jorgen Rasmussen, Gl. Haltegaard, Holte, Denmark  
Filed Sept. 18, 1968, Ser. No. 13,598  
Claims priority, application Denmark Mar. 20, 1968  
Term of patent 14 years  
Int. Cl. D6—01

U.S. Cl. D15—1

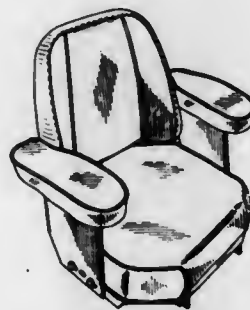


218,160

**VEHICLE SEAT**

Edgar J. Smith, Rte. 1, Mitchell, S. Dak. 57301  
Filed Dec. 13, 1968, Ser. No. 14,961  
Term of patent 14 years  
Int. Cl. D6—01

U.S. Cl. D15—8

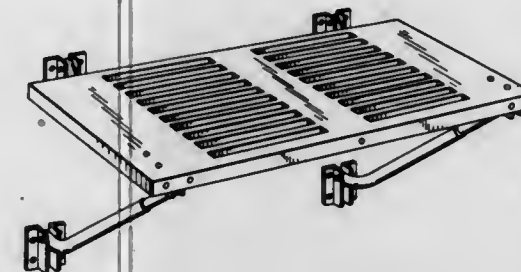


218,161

**TRANSOM PLATFORM OR SIMILAR ARTICLE**

Richard J. Kadison, Box 3, West Pittston, Pa. 18643  
Filed Dec. 26, 1968, Ser. No. 15,116  
Term of patent 14 years  
Int. Cl. D6—99

U.S. Cl. D15—8

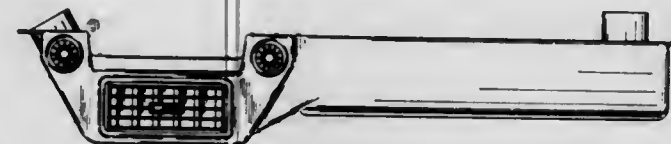


218,162

**AUTOMOBILE HEATING AND AIR CONDITIONING DUCT**

Claude W. Dawkins, 3006 NW. 23rd St., Oklahoma City, Okla. 73107  
Filed July 9, 1969, Ser. No. 18,132  
Term of patent 3½ years  
Int. Cl. D23—03, 04

U.S. Cl. D23—83



218,163

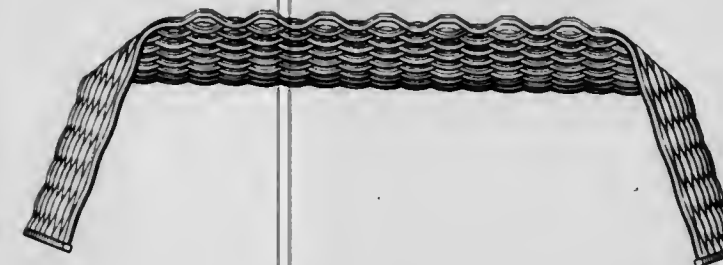
**FIREPLACE GRATE**

Mark M. Stone, Highland Park, Ill., assignor to Metalex Corporation, Libertyville, Ill., a corporation of Illinois  
Continuation-in-part of design application Ser. No. 3,423, Aug. 11, 1966. This application Mar. 13, 1967, Ser. No. 7,138

Term of patent 14 years

Int. Cl. D23—03

U.S. Cl. D23—98



218,164

**URINAL DEODORANT BAR HOLDER**

Seymour Leavitt, Lincolnwood, and Barry L. Schneider, Chicago, Ill., assignors to Madison Chemical Corporation, Maywood, Ill., a corporation of Delaware  
Filed Dec. 13, 1968, Ser. No. 14,958  
Term of patent 14 years  
Int. Cl. D23—04

U.S. Cl. D23—150

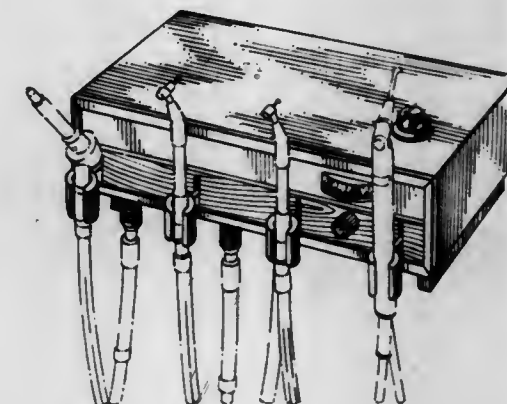


218,165

**CONTROL CABINET FOR DENTAL HANDPIECES**

George W. Schleicher, Bensenville, and Robert A. Grzelewski, Buffalo Grove, Ill., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois  
Filed Dec. 3, 1968, Ser. No. 14,758  
Term of patent 14 years  
Int. Cl. D24—03

U.S. Cl. D24—1



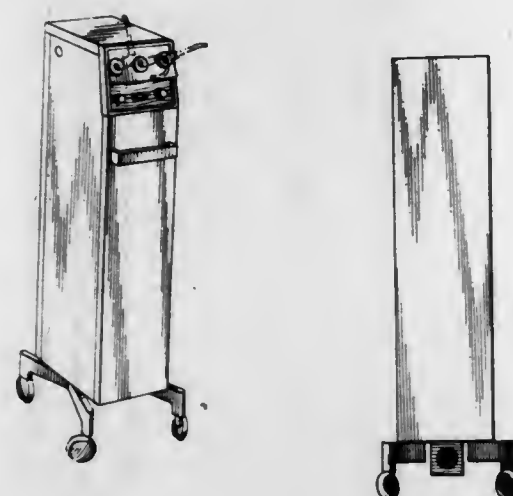


218,166

**MOBILE DENTAL CONSOLE**

Richard A. Slouka, Carpentersville, Ill., assignor to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois  
 Filed Dec. 19, 1968, Ser. No. 15,054  
 Term of patent 14 years  
 Int. Cl. D24-03

U.S. Cl. D24-1

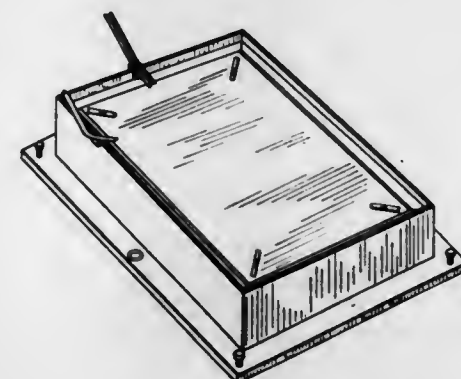


218,168

**COLLISION MEASURING APPARATUS**

Roger Dean Stephenson, 18 East Drive, Columbia, Mo. 65201  
 Filed Sept. 20, 1968, Ser. No. 13,632  
 Term of patent 14 years  
 Int. Cl. D19-08

U.S. Cl. D25-1

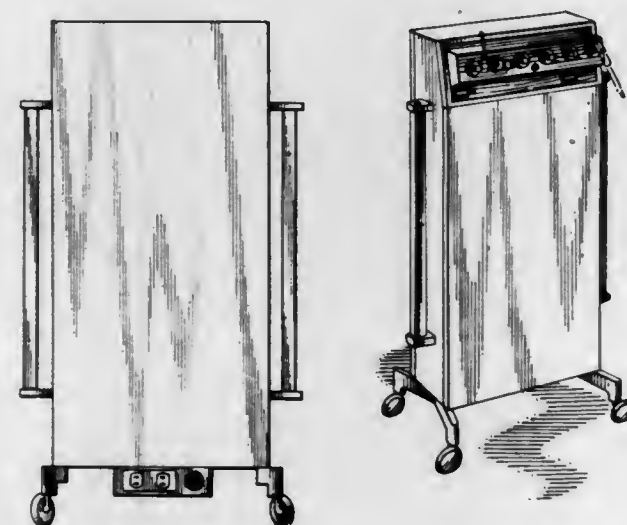


218,167

**MOBILE DENTAL CONSOLE**

Milton R. Nielsen, Wheaton, and Richard A. Slouka, Carpentersville, Ill., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois  
 Filed Dec. 19, 1968, Ser. No. 15,061  
 Term of patent 14 years  
 Int. Cl. D24-03

U.S. Cl. D24-1

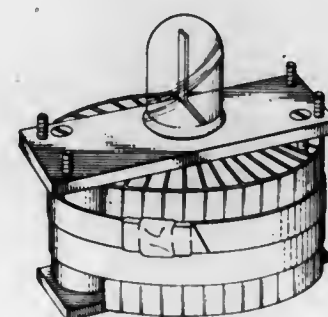


218,169

**MAGNETRON DEVICE**

Benjamin V. Valles, Williamsport, Pa., assignor to Litton Precision Products, Inc., San Carlos, Calif., a corporation of Delaware  
 Filed Apr. 2, 1969, Ser. No. 16,561  
 Term of patent 14 years  
 Int. Cl. D26-01

U.S. Cl. D26-8

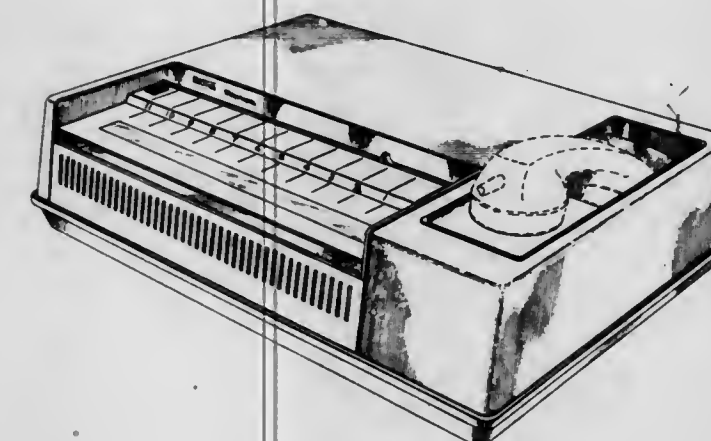


218,170

**FACSIMILE TRANSCIEVER**

Karl E. Kober, Rush, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York  
 Filed Dec. 26, 1968, Ser. No. 15,121  
 Term of patent 14 years  
 Int. Cl. D14-01

U.S. Cl. D26-14

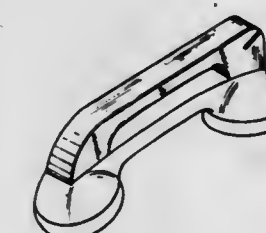


218,172

**COMBINED TELEPHONE HANDSET WITH HANDLE AND SHOULDER REST THEREFOR**

Paul A. Lawrence, 1600 Beaver Ave., Des Moines, Iowa 50310  
 Filed Apr. 29, 1969, Ser. No. 16,937  
 Term of patent 7 years  
 Int. Cl. D14-03; D8-03

U.S. Cl. D26-14

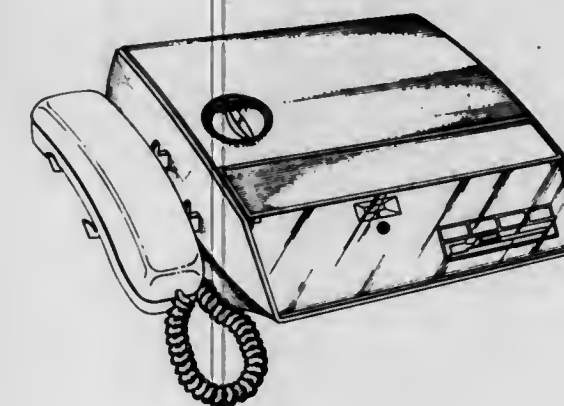


218,171

**TELEPHONE ANSWERING DEVICE**

Harold R. Burt, Beaverton, and Ted E. Davids, Portland, Ore., and Moto Shimano, Los Angeles, Calif., assignors to Ford Industries, Inc., Portland, Ore., a corporation of Washington  
 Filed Jan. 23, 1969, Ser. No. 15,460  
 Term of patent 14 years  
 Int. Cl. D14-03

U.S. Cl. D26-14

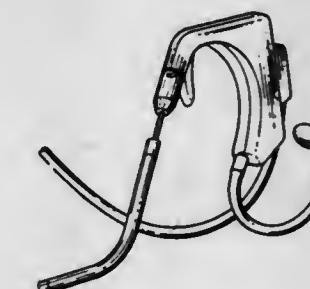


218,173

**COMBINED MICROPHONE AND RECEIVER INSTRUMENT**

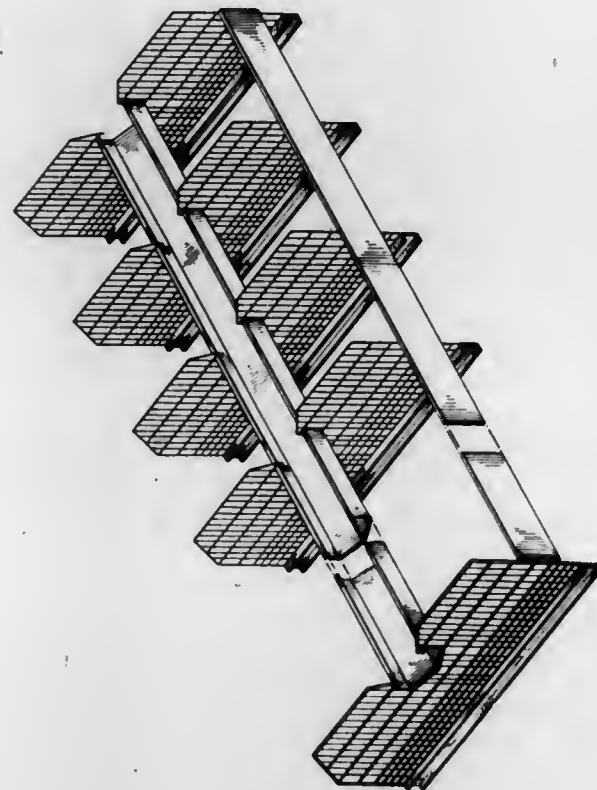
Kenneth J. Hutchings, Soquel, Calif., assignor to Pacific Plantronics, Inc., Santa Cruz, Calif., a corporation of California  
 Filed June 16, 1969, Ser. No. 17,718  
 Term of patent 14 years  
 Int. Cl. D14-01

U.S. Cl. D26-14

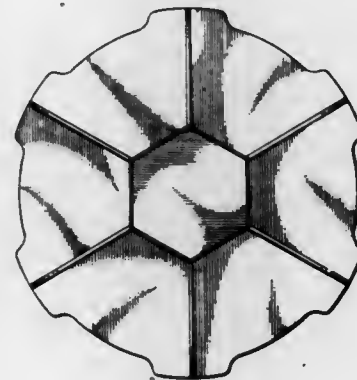




**218,174**  
**WIRE CAGE SKELETAL STRUCTURE HAVING TROUGH BEAM AND WIRE PANEL RIBS**  
 Gerald L. Kitson, 9709 Belding Road, Rockford, Mich. 49341  
 Filed Feb. 1, 1968, Ser. No. 10,401  
 Term of patent 14 years  
 Int. Cl. D30—99  
 U.S. Cl. D30—41



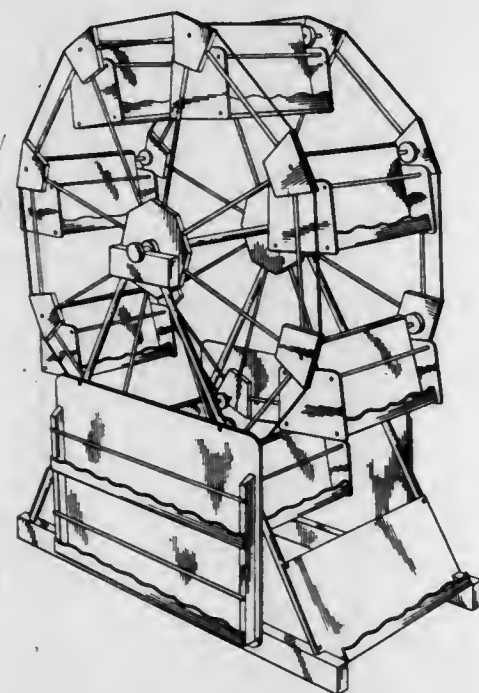
**218,176**  
**TABLE FOR STUDENT LEARNING**  
 John Des Marais, 2626 Sheridan, and Roger A. Sinigoi, 3186 McKinley, both of Hollywood, Fla. 92644  
 Filed Apr. 18, 1969, Ser. No. 16,812  
 Term of patent 14 years  
 Int. Cl. D6—01  
 U.S. Cl. D33—14



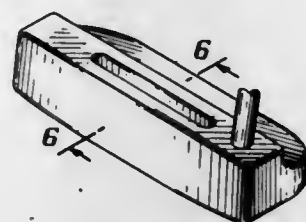
**218,177**  
**GARDEN HOSE GUIDE**  
 Roy H. Rogers, 7739 Bothwell Road, Reseda, Calif. 91335  
 Filed Dec. 16, 1968, Ser. No. 14,984  
 Term of patent 14 years  
 Int. Cl. D6—01  
 U.S. Cl. D33—17



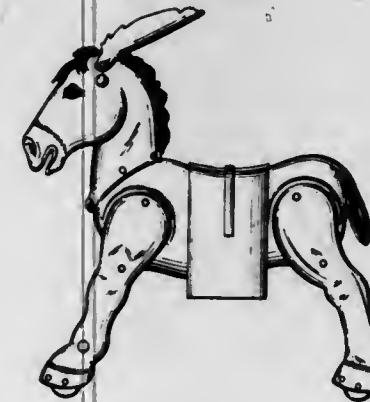
**218,175**  
**BOOKCASE**  
 Robert B. Lindley, San Diego, Calif., assignor to Educational Marketing & Research, Inc., Chicago, Ill., a corporation of Illinois  
 Filed Mar. 26, 1969, Ser. No. 16,454  
 Term of patent 7 years  
 Int. Cl. D6—01  
 U.S. Cl. D33—2



**218,178**  
**GOLF PUTTER**  
 Karsten Solheim, 10412 N. 37th St., Phoenix, Ariz. 85028  
 Filed Aug. 21, 1969, Ser. No. 18,992  
 Term of patent 14 years  
 Int. Cl. D21—01  
 U.S. Cl. D34—5



**218,179**  
**RIDING TOY FIGURE**  
 Laurie Jay Campbell, Erie, Pa., assignor to Louis Marx & Company, Inc., New York, N.Y., a corporation of New York  
 Filed Jan. 3, 1969, Ser. No. 15,232  
 Term of Patent 14 years  
 The portion of the term of the patent subsequent to Dec. 3, 1982, has been disclaimed  
 Int. Cl. D21—02  
 U.S. Cl. D34—15



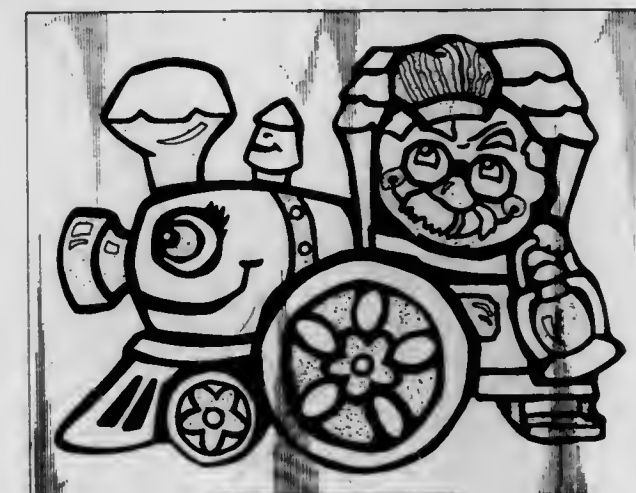
**218,180**  
**PUZZLE BOARD**  
 Judy A. Cohen, Cincinnati, Ohio, assignor to Rainbow Crafts, Inc., a corporation of Delaware  
 Filed May 15, 1969, Ser. No. 17,154  
 Term of patent 14 years  
 Int. Cl. D21—01  
 U.S. Cl. D34—15



**218,181**  
**PUZZLE BOARD**  
 Judy A. Cohen, Cincinnati, Ohio, assignor to Rainbow Crafts, Inc., a corporation of Delaware  
 Filed May 15, 1969, Ser. No. 17,159  
 Term of patent 14 years  
 Int. Cl. D21—01  
 U.S. Cl. D34—15



**218,182**  
**PUZZLE BOARD**  
 Judy A. Cohen, Cincinnati, Ohio, assignor to Rainbow Crafts, Inc., a corporation of Delaware  
 Filed May 15, 1969, Ser. No. 17,164  
 Term of patent 14 years  
 Int. Cl. D21—01  
 U.S. Cl. D34—15





**218,183  
PUZZLE BOARD**

Judy A. Cohen, Cincinnati, Ohio, assignor to Rainbow Crafts, Inc., a corporation of Delaware  
Filed May 15, 1969, Ser. No. 17,165  
Term of patent 14 years  
Int. Cl. D21—01

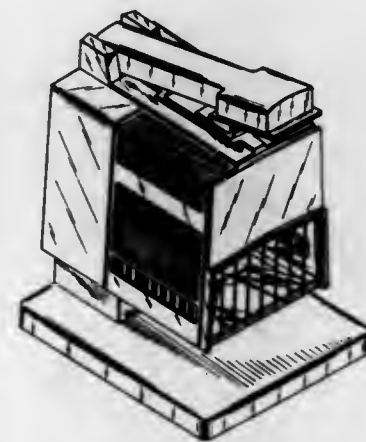
U.S. Cl. D34—15



**218,185  
TOY INJECTION PRESS**

Dennis H. Merino, Harbor City, Calif., assignor to Mattel, Inc., Hawthorne, Calif., a corporation of Delaware  
Filed Aug. 29, 1969, Ser. No. 18,924  
Term of patent 14 years  
Int. Cl. D21—02

U.S. Cl. D34—15



**218,186  
FRAME FOR A CLOCK OR THE LIKE**

Harry Bergman, Glencoe, Ill., assignor to Butler Specialty Company, Chicago, Ill., a corporation of Delaware  
Filed May 29, 1969, Ser. No. 17,408  
Term of patent 3½ years  
Int. Cl. D10—01

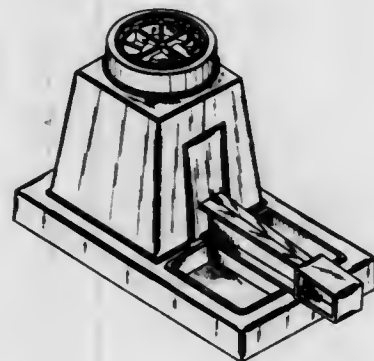
U.S. Cl. D42—7



**218,184  
TOY PRESS**

Henrietta Bringas, Los Angeles, and Dennis H. Merino, Harbor City, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of Delaware  
Filed Aug. 28, 1969, Ser. No. 18,886  
Term of patent 14 years  
Int. Cl. D21—02

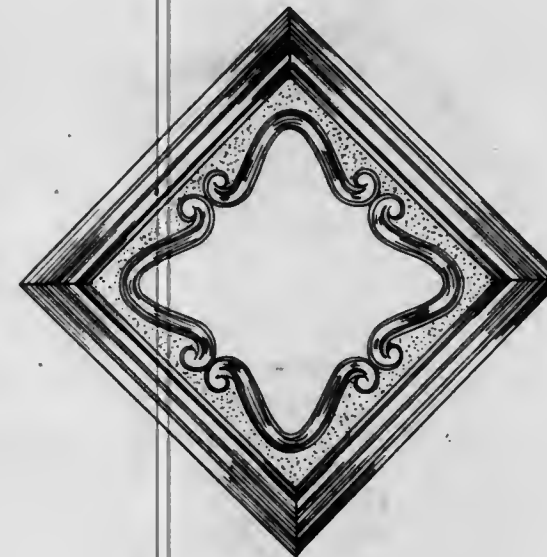
U.S. Cl. D34—15



**218,187  
FRAME FOR A CLOCK OR THE LIKE**

Harry Bergman, Glencoe, Ill., assignor to Butler Specialty Company, Chicago, Ill., a corporation of Delaware  
Filed May 29, 1969, Ser. No. 17,415  
Term of patent 3½ years  
Int. Cl. D10—01

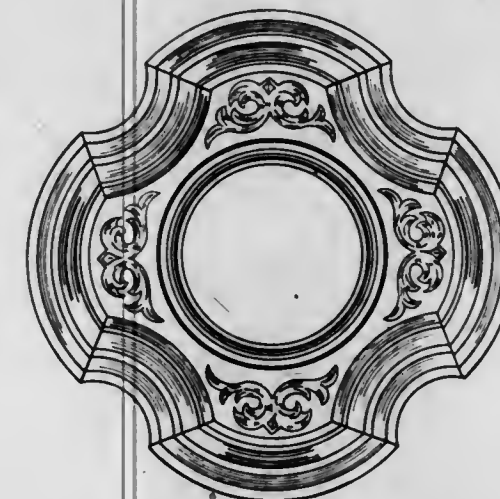
U.S. Cl. D42—7



**218,188  
FRAME FOR A CLOCK OR THE LIKE**

Harry Bergman, Glencoe, Ill., assignor to Butler Specialty Company, Chicago, Ill., a corporation of Delaware  
Filed May 29, 1969, Ser. No. 17,479  
Term of patent 3½ years  
Int. Cl. D10—01

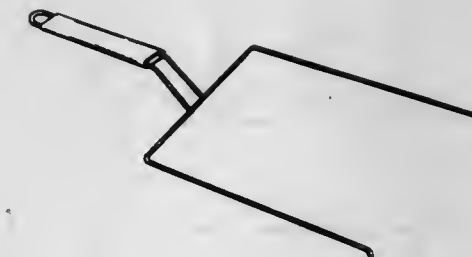
U.S. Cl. D42—7



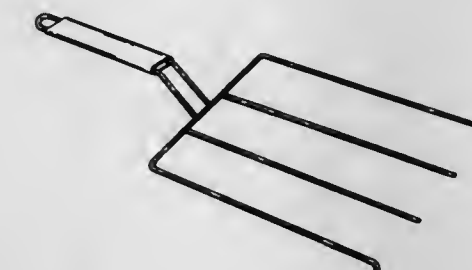
**218,189  
HOT TRAY LIFTER**

James Demetreon, Kansas City, Mo., assignor to Handi Caddy Inc., a corporation of Missouri  
Filed Nov. 20, 1968, Ser. No. 14,555  
Term of patent 14 years  
Int. Cl. D8—02

U.S. Cl. D44—4



**218,190  
HOT TRAY LIFTER**  
James Demetreon, Kansas City, Mo., assignor to Handi Caddy Inc., a corporation of Missouri  
Continuation-in-part of design application Ser. No. 14,555, Nov. 20, 1968. This application Apr. 9, 1969, Ser. No. 16,642  
Term of patent 14 years  
U.S. Cl. D44—4





218,191

**COFFEE MAKER OR THE LIKE**

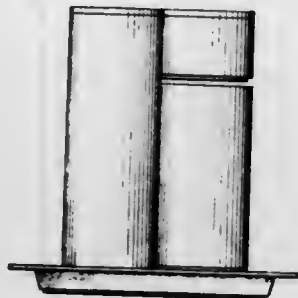
Malen Z. Tevotitz, Monroe, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 25, 1968, Ser. No. 14,615

Term of patent 14 years

Int. Cl. D7—04

U.S. Cl. D44—26



218,192

**PIN OR THE LIKE**

Bernard Mechanic, 9314 Lincolnwood Drive, Evanston, Ill. 60203

Filed Feb. 17, 1969, Ser. No. 15,815

Term of patent 3½ years

Int. Cl. D11—01

U.S. Cl. D45—19



218,193

**FLOODLIGHT**

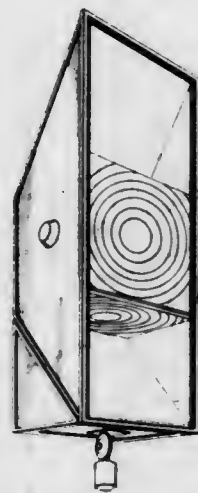
Buell Moore, Houston, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 10, 1969, Ser. No. 16,666

Term of patent 14 years

Int. Cl. D26—02

U.S. Cl. D48—20



218,194

**SURFACE MOUNTED LIGHT FIXTURE**

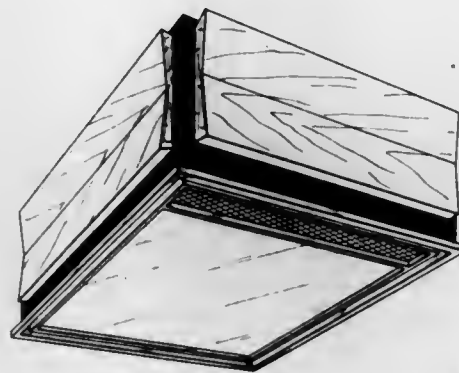
Fred M. Gore, Dallas, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 12, 1969, Ser. No. 16,205

Term of patent 14 years

Int. Cl. D26—02

U.S. Cl. D48—23



218,195

**COMBINED PORTABLE HARMONICA HOLDING MICROPHONE AND RADIO TRANSMITTER OR SIMILAR ARTICLE**

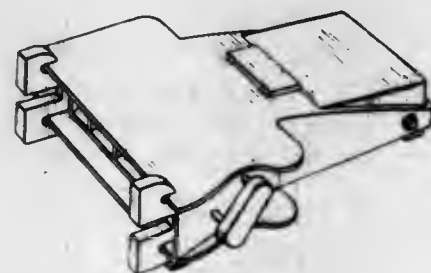
Frank J. Forey, 3057 Leeward Ave., Los Angeles, Calif. 90005

Filed Dec. 16, 1968, Ser. No. 15,000

Term of patent 14 years

Int. Cl. D14—03

U.S. Cl. D56—1



218,196

**BASE FOR OPTICAL INSTRUMENTS**

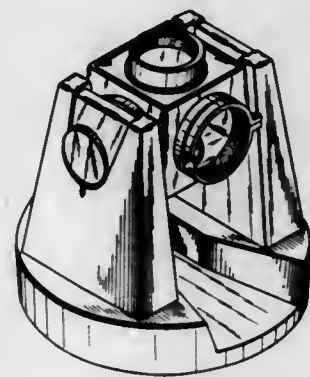
Dennis H. Merino, Harbor City, and Floyd E. Schlaue, Palos Verdes Peninsula, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of Delaware

Filed Sept. 5, 1969, Ser. No. 19,042

Term of patent 14 years

Int. Cl. D16—08; D21—02

U.S. Cl. D57—1



218,197

**COMBINED MOTION PICTURE PROJECTOR AND CARRYING CASE**

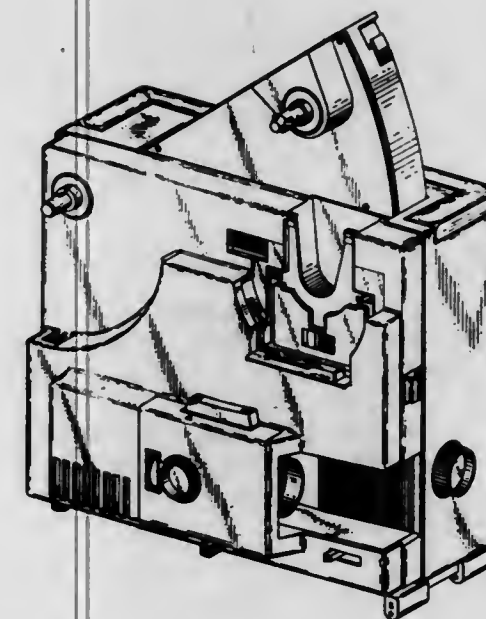
Dianne B. Ainslie, Monroe County, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 13, 1969, Ser. No. 17,132

Term of patent 14 years

Int. Cl. D16—04

U.S. Cl. D61—1



218,199

**DOCUMENT REPRODUCING MACHINE**

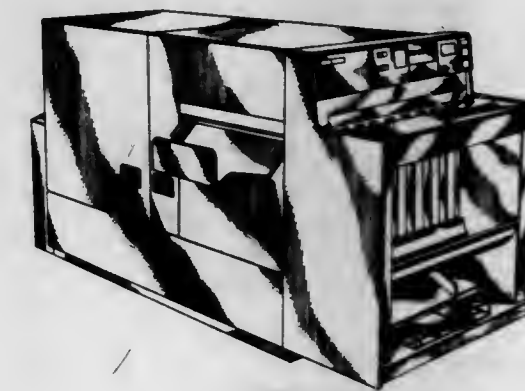
George D. Del Vecchio, Briscoe Cove, North Rose, and Ruediger W. Knott, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed June 2, 1969, Ser. No. 17,434

Term of patent 14 years

Int. Cl. D16—05

U.S. Cl. D61—1



218,200

**THERMAL COPIER**

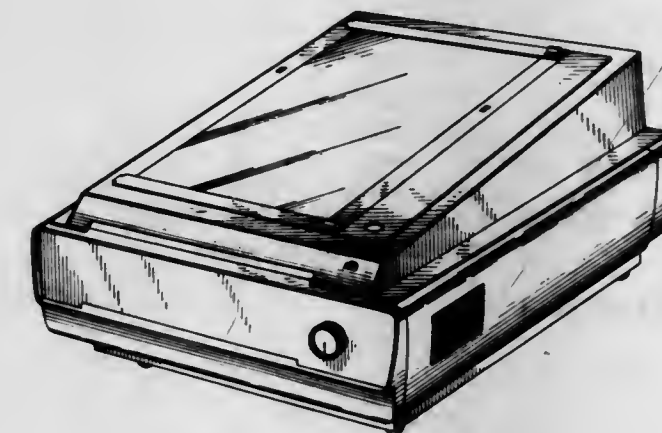
Heinz E. Hertel, Mt. Prospect, and Robert L. Kearney, Northbrook, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed June 6, 1969, Ser. No. 17,562

Term of patent 14 years

Int. Cl. D16—05

U.S. Cl. D61—1



218,198

**COMBINED MOTION PICTURE PROJECTOR AND CARRYING CASE**

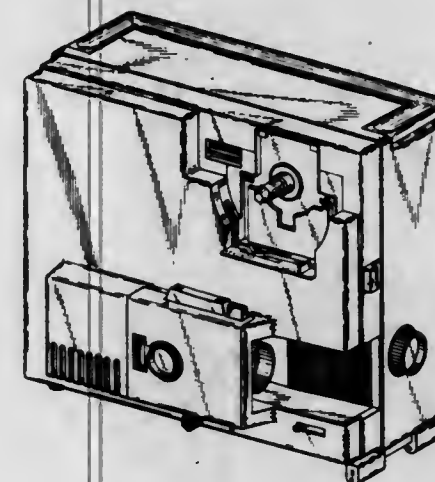
Dianne B. Ainslie, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 13, 1969, Ser. No. 17,136

Term of patent 14 years

Int. Cl. D16—04

U.S. Cl. D61—1



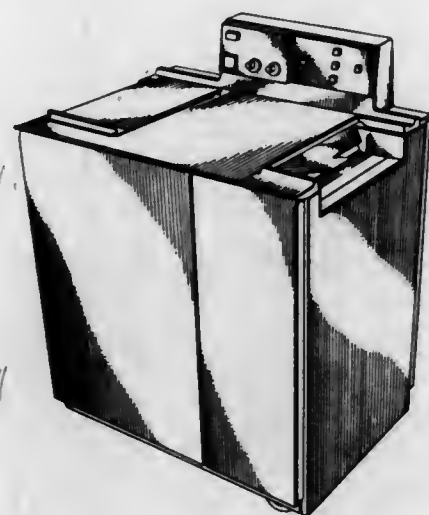


218,201

**REPRODUCTION MACHINE**

John W. Wagner, Penfield, William F. Dalton, Pittsford, and Dean R. Newcomb, Macedon, N.Y., and Stephen R. Anderson, Clearwater, Fla., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York  
Filed Aug. 11, 1969, Ser. No. 18,607  
Term of patent 14 years  
Int. Cl. D16—05

U.S. Cl. D61—1

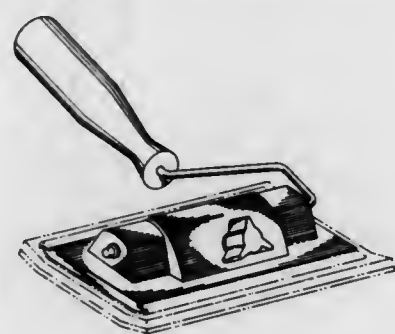


218,202

**FLAT PAD APPLICATOR FOR PAINT AND THE LIKE**

Robert C. Nicolay, Wooster, Ohio, assignor to The Wooster Brush Company, Wooster, Ohio, a corporation of Ohio  
Filed Aug. 5, 1968, Ser. No. 13,036  
Term of patent 14 years  
Int. Cl. D18—99

U.S. Cl. D64—18

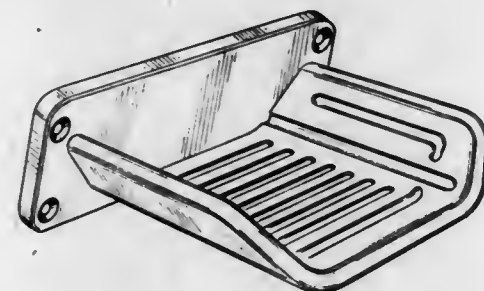


218,203

**STEP FOR BOATS**

Bernard M. Vevea, 3130 7th Ave. N., Anoka, Minn. 55810  
Filed July 18, 1969, Ser. No. 18,263  
Term of patent 14 years  
Int. Cl. D12—14

U.S. Cl. D71—1

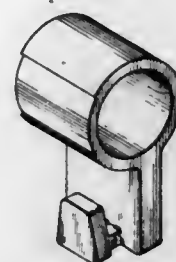


218,204

**COAT HANGER SUPPORT**

Robert W. Schier, Glenview, and Larry F. Odar, Northbrook, Ill., assignors to Krueger Metal Products, Inc., Green Bay, Wis., a corporation of Wisconsin  
Filed Mar. 13, 1969, Ser. No. 16,235  
Term of patent 14 years  
Int. Cl. D6—07

U.S. Cl. D80—8

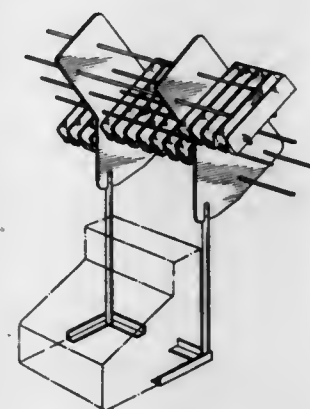


218,205

**COMBINED DISPLAY AND DISPENSING RACK**

Donley C. Brake, 3305 Campus Ave., Claremont, Calif. 91711  
Filed Mar. 24, 1969, Ser. No. 16,409  
Term of patent 14 years  
Int. Cl. D6—01

U.S. Cl. D80—9

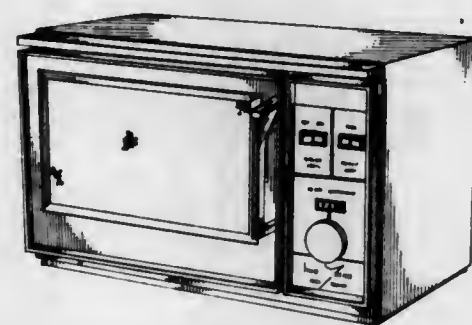


218,206

**MICROWAVE OVEN**

Donald Barnabas Hendricks, 10008 Goodrich Road, Bloomington, Minn. 55431  
Filed Nov. 4, 1969, Ser. No. 19,927  
Term of patent 14 years  
Int. Cl. D7—04

U.S. Cl. D81—4

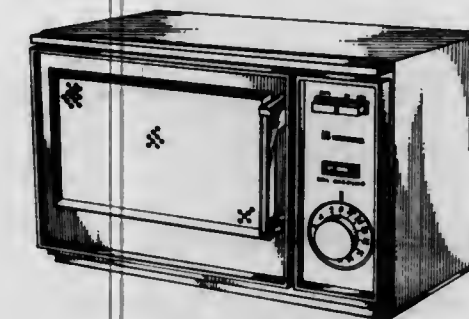


218,207

**MICROWAVE OVEN**

Donald Barnabas Hendricks, Bloomington, Minn., assignor to Litton Precision Products, Inc., Minneapolis, Minn., a corporation of Delaware  
Filed Nov. 4, 1969, Ser. No. 19,939  
Term of patent 14 years  
Int. Cl. D7—04

U.S. Cl. D81—4

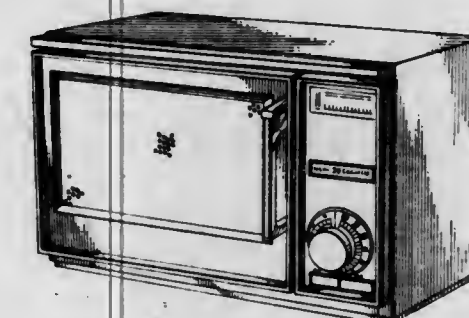


218,208

**MICROWAVE OVEN**

Donald Barnabas Hendricks, Bloomington, Minn., assignor to Litton Precision Products, Inc., Minneapolis, Minn., a corporation of Delaware  
Filed Nov. 4, 1969, Ser. No. 19,940  
Term of patent 14 years  
Int. Cl. D7—04

U.S. Cl. D81—4

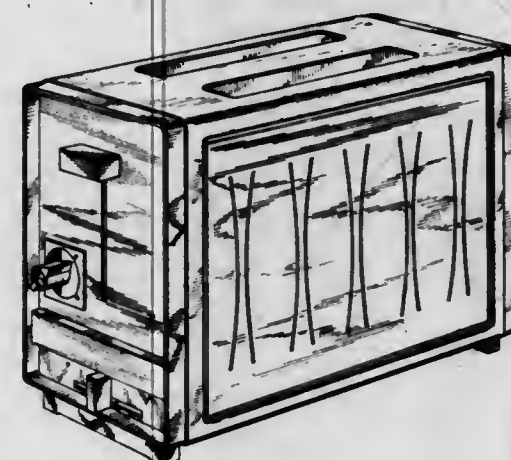


218,209

**ELECTRIC TOASTER OR SIMILAR ARTICLE**

John C. Shalvoy, Fairfield, Conn., assignor to General Electric Company, a corporation of New York  
Filed May 19, 1969, Ser. No. 17,226  
Term of patent 14 years  
Int. Cl. D6—01

U.S. Cl. D81—10

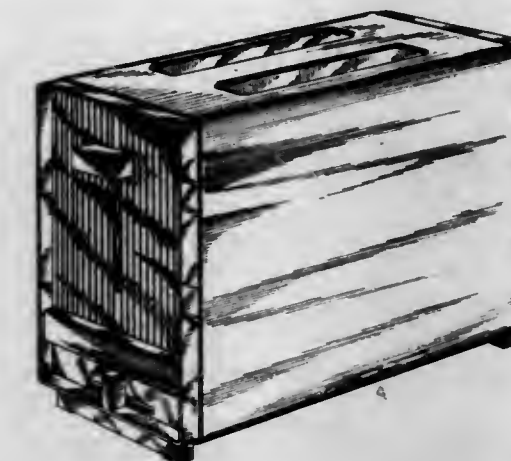


218,210

**TOASTER OR SIMILAR ARTICLE**

Arthur M. Felske, Westport, Conn., assignor to General Electric Company, a corporation of New York  
Filed May 19, 1969, Ser. No. 17,236  
Term of patent 14 years  
Int. Cl. D6—01

U.S. Cl. D81—10

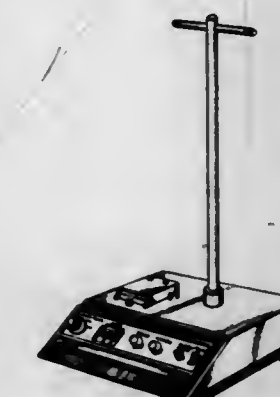


218,211

**FLUID DELIVERY AND MONITORING APPARATUS**

Stephens N. Sato, San Diego, Calif., assignor to Ivac Corporation, San Diego, Calif., a corporation of California  
Filed June 2, 1969, Ser. No. 17,476  
Term of patent 14 years  
Int. Cl. D29—02

U.S. Cl. D83—1

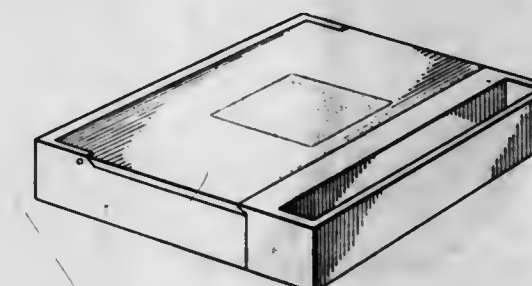


218,212

**LADY'S COMPACT**

John W. Pfrommer, Cheshire, Conn., assignor to The International Silver Company, Meriden, Conn., a corporation of Connecticut  
Filed Oct. 21, 1968, Ser. No. 14,101  
Term of patent 14 years  
Int. Cl. D28—02

U.S. Cl. D86—1

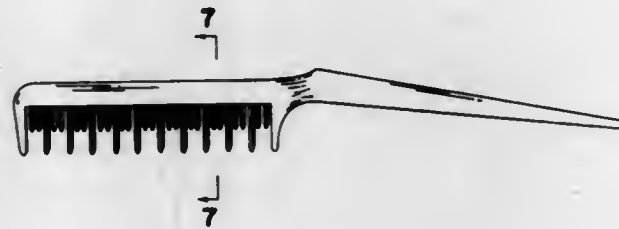




**218,213  
COMB**

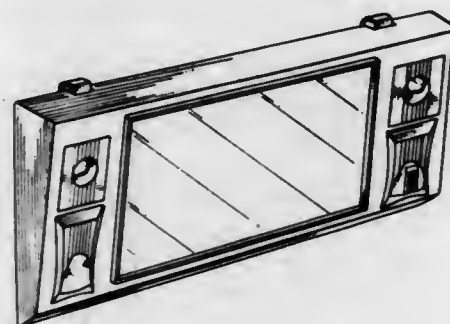
Eugene Francis Lutz, Oak Lawn, and James E. Tucker, Chicago, Ill., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware  
Filed Apr. 23, 1969, Ser. No. 16,873  
Term of patent 14 years  
Int. Cl. D28-03

U.S. Cl. D86-8

**218,214  
PORTABLE ILLUMINABLE MIRROR**

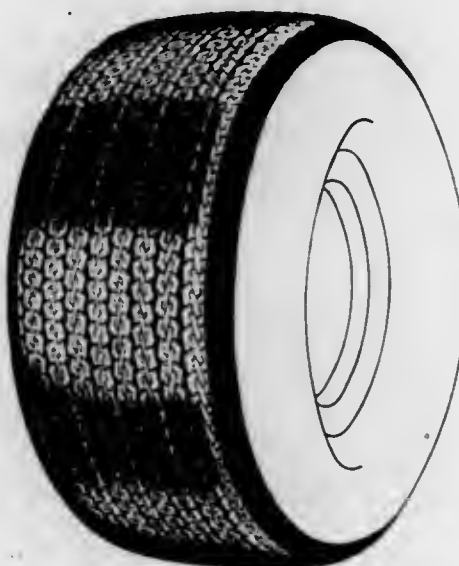
Ronald D. Goldman, Northridge, and Theodore J. Slavin, Tarzana, Calif., assignors to Tedron Industries, Inc., a corporation of California  
Filed Aug. 12, 1968, Ser. No. 13,105  
Term of patent 14 years  
Int. Cl. D3-99

U.S. Cl. D86-10

**218,215  
TIRE**

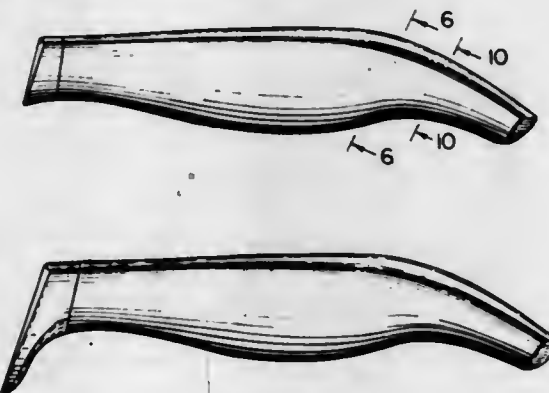
Glen L. Wittenmyer, Sterling, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York  
Filed June 9, 1969, Ser. No. 17,565  
Term of patent 14 years  
Int. Cl. D12-14

U.S. Cl. D90-20

**218,216  
CUTLERY HANDLE**

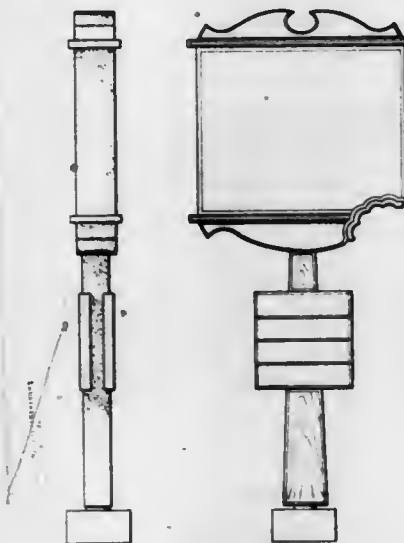
Richard T. Hopcraft and Arthur Apissomian, Providence, R.I., assignors to Imperial Knife Associated Companies, Inc., Providence, R.I., a corporation of Rhode Island  
Filed Sept. 9, 1969, Ser. No. 19,079  
Term of patent 14 years  
Int. Cl. D7-03

U.S. Cl. D95-3

**218,217  
SIGN**

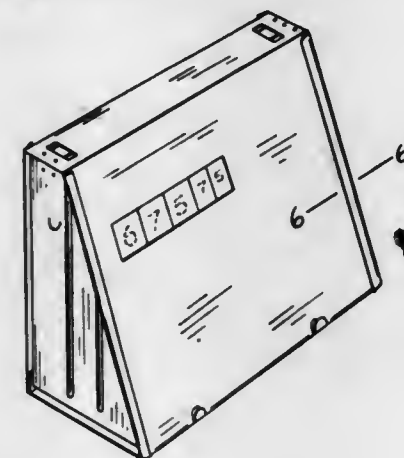
Robert A. Borns and Sidney J. Laikin, Indianapolis, Ind., assignors to George Washington Ate Here, Inc., Indianapolis, Ind., a corporation of Indiana  
Filed Dec. 17, 1968, Ser. No. 15,027  
Term of patent 14 years  
Int. Cl. D20-03

U.S. Cl. D96-12

**218,218  
PRICE INDICATOR SIGN**

Robert J. Slavsky, Lathrup Village, Mich., assignor to Shaw & Slavsky, Inc., Detroit, Mich.  
Filed June 25, 1969, Ser. No. 17,872  
Term of patent 14 years  
Int. Cl. D20-02, 03

U.S. Cl. D96-12

**LIST OF PATENTEEES**

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF JULY, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Aase, Kermit. Wall mounted exercising apparatus. 3,521,848, Cl. 248-205.
- AB Autoindustri: See—  
Rex, Gert Ingmar, 3,521,832.
- Ablondi, Frank Buonfiglio, and Cooper, Murray Sam, to American Cyanamid Company. Toxoid compositions. 3,522,347, Cl. 424-92.
- Abrahamsen, Per R., and Meisingset, Kaare Ragnar, to International Standard Electric Corporation. Ciphering unit. 3,522,374, Cl. 178-22.
- Adam, John N., Jr., and Eberhard, John F., to Dade Reagents, Inc. Stabilized thromboplastin preparation. 3,522,148, Cl. 195-99.
- Adams, Mark F.: See—  
Lindman, William Edward, and Adams, Mark F. 3,522,173.
- Addressograph-Multigraph Corporation: See—  
Staley, Merton R. 3,522,041.
- Adkisson, John L., and Manildi, Albert B., to International Business Machines Corporation. Frequency modulated signal switching with frequency divided output. 3,522,372, Cl. 178-6.
- Aebi, Hans: See—  
Duerr, Dieter, Aebi, Hans, and Ebner, Ludwig 3,522,267.
- Agamennone, Marco: See—  
Pregaglia, Gianfranco, Agamennone, Marco, and Cavalli, Luigi 3,522,294.
- Ainslie, Robert E., to United States of America, Navy. Parachute with destructive agent dispensing means. 3,521,840, Cl. 244-142.
- Akanuma, Kaneo: See—  
Yamamoto, Takaaki, and Akanuma, Kaneo 3,522,108.
- Akashi, Tsuneo, Takahashi, Masao, Yamauchi, Fumio, Tsubouchi, Norio, and Ohno, Tomeji, to Nippon Electric Company Limited. Piezoelectric ceramic materials. 3,522,182, Cl. 252-62.9.
- Akers, Robert M. Stabilizing device for trailers. 3,521,902, Cl. 280-150.5.
- Albinak, Marvin J.: See—  
Turner, Warren H., and Albinak, Marvin J. 3,522,190.
- Turner, Warren H., and Albinak, Marvin J. 3,522,191.
- Albre, Henry H., to Cabot Corporation. Valve having filament wound body. 3,521,858, Cl. 251-315.
- Alburn, Harvey E.: See—  
Kerwin, Richard M., Dvorch, William, and Alburn, Harvey E. 3,522,250.
- Alden Poulsen: See—  
Poulsen, Ronald D., 3,521,665.
- Alexeeva, Inna Vladimirovna: See—  
Chernetsky, Vladimir Panteleevich, and Alexeeva, Inna Vladimirovna 3,522,237.
- Allen, Merton, to General Electric Company. Electrohydraulic sterilizing apparatus. 3,522,167, Cl. 204-323.
- Alley, Raymond L.: See—  
Johnson, Edward H., and Alley, Raymond L. 3,521,692.
- Allied Chemical Corporation: See—  
Kiras, Voldemar, 3,522,285.
- Little, Edwin D., Jr., and Walter, Charles R., Jr., 3,522,253.
- Allis-Chalmers Manufacturing Company: See—  
Blann, William A., 3,522,012.
- Sandow, Louis W., 3,521,658.
- Allmanna Svenska Elektriska Aktiebolaget: See—  
Lindstrom, Olle, 3,522,100.
- Allnutt, Anthony John: See—  
Dijstelbergen, Harmen Hein, Allnutt, Anthony John, Brook, Richard Anthony, and Semos, Robert Ernest Vickers 3,521,749.
- All-Steel Equipment Inc.: See—  
Buhrmaster, Bruce O., and Ericson, John P., 3,521,937.
- American Cyanamid Company: See—  
Ablondi, Frank Buonfiglio, and Cooper, Murray Sam, 3,522,347.
- Chao, Tsai Hsiang, 3,522,195.
- Coleman, Ralph Arthur, Furman, Frank Meritt, and Milionis, Jerry Peter, 3,522,316.
- Deb, Satyendra Kumar, and Shaw, Robert Frank, 3,521,941.
- Hausmann, Werner Karl, Zbinovsky, Vladimir, and Shay, Anthony Joseph, 3,522,349.
- Savides, Christos, 3,522,204.
- American Home Products Corporation: See—  
Kerwin, Richard M., Dvorch, William, and Alburn, Harvey E., 3,522,250.
- Santilli, Arthur A., and Osdone, Thomas S., 3,522,274.
- American Warming & Ventilating, Inc., The: See—  
Johnson, Edward H., and Alley, Raymond L., 3,521,692.
- Ammons, Vernon G.: See—  
Wisner, Marco, Ammons, Vernon G., and Miller, Gerald W., 3,522,142.
- AMP Incorporated: See—  
Maurer, John Franklin, 3,521,912.
- Andersen, John A., and Magner, Russell M., to General Industrial Equipment Company. Process of degreening and ripening fruit. 3,522,057, Cl. 99-103.
- Anderson, Andrew Morris: See—  
Bridgum, James Earl, 3,521,704.
- Anderson Bros. Mfg. Co.: See—  
Ward, Frank A., 3,521,805.
- Anderson, James A., to Breneman, Inc. Lengthwise-adjustable shade roller. 3,521,694, Cl. 160-323.
- Anderson, Roy A.: See—  
Pfeifer, Virgil F., and Anderson, Roy A. 3,522,056.
- Andreotti, Eugene R.: See—  
McGee, Sherwood W., Andreotti, Eugene R., Hirschhorn, Joel S., and Westphal, David A. 3,522,115.
- Angliss, Ian Bruce, and Delmenico, Jack, to Commonwealth Scientific and Industrial Research Organization. Method of dyeing wool and composition therefor black. 3,521,989, Cl. 8-54.
- Anner, Georg, and Wieland, Peter, to Ciba Corporation.  $\Delta^4$ -7 d-Methyloestradienes. 3,522,281, Cl. 260-397.5.
- Anpol Research Corporation: See—  
Schouw, Arthur C., 3,521,973.
- Apostolatos, George N., and Renold, Adolph, to Colgate-Palmolive Company. Deodorization of fats. 3,522,145, Cl. 195-3.
- Aranyi, Catherine, Gutfreund, Kurt, Hawrylewicz, Ervin J., and Wall, Joseph S., to United States of America, Agriculture. Gluten hydrolyzate derivatives and compositions comprising the same. 3,522,197, Cl. 260-8.
- Archer, Giles Allan, and Sternbach, Leo Henryk, to Hoffmann-La Roche Inc. Process for preparing a 2[1-(2-amino-5-phenyl)-1-phenylmethylamino]acetic acid derivative. 3,522,289, Cl. 260-471.
- Archer, Jeremiah L., to Caryl, Coleman R., d/b/a Desert Sunshine Exposure Tests. Device for testing a sample with solar radiation including means to dampen the sample. 3,521,966, Cl. 356-256.
- Archer, Jeremiah L., to Caryl, Coleman R., d/b/a Desert Sunshine Exposure Tests. Mirror protector means for solar radiation testing machines. 3,521,967, Cl. 356-256.
- Archer, Lee A., to Erdco Engineering Corporation. Combustible gas detector sampling head. 3,522,010, Cl. 23-254.
- Aristoff, Eugene, and Sauer, Richard W., to Atlantic Richfield Company. Isoprene synthesis. 3,522,325, Cl. 260-680.
- Armco Steel Corporation: See—  
Kohler, Dale M., 3,522,113.
- Armstrong Cork Company: See—  
Roy, Gerald L., 3,521,796.
- Aro Corporation: See—  
German, Dale F., 3,521,850.
- Art Metal-Knoll Corporation: See—  
Pearson, Maxwell E., 3,521,929.
- Artisan Industries Inc.: See—  
Donovan, James, 3,521,691.
- Arvan, John. Distillation apparatus to recover potable water from non-potable water. 3,522,149, Cl. 202-196.
- Ash, Arthur B.: See—  
Stevens, Calvin L., Michel, Harry O., Ash, Arthur B., Epstein, Joseph, Blumbergs, Peter, and Hackley, Brennie E., Jr. 3,522,261.
- Ash Stevens, Inc.: See—  
Stevens, Calvin L., Michel, Harry O., Ash, Arthur B., Epstein, Joseph, Blumbergs, Peter, and Hackley, Brennie E., Jr. 3,522,261.
- Ashton, Stanley, Bromby, Norman Gunning, Hurlock, Ronald James, and Sharma, Vijay Ratna, to Imperial Chemical Industries Limited. Phenols. 3,522,318, Cl. 260-613.
- Askadsky, Anri Alexandrovich: See—  
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- Rauner, Frederick J. Light-sensitive printout system. 876,008, 7-28-70, Cl. 96-91.
- Rauner, Frederick J. Photographic element and process utilizing a dye and an aromatic diazonium salt. 876,009, 7-28-70, Cl. 96-91.
- Rauner, Frederick J., and D. A. Smith. Photographic element for printing plates having a diazo resin and a low concentration of polyvinylacetal of 2,4-disulfobenzaldehyde. 876,010, 7-28-70, Cl. 96-49.
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- Trent, Lewis C. Fire retardation composition for use in latex formulations for jute carpet backing. 876,005, 7-28-70, Cl. 252-8.1.

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3,521,733	3,522,309	3,522,233	3,522,132	3,521,870	3,521,672
3,521,816	3,522,316	3,522,243	3,522,136	3,521,893	3,521,683
3,521,861	3,522,319	3,522,275	3,522,143	3,521,912	3,521,702
3,522,308	3,522,333	3,522,280	3,522,179	3,521,929	3,521,706
3,522,353	3,522,334	3,522,285	3,522,186	3,521,932	3,521,723
30 : 3,522,151	3,522,381	3,522,298	3,522,189	3,521,953	3,521,750
31 : 3,521,908	3,522,383	3,522,317	3,522,190	3,521,955	3,521,753
3,521,927	3,522,391	3,522,326	3,522,191	3,521,963	3,521,852
33 : 3,522,129	36 : 3,521,605	3,522,327	3,522,193	3,521,983	3,521,853
34 : 3,521,624	3,521,634	3,522,331	3,522,222	3,521,984	3,521,862
3,521,631	3,521,635	3,522,335	3,522,223	3,522,015	3,521,864
3,521,730	3,521,636	3,522,347	3,522,291	3,522,026	3,521,890
3,521,789	3,521,640	3,522,349	3,522,354	3,522,031	3,521,892
3,521,808	3,521,648	3,522,350	3,522,358	3,522,034	3,521,909
3,521,825	3,521,656	3,522,356	3,522,398	3,522,035	3,521,977
3,521,839	3,521,675	3,522,369	40 : 3,521,657	3,522,065	3,522,102
3,521,881	3,521,717	3,522,396	3,521,666	3,522,077	3,522,164
3,521,883	3,521,741	3,521,676	3,521,689	3,522,116	3,522,174
3,521,887	3,521,745	3,521,678	3,521,709	3,522,140	3,522,214
3,521,914	3,521,803	3,521,799	3,521,716	3,522,142	3,522,230
3,521,926	3,521,829	3,521,994	3,521,810	3,522,163	3,522,279
3,521,947	3,521,875	3,522,217	3,521,830	3,522,177	3,522,314
3,521,992	3,521,885	39 : 3,521,623	3,521,902	3,522,203	3,522,368
3,522,017	3,521,891	3,521,625	3,522,008	3,522,205	3,522,370
3,522,042	3,521,907	3,521,649	3,522,024	3,522,216	3,522,377
3,522,069	3,521,933	3,521,680	3,522,161	3,522,250	3,522,384
3,522,070	3,521,950	3,522,274	3,522,276	3,522,274	49 : 3,522,109
3,522,094	3,521,960	3,521,692	3,522,312	3,522,301	51 : 3,522,166
3,522,122	3,521,975	3,521,693	3,522,337	3,522,324	3,522,253
3,522,134	3,521,988	3,521,696	3,522,337	3,522,320	3,522,362
3,522,145	3,522,021	3,521,754	41 : 3,521,601	3,522,324	53 : 3,521,629
3,522,169	3,522,037	3,521,822	3,521,684	3,522,325	3,521,868
3,522,178	3,522,040	3,521,843	3,521,743	3,522,342	3,521,928
3,522,195	3,522,046	3,521,850	3,521,779	3,522,376	3,522,128
3,522,204	3,522,048	3,521,856	3,522,392	3,522,397	54 : 3,522,201
3,522,210	3,522,076	3,521,863	3,521,651	3,522,399	55 : 3,521,604
3,522,215	3,522,096	3,521,910	3,521,659	3,522,357	3,521,612
3,522,221	3,522,097	3,521,958	3,521,685	3,521,826	3,521,658
3,522,240	3,522,103	3,521,986	3,521,759	3,521,833	3,521,797
3,522,254	3,522,133	3,521,999	3,521,765	3,522,025	3,521,844
3,522,259	3,522,149	3,522,029	3,521,796	3,522,138	3,521,913
3,522,262	3,522,167	3,522,075	3,521,811	3,522,187	3,522,012
3,522,272	3,522,180	3,522,078	3,521,814	3,522,385	3,522,135
3,522,282	3,522,188	3,522,111	3,521,840	48 : 3,521,602	
3,522,289					

## Design Patents

4 : 218,178	9 : 218,209	17 : 218,187	27 : 218,203	36 : 218,151	39 : 218,215
6 : 218,141	218,210	218,188	218,206	218,152	40 : 218,162
218,173	218,212	218,200	218,207	218,170	41 : 218,171
218,175	12 : 218,164	218,204	218,208	218,197	218,192
218,177	218,176	218,213	29 : 218,199	218,198	42 : 218,161
218,184	17 : 218,143	218,142	218,168	218,199	218,169
218,185	218,145	218,144	218,189	218,201	218,179
218,195	218,147	218,217	218,190	39 : 218,154	44 : 218,216
218,196	218,163	19 : 218,172	218,180	218,180	46 : 218,160
218,205	218,165	26 : 218,174	34 : 218,155	218,181	48 : 218,137
218,211	218,166	218,218	36 : 218,146	218,182	218,138
218,214	218,167	218,156	218,148	218,183	218,193
9 : 218,153	218,186	27 : 218,157	218,150	218,202	218,194
218,191					

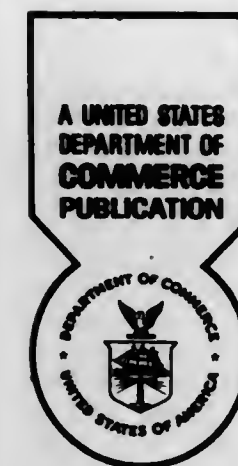
## Plant Patents

39 : 2,983	48 : 2,984	53 : 2,985			
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## DEFENSIVE PUBLICATIONS APPLICATIONS

(Notice of Dec. 16, 1969, 869 O.G. 687)

34 : T876,004	36 : T876,007	36 : T876,009	47 : T876,001	80 : T876,002	80 : T876,003
36 : T876,006	T876,008	T876,010	T876,005		

U.S. DEPARTMENT OF COMMERCE  
Official Gazette of the United States Patent Office

July 28, 1970

Volume 876

Number 4

TRADEMARKS  
NOTICES

## Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

**Reg. No. 39,409 (ACOUSTICON)**, Dictograph Products Company, Inc., Telephonic apparatus for enabling the deaf to hear; **Reg. No. 511,031**, same, Electrical hearing aids, filed Oct. 18, 1969, D.C.N.J. (Newark), Doc. C-1224-69, *Acousticon Systems Corporation v. George Villafuerte*. Consent order for permanent injunction, Apr. 2, 1970.

**Reg. No. 105,548 (CELITE)**, Johns-Manville Corporation, Crude kieselguhr and crushed, broken, cut, or ground kieselguhr; **Reg. No. 281,203**, same, Crushed or ground diatomaceous earth in natural, dried, or calcined condition, pulverulent compositions containing diatomaceous earth and aggregates comprising and containing natural, dried or calcined diatomaceous earth, for use with hydraulic cement, gypsum, bitumen, and other binders or combined therewith to form wall board, walls, paving, and other structures, filed Apr. 3, 1970,

D.C., S.D. Fla. (Miami), Doc. 70-456-C-WM, *Johns-Manville Corp. et al. v. The Cel-Lite Company*.**Reg. No. 231,293**. (See Reg. No. 105,542.)**Reg. No. 287,074**. (See Reg. No. 545,127.)**Reg. No. 366,253**. (See Reg. No. 545,127.)

**Reg. No. 372,491 (TIGRESS)**, Faberge, Inc., Perfume; **Reg. No. 580,819**, same, Soap; **Reg. No. 766,870**, same, Perfumes, colognes, lipsticks, nail polish, deodorant, bath powder and bath oil; **Reg. No. 529,249 (TIGRESS SKIN DESIGN)**, same, Perfume, toilet water, eau de cologne, and bath powder; **Reg. No. 538,756 (DESIGN OF A TIGRESS SKIN BAND AROUND TOP OF BOTTLE)**, same, Perfume, toilet water, and eau de cologne, filed Dec. 23, 1965, D.C., S.D.N.Y., Doc. 65-C-3907, *Faberge, Inc. v. L. T. York Co.* Stipulation and order, voluntary dismissing action, Jan. 10, 1968.

**Reg. No. 397,912 (PARKE, DAVIS & CO.)**, Parke, Davis & Company, Alkalizers, allergens, alteratives, amebicides, anal-

## CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 24,142  
Date of oldest new application..... June 13, 1969  
Date of oldest amended application (filing date)..... September 27, 1965

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....	9-24-69	11-30-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....	11-3-69	9-27-65
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 22, 23, 31, 34, 35, 36.....	12-24-69	6-19-67
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....	6-13-69	5-18-67
Renewals (All Classes).....	5-11-70	
Sec. 12(c) Publications (All Classes).....	5-15-70	

## For the Quarter April 1, 1970 through June 30, 1970

Applications Filed . . . . . 8994  
Registrations Issued . . . . . 5056  
Renewals Issued . . . . . 1640  
Cancellations Under Section 8 . . . . . 1542

Applications filed during the month of June 1970—3,042

Registrations Issued ..... 510—No. 895,268 to No. 895,777  
Renewals Issued ..... 141

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gesics, anesthetics, anodynes, antacids, anthelmintics, antiabortives, antiarthritics, antiasthmatics, antibacterial agents, anticoagulants, anticonvulsants, antidotes, antifebriles, antihemorrhagic agents, antiluetic, antinauseants, antipruritics, antipyretics, antiseptics, antispasmodics, antitoxins, antitubercular agents, astringents, bacterial cultures, burn treatment preparations, cardiac depressants, cardiac stimulants, carminatives, cathartics, cerebral depressants, cerebral stimulants, chemotherapeutic agents, cholagogues, cholagogues, counterirritants, culture media, demulcents, deodorants, desensitizing agents, diagnostic agents, digestants, disinfectants, diuretics, emetics, emollients, endocrine principles, estrogenic preparations, expectorants, fungicides, galactagogues, gastric sedatives, gastric stimulants, germicides, glandular preparations, gonococciocides, hematopoietics, hemostatics, hepatic stimulants, hormones, hypertensives, hypnotics, hypotensives, inhalants, insecticides, irritants, laxatives, mouth washes, mydriatics, narcotics, nerve depressants, nerve stimulants, nutrients, oxytocics, parasiticides, purgatives, reagents, respiratory stimulants, restoratives, rubbing compound, rebeccients, scabicides, sclerosing agents, sedatives, serum products, skin creams, skin powders, soporifics, stomachics, cold cream, talcum powder, tonics, toxoids, urinary acidifiers, vaccines, vasoconstrictors, vasodilators, vasomotor depressants, vasomotor stimulants, vermifuge, vesicants, veterinary vaccine, vitamins, filed Dec. 7, 1967, D.C., S.D.N.Y., Doc. 67-C-4809, *Parke, Davis & Company v. David Reisman*. Plaintiff's notice of voluntary dismissal pursuant to Rule 41(a), Apr. 30, 1970.

Reg. No. 500,509 (FORRELL), Levinsohn Textile Co., Inc., Ticking and pillow ticks, filed Feb. 15, 1967, D.C., S.D.N.Y., Doc. 67-C-640, *Levinsohn Textile Co. Inc. v. Celanese Corporation of America et al.* Stipulation and order of dismissal without costs or interest to any party, Mar. 31, 1970.

Reg. No. 511,031. (See Reg. No. 39,409.)

Reg. No. 529,249. (See Reg. No. 372,491.)

Reg. No. 536,756. (See Reg. No. 372,491.)

Reg. No. 538,606 (NYLATRON), The Polymer Corporation, Nylon in rod, strip, and tube form, filed Apr. 9, 1970, D.C., W.D. La. (Shreveport), Doc. 15574-L, *The Polymer Corporation v. Mark Tool Co., Inc.*

Reg. No. 539,954 (CAMEO), Cameo Curtains Inc., Window curtains composed of marquisette fabric and of voile fabric; Reg. No. 562,570 (REPRESENTATION OF A CAMEO), same, filed Apr. 24, 1969, D.C.N.J. (Newark), Doc. C-483-69, *Cameo Curtains, Inc. v. Newark Vinyl Plastics Co., Inc.* Plaintiff's notice of dismissal, Apr. 8, 1970.

Reg. No. 545,127 (CUTLER-HAMMER), Cutler-Hammer, Inc., Electrical control apparatus, electrical machines, and electrical supplies, consisting of controllers for dynamo-electric machines, to wit, starting, stopping, reversing, and speed regulating apparatus for motors, and voltage and current regulating apparatus for generators, and like control apparatus for generators, and like control apparatus for rotary converters; current breakers; magnetic brakes for various types of machines; lifting and separating magnets and controls therefor; electrical panelboards and multi-breakers; solenoids, safety switches, meter service and entrance switches; float and pressure switches; insulating bases and supports for switches and the like; controllers and driving units for valves requiring rotation of an element thereof; solenoid-operated valves; fuse panels; terminal lugs; wiring fixtures and conduit fittings comprising switches, switch boxes and covers, attachment plugs, taps, receptacles, lamp sockets, and cord connectors; elevator control apparatus, consisting of limit switches, door switches, transfer switches and floor selector switches; speed regulating and other current control resistors; rheostats; relays; contactors; switch panels; control panels; push button switches for machine tool controllers; motor starters; speed controllers and regulators especially adapted for marine service; resistance units for electric space heaters; industrial type electric heaters; ovens and immersion type electric water heaters; surface units and oven units for electric ranges; theater and spotlight dimmers; battery chargers; starters and speed regulators for the electric motors of fire pumps, printing presses, paper making machines, oil well drillers and pumps; crane and hoist controls; electrical controls for diesel locomotives; circuit controllers of the electronic type; electric welding controllers; and circuit controllers for electric refrigerators; Reg. No. 287,074 ("C-H"

AND DESIGN), same, Electrical apparatus, machines, and supplies, consisting of controllers for dynamo-electric machines, to wit, starting, stopping and speed regulating apparatus for motors, and voltage and current regulating apparatus for generators, and like control apparatus for rotary converters; current breakers; magnetic brakes for various types of machines, lifting and separating magnets and controls therefor; solenoids, safety switches, meter service and entrance switches, float, pressure and other special switches; insulating bases and supports for switches, automatic valve control units, solenoid-operated valves, fuse panels, terminal lugs; wiring fixtures and conduit fittings, consisting of switches, switch boxes and covers, attachment plugs, taps, receptacles, caps, lamp sockets, shade holders, wall plates, and cord connectors; elevator control apparatus, consisting of limit switches, door switches, transfer switches, and floor selector switches; speed regulating and other current control resistors, rheostats, relays, contactors, switch panels, push button switches for machine tool controllers, motor starters, speed controllers and regulators especially adapted for marine service; resistance units for space heaters, industrial heaters, ovens, and immersion water heaters; theatre and spotlight dimmers, battery chargers; starters and speed regulators for fire pumps, printing presses, paper making machines, oil well drillers and pumps; and crane and hoist controls; Reg. No. 366,253 (REPRESENTATION OF NAME PLATE), same, Electrical control apparatus, electrical machines, and electrical supplies, consisting of controllers for dynamo-electric machines, to wit, starting, stopping, reversing, and speed regulating apparatus for motors, and voltage and current regulating apparatus for generators, and like control apparatus for rotary converters; current breakers; magnetic brakes for various types of machines; lifting and separating magnets and controls therefor; solenoids, safety switches, meter service and entrance switches, float, pressure and other special switches; insulating bases and supports for switches and the like; automatic valve control units; solenoid-operated valves; fuse panels; terminal lugs; wiring fixtures and conduit fittings comprising switches, switch boxes and covers, attachment plugs, taps, receptacles, caps, lamp sockets, and cord connectors; elevator control apparatus, consisting of limit switches, door switches, transfer switches, and floor selector switches; speed regulating and other current control resistors; rheostats; relays; contactors; switch panels; control panels; push button switches for machine tool controllers; motor starters; speed controllers and regulators especially adapted for marine service; resistance units for space heaters; industrial heaters; ovens, and immersion water heaters; theater and spotlight dimmers; battery chargers; starters and speed regulators for fire pumps, printing presses, paper making machines, oil well drillers and pumps; crane and hoist controls; electronic control apparatus; electric welding controllers and electric refrigerator control devices, filed Apr. 4, 1968, D.C., S.D.N.Y., Doc. 68-C-1384, *Cutler-Hammer, Inc. v. A.M. Aircraft Parts Company, Inc.* Consent judgment, defendant enjoined, Apr. 1, 1970.

Reg. No. 562,570. (See Reg. No. 539,954.)

Reg. No. 528,168 (DESERT), C. & J. Clark Limited, Boots for men, women, and children, filed May 6, 1970, D.C., S.D.N.Y., Doc. 70-C-1842, *Clarks Overseas Shoes Ltd. et al. v. Plymouth Shoe Co.*

Reg. No. 580,819. (See Reg. No. 372,491.)

Reg. No. 705,658 (ROMAN MEAL AND DESIGN), Roman Meal Company, Biscuits, bread, buns, cereal, cookies, flour, muffin mix, pancake mix, and rolls, filed May 20, 1970, D.C., W.D. Ark. (Fort Smith), Doc. F-70-C-11, *Roman Meal Company v. Ozark Empire Distributors, Inc.*

Reg. No. 727,341 (MR. TRAVEL AND DESIGN), Mr. Travel Inc., Travel agency, services including arranging travel transportation, travel accommodations, vacation tours, and hotel accommodations, filed Apr. 17, 1970, D.C. Conn. (New Haven), Doc. B-54, *Mr. Travel, Inc. v. Mr. Travel Agent, Inc. et al.*

Reg. No. 764,837 (REPRESENTATION OF A BUILDING), McDonald's Corporation, Drive-in restaurant services; Reg. No. 764,838 (DESIGN OF YELLOW BUILDING ARCHES), same; Reg. No. 762,441 (REPRESENTATION OF TWO ARCHES), same, Restaurant services, filed Nov. 10, 1964, D.C., E.D. Tex (Tyler), Doc. 4341, *McDonald's Corporation v. Pack n Sack Corporation*. Consent judgment, defendant permanently enjoined, Mar. 13, 1965.

Reg. No. 764,838. (See Reg. No. 764,837.)

Reg. No. 766,870. (See Reg. No. 372,491.)

Reg. No. 794,600 (CLUB INTERNATIONALE AND DESIGN), Club Internationale, Indicating membership in applicant's vacation club; Reg. No. 891,408 (CLUB INTERNATIONALE), Club Internationale Management Corp., Organizing and making arrangements for foreign group tours and vacations, filed May 14, 1970, D.C., W.D. Pa. (Pittsburgh),

Doc. 70-541, *Club Internationale Management Corp., and C.I. Inc., doing business as "Club International" v. Borkon Travel Service, Inc., doing business as "Travel Club Internationale."*

Reg. No. 888,019 (MISSION BELL INN), McLaughlin Family Lodge, Inc., Restaurant services, filed May 14, 1970, D.C. Colo. (Denver), Doc. C-2271, *McLaughlin Family Lodge, Inc. and James F. Miller v. Charles Duran et al.*

Reg. No. 891,408. (See Reg. No. 794,600.)



# MARKS PUBLISHED FOR OPPOSITION

## SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.104. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 262,650. Gutbrod-Werke G.m.b.H., Bubingen/Saar, Germany. Filed Sept. 22, 1966.

**Gutbrod**

Owner of German Reg. No. 786,756, dated Apr. 8, 1964.

### Class 19—Vehicles

For Dump Trucks and Hand Trucks, and Parts Thereof (Int. Cl. 12).

### Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Motors; Domestic and Kitchen Electrical Appliances—Namely, Vacuum Cleaners, Floor Polishers and Cleaning Machines for the Care of Floors; and Parts for Said Goods (Int. Cls. 7 and 9).

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Barn, Garden, and Agricultural Machines, Appliances and Vehicles—Namely, Two-Axle and One-Axle Tractors, Motor Mowers, Motor Plows, Motor Cultivators, Lawn Mowers, Fertilizer Distributors, and Hay Harvesters; Sprayers for Agricultural Purposes and Pest Combating; Construction Machinery for Above Ground, Under Ground Structures and Road Work—Namely, Excavators and Earth Graders, Lifting, Wetting, Scraping and Clearing Apparatus; Internal Combustion Engines, Vehicle Transmissions and Drives, for Example, Gear and "V-Belt" Drives, and Liquid Pumps; Floor Washing and Polishing Machines for Commercial and/or Industrial Use; and Parts for the Aforesaid Goods (Int. Cls. 7 and 12).

First use Feb. 19, 1964; in commerce Feb. 19, 1964.

SN 288,810. Gingham Manufacturing Company, Inc., Scranton, Pa. Filed Jan. 15, 1968.

**GINGHER**

Owner of Reg. No. 655,823.

### Class 32—Furniture and Upholstery

For Steel Shelving, Display Units, Chairs, Desks, Credenzas and Filing Cabinets (Int. Cl. 20).  
First use July 1957.

### Class 50—Merchandise Not Otherwise Classified

For Clothes Hangers (Int. Cl. 26).  
First use on or about May 15, 1958.

TM 196

SN 297,487. Jacques Heim, Societe Anonyme, Paris, France. Filed May 7, 1968.

**JACQUES HEIM**

Owner of French Reg. No. 510,804, dated Dec. 28, 1962 (Seine), Natl. Inst. No. 197,171; U.S. Reg. Nos. 579,517, 585,153 and 589,837.

### Class 39—Clothing

For Men's, Children's and Ladies' Clothing—Namely, Linen, Ties, Dresses, Skirts, Blouses, Sweaters, Pajamas, Nightgowns, Socks, Stockings, Gloves, Mufflers, Coats, Jackets, Shirts, Shoes, Slacks, Suits, Vests and Handkerchiefs, Hats, Belts, Bathing Suits, Playsuits, Hosiery, Corsets and Girdles, Scarves, Raincoats, Fur and Leather Coats (Int. Cls. 24 and 25).

First use at least as early as 1936; in commerce at least as early as 1936.

### Class 51—Cosmetics and Toilet Preparations

For Perfume and Beauty Products—Namely, Perfume, Toilet Water, Cologne, Face Powder, Mascara, Eye Liner, Eyebrow Pencil, Lipstick, Makeup, Nail Enamel, Cleansing Cream, Facial Creams, and Bath Oils, Pads Impregnated With a Substance Facilitating the Removal of Makeup, Shaving Soap, Hand Cream, Body Cream, After Shave Lotion and Personal Deodorants (Int. Cls. 3 and 5).

First use at least as early as 1948; in commerce at least as early as 1948.

SN 297,488. Jacques Heim, Societe Anonyme, Paris, France. Filed May 7, 1968.

**HEIM**  
*Jeunes Filles*

Applicant, without waiving its common law rights disclaims the right to make exclusive use of the term "Jeunes Filles" separate and apart from the mark. Owner of French Reg. No. 510,803, dated Dec. 28, 1962 (Seine); Natl. Inst. No. 197,170.

### Class 39—Clothing

For Men's, Children's and Ladies' Clothing—Namely, Linen, Ties, Dresses, Skirts, Blouses, Sweaters, Pajamas, Nightgowns, Socks, Stockings, Gloves, Mufflers, Coats, Jackets, Shirts, Shoes, Slacks, Suits, Vests and Handkerchiefs, Hats, Belts, Bathing Suits, Playsuits, Hosiery, Corsets and Girdles, Scarves, Raincoats, Fur and Leather Coats (Int. Cls. 24 and 25).

JULY 28, 1970

U. S. PATENT OFFICE

TM 197

### Class 51—Cosmetics and Toilet Preparations

For Perfume and Beauty Products—Namely, Perfume, Toilet Water, Cologne, Face Powder, Mascara, Eye Liner, Eyebrow Pencil, Lipstick, Makeup, Nail Enamel, Cleansing Cream, Facial Creams, and Bath Oils; Pads Impregnated With a Substance Facilitating the Removal of Makeup, Shaving Soap, Hand Cream, Body Cream, After Shave Lotion and Personal Deodorants (Int. Cls. 3 and 5).

SN 297,489. Jacques Heim, Societe Anonyme, Paris, France. Filed May 7, 1968.



### Class 39—Clothing

For Men's, Children's and Ladies' Clothing—Namely, Linen, Ties, Dresses, Skirts, Blouses, Sweaters, Pajamas, Nightgowns, Socks, Stockings, Gloves, Mufflers, Coats, Jackets, Shirts, Shoes, Slacks, Suits, Vests and Handkerchiefs, Hats, Belts, Bathing Suits, Playsuits, Hosiery, Corsets and Girdles, Scarves, Raincoats, Fur and Leather Coats (Int. Cls. 24 and 25).

First use at least as early as 1936; in commerce at least as early as 1936.

### Class 51—Cosmetics and Toilet Preparations

For Perfume and Beauty Products—Namely, Perfume, Toilet Water, Cologne, Face Powder, Mascara, Eye Liner, Eyebrow Pencil, Lipstick, Makeup, Nail Enamel, Cleansing Cream, Facial Creams, and Bath Oils, pads Impregnated With a Substance Facilitating the Removal of Makeup, Shaving Soap, Hand Cream, Body Cream, After Shave Lotion and Personal Deodorants (Int. Cls. 3 and 5).

First use at least as early as 1948; in commerce at least as early as 1948.

SN 299,481. Peterson Machine Tool, Inc., Merriam, Kans. Filed May 31, 1968.

**PETERSON**

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Machine Tools—Namely, Lathes, Turret Lathes, Milling Machines, Boring Machines, Honing Machine, Crankshaft Grinders, Surface Grinders, Valve Spring Balancers, Radial Drills and Drill Presses (Int. Cl. 7).

First use about January 1939.

### Class 34—Heating, Lighting, and Ventilating Apparatus

For Crankshaft Welders (Int. Cl. 7).  
First use Feb. 5, 1963.

SN 301,822. Conchemco, Incorporated (Delaware corporation) Kansas City, Mo., by merger from Conchemco, Incorporated (Missouri corporation) Kansas City, Mo. Filed July 2, 1968.

**WESTCHESTER**

### Class 12—Construction Materials

For Prefabricated Homes Constructed and Assembled at a Factory and Moved to the Erection Site by Special Truck (Int. Cl. 19).

### Class 19—Vehicles

For Mobile Homes (Int. Cl. 12).

First use Mar. 27, 1967.

SN 311,404. Plas Company Limited, Oyodo-ku, Osaka, Japan. Filed Nov. 5, 1968.



### Class 51—Cosmetics and Toilet Preparations

For Cosmetic Facial Cleansing Cream and Skin Lotions; Foundation Creams; Face Powder; Rouge; Lipstick; Eye Shadow; Liquid Cosmetic Eye Liners; Eyebrow Pencils; Eyelid Makeup Lotion; Skin Lubricating Creams and Coatings; Hair Sprays and Rinses; Perfume and Cologne; Nail Enamels and Enamel Remover; Body Powders; Depilatory Cream; Sunburn and Snowburn Creams; Hair Dressing Creams; Pomades and Bath Oils (Int. Cl. 3).

### Class 52—Detergents and Soaps

For Toiletory and Bath Soaps (Int. Cl. 3).

First use Jan. 15, 1948; in commerce Jan. 27, 1966.

SN 315,510. All Star International, Inc., Winnipeg, Manitoba, Canada. Filed Jan. 2, 1969.



Applicant hereby disclaims the words "Fried Chicken" apart from the mark as a whole, and without negating any common law rights to which it may have been entitled. The portrait in the drawing is a fanciful face and does not show a picture of any living individual. Priority claimed under Sec. 44(d) on Canadian application, filed Sept. 9, 1968; Reg. No. 163,354, dated June 6, 1969.

### Class 46—Foods and Ingredients of Foods

For Fried Chicken (Int. Cl. 29).

### Class 100—Miscellaneous

For Operation of Restaurants and Take-Out Restaurants (Int. Cl. 42).

SN 319,275. Chemair Corporation of America, Hialeah, Fla. Filed Feb. 17, 1969.

**Chemair**



**Class 51—Cosmetics and Toilet Preparations**

For Hair Setting Lotions and Hair Spray Fixatives (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Hair Shampoo (Int. Cl. 3).  
First use Dec. 18, 1968.

SN 322,425. Fantasyland, Inc., Gettysburg, Pa. Filed Mar. 21, 1969.

**FANTASYLAND****Class 100—Miscellaneous**

For Restaurant Services (Int. Cl. 42).

**Class 107—Education and Entertainment**

For Amusement, Educational and Entertainment Services—Namely, Historical and Fairy Tale Exhibits With Living and Fanciful Dummy Characters Based on Classical Fairy Tale and Natural Historical Background, Amusement Rides, Puppet Shows, Theatrical Presentations (Int. Cl. 41).

First use Dec. 24, 1958.  
Subj. to Intf. with SN 349,796.

SN 329,924. ACF Industries, Incorporated, St. Louis, Mo. Filed June 13, 1969.

**THERMO-QUAD****Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Accessories for Internal Combustion Engines—Namely, Carburetors and Parts Thereof—Namely, Metering Jets, Step-Up Rods, and Needles and Seats; Overhaul Kits for Carburetors Comprising Flange Gasket, Pump Check Needle, Bowl Filter Gasket, Needle Seat Assembly, Pump Spring (Upper), Pump Spring, Step-up Piston Spring, Fast Idle Connector Rod Retainer, Retainer, Intake Retainer, Pump Plunger Assembly, Choke Connector Rod, Pump Arm Link, Pump Housing Gasket, Body Flange Gasket, Air Horn Gasket, Choke Diaphragm Hose, Tube, Pin Spring, "O" Ring Seal and Rubber Disc (Int. Cl. 7).

**Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires**

For Carburetor Gasket Assortments (Int. Cl. 17).  
First use Mar. 14, 1969.

SN 329,925. ACF Industries, Incorporated, St. Louis, Mo. Filed June 13, 1969.

**COMPETITION SERIES****Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Accessories for Internal Combustion Engines—Namely, Carburetors and Parts Thereof—Namely, Metering Jets, Step-Up Rods, and Needles and Seats; Overhaul Kits for Carburetors Comprising Flange Gasket, Pump Check Needle, Fuel Inlet Fitting Gasket, Needle Seat Assembly, Spring, Piston Spring, Pump Plunger Assembly, Float Gauge, Pump Arm Link, Pump Jet Housing Gasket, Air Horn Gasket, Secondary Venturi Gasket, Primary Venturi Gasket, Ball Check Assembly, and Pin Spring; Mechanical Fuel Pumps and Parts Thereof; Fuel Line Adaptors; and Electric Fuel Pumps and Parts Thereof (Int. Cl. 7).

**Class 31—Filters and Refrigerators**

For Fuel Filters for Motor Vehicles and Parts Thereof (Int. Cl. 7).

**Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires**

For Carburetor Gasket Assortments (Int. Cl. 17).  
First use Mar. 14, 1969.

SN 332,413. GAF Corporation, New York, N.Y. Filed July 14, 1969.



Owner of Reg. Nos. 509,124, 837,005, and others.

**Class 100—Miscellaneous**

For Modernization and Creation of Company Symbols, Trademarks, Names, Graphics, Art Work, Product and Packaging Design to the order and/or Specification of others (Int. Cl. 42).  
First use Sept. 10, 1967.

**Class 101—Advertising and Business**

For Design of Business Forms to the Order and/or Specification of Others; and Printing Business Forms for others (Int. Cl. 35).  
First use on or before Sept. 10, 1967.

SN 332,578. Columbia Pictures Industries, Inc., d.b.a. Screen Gems, New York, N.Y. Filed July 15, 1969.



Applicant disclaims the exclusive right to use the word "Campground" and the work "Park" apart from the mark as shown. Owner of Reg. No. 802,412.

**Class 100—Miscellaneous**

For Furnishing Campsites for Campers (Int. Cl. 42).

**Class 107—Education and Entertainment**

For Furnishing Sporting Facilities for Others (Int. Cl. 41).  
First use May 14, 1969.

SN 333,024. Avon Products, Inc., New York, N.Y. Filed July 22, 1969.

**BELIQUE****Class 51—Cosmetics and Toilet Preparations**

For Cologne and Dusting Powder (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).  
First use Apr. 30, 1969.

SN 335,494. Will Ross, Inc., Milwaukee, Wis. Filed Aug. 18, 1969.

**balfor**

**Class 18—Medicines and Pharmaceutical Preparations**

For Massage Lotion, Lubricating Jelly, and Impregnated Disinfectant Alcohol Pads, Antiseptic and Germicide Containing Chloride, Antiseptic Towelettes (Int. Cl. 5).  
First use Aug. 22, 1968.

**Class 44—Dental, Medical, and Surgical Appliances**

For Latex Examination Gloves and Finger Cots, Phosphate Enema Kits, Irrigating Bottles, and Thermometer Kits (Int. Cl. 10).  
First use June 11, 1968.

**Class 52—Detergents and Soaps**

For Castile Soap (Int. Cl. 3).  
First use Aug. 22, 1968.

SN 338,682. Jr. Food Stores, Inc., Panama City, Fla. Filed Sept. 23, 1969.



Applicant disclaims the term "Food Store" separate and apart from the mark as shown.

**Class 1—Raw or Partly Prepared Materials**

For Ice (Int. Cl. 30).

**Class 46—Foods and Ingredients of Foods**

For Fresh Eggs (Int. Cl. 29).  
First use July 1, 1968.

SN 339,782. V-M Corporation, Benton Harbor, Mich. Filed Oct. 6, 1969.

**THE VOICE OF MUSIC**

Owner of Reg. Nos. 683,593, 821,923, and others.

**Class 21—Electrical Apparatus, Machines, and Supplies**

For Electrical-mechanical Apparatus for Recording and/or Playing Audio and Electrical Signals; Radio-Phonograph Consoles; Amplifiers; and Tuners (Int. Cl. 9).

**Class 36—Musical Instruments and Supplies**

For Phonographs; and Tape Recorders; Record Changers; Phonograph Records; Stereophonic Portable Component Systems including Record Changer, Tone Arm Amplifier, and Speaker System; and Slide Projector Synchronizer for Tape Recorders (Int. Cl. 9).

First use on or about July 1954.

SN 342,572. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

**HISTORY**

**Class 51—Cosmetics and Toilet Preparations**  
For Dusting Powder and Cologne (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).  
First use Oct. 1, 1969.

SN 342,577. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

**UPWARD****Class 51—Cosmetics and Toilet Preparations**

For Dusting Powder and Cologne (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).  
First use Aug. 27, 1969.

SN 346,545. Avon Products, Inc., New York, N.Y. Filed Dec. 18, 1969.

**SOJOURN****Class 51—Cosmetics and Toilet Preparations**

For Dusting Powder and Cologne (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).  
First use Nov. 6, 1969.

SN 356,458. British-American Tobacco Company Limited, London, England. Filed Apr. 10, 1970.

**Class 51—Cosmetics and Toilet Preparations**

For Bath Perfume, Spray Perfume, Cologne, Toilet Water, Cream Sachet, Bath Foam, Shower Spray Oil, Moisture Bath, Bath Powder, Dusting Powder, Powder Mist, Moisturizing Lotion, Face Powder, Face Powder Compacts, Lipsticks and Lipstick Refills, Cream Rouge, Blushers, Under Cover Eye Foundation, Mascara, Liquid Eye Liners, Eye Shadow, Eyebrow Color, and Personal Deodorant Stick (Int. Cls. 3 and 5).  
First use at least as early as 1935; in commerce at least as early as 1935.

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 5).  
First use at least as early as 1942; in commerce at least as early as 1942.

SN 357,673. Packaging Corporation of America, Evanston, Ill. Filed Apr. 23, 1970.

**FIBRE GARD****Class 12—Construction Materials**

For A Protective Paperboard Covering for Pipe, Conduit and the Like (Int. Cl. 19).

**Class 37—Paper and Stationery**

For Paperboard in Sheet Form (Int. Cl. 16).  
First use on or about Feb. 26, 1970.



## SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.  
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

### Class 1—Raw or Partly Prepared Materials

SN 804,349. W. R. Grace & Co., New York, N.Y., Filed Aug. 5, 1968.

#### SUMAX

For Hybrid Forage Sorghum Seed (Int. Cl. 31).  
First use in 1967.

SN 314,810. Nurserymen's Exchange, Inc., San Francisco, Calif. Filed Dec. 18, 1968.

#### BLOOM RITE

Owner of Reg. No. 505,551.  
For Flower Bulbs, Seeds and Plants (Int. Cl. 31).  
First use Aug. 26, 1947.

SN 830,203. Safeway Stores, Incorporated, Oakland, Calif. Filed June 16, 1969.



Owner of Reg. No. 747,993.  
For Fluid Charcoal Briquet Fire Lighting Compound (Int. Cl. 4).  
First use May 24, 1968.

SN 333,137. Industrial Brush Company, Pomona, Calif., assignee of Interplex, Pomona, Calif. Filed July 22, 1969.

#### IPX

For Plastic Extrusions—Namely, Extruded Plastic Filaments for Use as Brush Bristles, Plastic Tubing for Use in Golf Bags, and Extruded Plastic in Various Cross-Sectional Shapes (Int. Cls. 17 and 22).  
First use Apr. 8, 1969.

SN 334,809. The Budd Company, Philadelphia, Pa. Filed Aug. 8, 1969.

#### YORK

Owner of Reg. No. 853,130.  
For Extruded Thermoset Materials in the Forms of Rods, Sheets, Tubes and Strips (Int. Cl. 17).  
First use at least as early as Feb. 13, 1967.

TM 200

SN 334,983. Celanese Corporation, New York, N.Y. Filed Aug. 11, 1969.



Owner of Reg. Nos. 609,202, 698,755, and others.  
For Man-Made Fibers (Int. Cl. 22).  
First use at least as early as February 1966; Aug. 18, 1954, in a different form.

SN 336,900. Reichhold Chemicals, Inc., White Plains, N.Y. Filed Sept. 3, 1969.

#### SUPER STA-TAC

Without waiving any common law rights the term "Super" is disclaimed apart from the mark as shown. Owner of Reg. No. 833,136.  
For Synthetic Resins (Int. Cl. 1).  
First use Mar. 14, 1969.

SN 339,929. Polyplastex United, Inc., Union, N.J. Filed Oct. 6, 1969.

#### POLYVAC

For Laminated Polyvinyl Sheet Material Backed by a Heat-Activated Dry Adhesive Film Sold for Application to Structural Panels in Aircraft and Other Uses in Industrial Arts (Int. Cl. 17).  
First use Mar. 14, 1969.

SN 340,644. General Mills, Inc., Minneapolis, Minn. Filed Oct. 14, 1969.

#### BIOMEL 23

For Gums for Use in Industrial and Food Applications (Int. Cl. 1).  
First use on or prior to Aug. 12, 1969.

SN 341,081. Dreher Leather Manufacturing Corporation, Newark, N.J. Filed Oct. 15, 1969.

#### DENTELLA

For Leather (Int. Cl. 18).  
First use Apr. 25, 1969.

SN 346,024. The Baxter Corporation, Paterson, N.J. Filed Dec. 12, 1969.



Owner of Reg. No. 866,999.  
For Foam Plastic Packaging Material Sold in Roll and Sheet Form (Int. Cl. 17).  
First use June 9, 1969.

JULY 28, 1970

U. S. PATENT OFFICE

TM 201

SN 347,282. F. E. Knight Inc., New York, N.Y. Filed Dec. 29, 1969.

#### MOLDORO

For Rubber Compound Used in the Jewelry Trade for Mold-making (Int. Cl. 17).  
First use Mar. 28, 1969.

SN 347,401. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Dec. 30, 1969.

#### XYLODENE

For Rubber Compounds Consisting of Natural and/or Synthetic Rubber for Further Use in the Industrial Arts (Int. Cl. 17).  
First use Dec. 5, 1969.

SN 357,906. Excel-Mineral Company, Inc., d.b.a. Excel-Mineral Co., Los Angeles, Calif. Filed Apr. 27, 1970.

#### PRINCESS

For Granular Fluid-Absorbent Material Used as a Pet Litter, as a Plant Mulch, and as an Oil and Grease Absorbent (Int. Cl. 31).  
First use Sept. 10, 1964.

### Class 2—Receptacles

SN 358,515. Polar Plastics, Inc., Roseau, Minn. Filed May 1, 1970.



For Trash Containers (Int. Cl. 20).  
First use at least as early as Mar. 26, 1970.

### Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 307,338. James Alden Mead, Monterey, Calif. Filed Sept. 13, 1968.



#### PHYDOS

Applicant disclaims the representation of the brush apart from the mark as shown.  
For Animal Toys, Feeding Dishes, and Brushes for Pets (Int. Cls. 18 and 21).  
First use July 25, 1968.

#### TOPSY

For Bird Cages and Stands Therefor, Hamster and Mouse Cages, and Parts Thereof (Int. Cls. 16 and 21).  
First use in or about April 1968; in commerce in or about April 1968.

SN 337,223. Baronet Corp. Secaucus, N.J. Filed Sept. 8, 1969.

#### IMPERIANA

For Leather Goods—Namely, Billfolds (Int. Cl. 18).  
First use Aug. 18, 1969.

SN 340,224. Pet World Inc., Madison, Conn. Filed Oct. 9, 1969.

#### PET WORLD

For Sofas and Bedding for Pets (Int. Cl. 18).  
First use Sept. 23, 1969.

SN 357,928. Reva Ostrow, d.b.a. Reva, New York, N.Y. Filed Apr. 27, 1970.

#### REVA

For Ladies' and Men's Handbags and Luggage (Int. Cl. 18).  
First use Nov. 1, 1969.

### Class 4—Abrasives and Polishing Materials

SN 348,749. Armstrong Cork Company, Lancaster, Pa. Filed Jan. 16, 1970.



For Floor Wax (Int. Cl. 3).  
First use June 28, 1968.

### Class 5—Adhesives

SN 320,453. The Dexter Corporation, Windsor Locks, Conn. Filed Mar. 3, 1969.

#### DEXFAX

For Binder Resins for Affixing Photoconductors to Paper to Produce Electrophotographic Copy Paper (Int. Cl. 1).  
First use Aug. 14, 1967.

SN 353,442. Crown Dielectric Industries, Inc., Columbus, Ohio. Filed Mar. 9, 1970.

#### BOND-TASTIK

For Adhesive for Bonding Cloth to Painted or Metal Surfaces (Int. Cl. 1).  
First use Nov. 17, 1969.

SN 358,525. United States Steel Corporation, Pittsburgh, Pa. Filed May 1, 1970.

#### NEXUS

Owner of Reg. No. 843,485.  
For Synthetic Resin Based Adhesives—Namely, Polymeric Compounds in One-Component Form, for Use in Bonding Other Materials (Int. Cl. 1).  
First use Sept. 28, 1967.



**Class 6—Chemicals and Chemical Compositions**

SN 309,838. Ciba Limited, Basel, Switzerland. Filed Oct. 17, 1968.

**TERACOTON**

Owner of Swiss Reg. No. 231,525, dated Apr. 11, 1968.  
For Dyestuffs, Coloring Matters (Int. Cl. 2).

SN 313,235. Holliston Laboratories, Inc., Boston, Mass. Filed Nov. 29, 1968.

**molgard**

For Germicidal Composition for the Prevention of Mold Growth (Int. Cl. 5).  
First use Apr. 19, 1968.

SN 319,709. Philip A. Hunt Chemical Corporation, Passaic Park, N.J. Filed Feb. 20, 1969.

**CYCON**

For Preservative Ingredient Incorporated in Photographic Developers, Fixers and Replenishers (Int. Cl. 1).  
First use Mar. 24, 1967.

SN 320,710. Dignostic Research, Inc., Roslyn, N.Y. Filed Mar. 4, 1969.

**dr**

Applicant disclaims the representation of the vial apart from the mark as shown.

For Culture Media for Laboratory Use in the Identification of Enterobacteriaceae (Int. Cl. 5).  
First use October 1968.

SN 321,060. Hercules Incorporated, Wilmington, Del. Filed Mar. 7, 1969.

**TORAK**

For Agricultural Chemicals—Namely, Insecticides, Miticides, and Insecticidal and Miticidal Formulations for Use on Apples, Citrus Fruits, Corn, Cotton, Grapes, Pecans, Vegetables and Potatoes (Int. Cl. 5).  
First use Feb. 24, 1969.

SN 321,268. Private Brands, Inc., Kansas City, Kans. Filed Mar. 10, 1969.

**TRIMEC**

For Turf Herbicides and Chemical Ingredients Used in the Manufacture of Turf Herbicides (Int. Cls. 1 and 5).  
First use Feb. 3, 1969.

SN 322,628. Sun Chemical Corporation, New York, N.Y. Filed Mar. 24, 1969.

**SUNSIZE**

For Compositions Used To Impart Water Resistance to Paper and Paperboard (Int. Cl. 1).  
First use Jan. 21, 1969.

SN 322,629. Sun Chemical Corporation, New York, N.Y. Filed Mar. 24, 1969.

**SUNREZ**

For Resinous Products Used To Improve the Physical Characteristics of Paper, Paperboard, and Paper Coatings (Int. Cl. 1).  
First use Jan. 17, 1969.

SN 322,867. E. Vernon Hill, Inc., San Francisco, Calif. Filed Mar. 26, 1969.

**SAFE-VUE**

For Smoke Candles for Generating Smoke Like Gasses or Particle Suspensions to Aid in the Visual or Electronic Observation of Air Flow Patterns (Int. Cl. 1).  
First use Jan. 15, 1969.

SN 330,396. The Mearl Corporation, Ossining, N.Y. Filed June 18, 1969.

**FLAMENCO**

For Nacreous Pigments (Int. Cl. 2).  
First use May 29, 1969.

SN 330,750. Jefferson Chemical Company, Inc., Houston, Tex. Filed June 23, 1969.

**JEFFAMINE**

For Polyoxyalkylene Polyamines Used as Curing and Hardening Agents for Epoxy Resins (Int. Cl. 1).  
First use Apr. 10, 1969.

SN 331,196. Hercules Incorporated, Wilmington, Del. Filed June 27, 1969.

**DELSETTE**

For Synthetic Resins for Use in the Manufacture of Cosmetics and Toiletries (Int. Cl. 1).  
First use June 18, 1969.

SN 331,939. Polak's Frutal Works, Inc., Middletown, N.Y. Filed July 7, 1969.

**IN-CAP**

For Encapsulated Essential Oils and Aromatic Chemicals Used in the Manufacture of Perfumery (Int. Cl. 8).  
First use June 18, 1969.

SN 332,455. CPC International Inc., Englewood Cliffs, N.J. Filed July 14, 1969.

**COVOL**

Owner of Reg. No. 845,703.  
For Polyvinyl Alcohols, Partially Esterified Polyvinyl Alcohols and Copolymers Thereof for Industrial Applications (Int. Cl. 1).  
First use at least as early as Dec. 27, 1966.

SN 340,892. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Oct. 16, 1969.

**SOIL-PAK**

For Lime for Soil Stabilization (Int. Cl. 19).  
First use July 31, 1969.

SN 341,836. Mooney Chemicals, Inc., Cleveland, Ohio. Filed Oct. 27, 1969.

**CEM-ALL**

For Additives, Catalysts, Surfactants, Stabilizers, Fortifiers and Driers Intended for Use in Plastics, Resins, Lubricants, Inks and the Like (Int. Cl. 1).  
First use May 19, 1969.

SN 345,093. Rohner Ltd., Pratteln, Pratteln, Switzerland. Filed Dec. 2, 1969.

**RONASOL**

Owner of Swiss Reg. No. 217,073, dated Apr. 27, 1966.  
For Dyes (Int. Cl. 2).

SN 345,399. Universal Oil Products Company, Des Plaines, Ill. Filed Dec. 4, 1969.

**L-70**

Owner of Reg. Nos. 683,834, 850,049, and 869,897.  
For Chemical Corrosion Inhibiting Composition for Closed Hot Water Boiler and Cooling Systems (Int. Cl. 1).  
First use on or prior to Jan. 7, 1958.

SN 346,178. Lever Brothers Company, New York, N.Y. Filed Dec. 15, 1969.

**DONE**

For Multi-Purpose Household Disinfectant (Int. Cl. 5).  
First use Dec. 1, 1969.

SN 351,428. Coulter Diagnostics, Inc., Hialeah, Fla. Filed Feb. 16, 1970.

**ZAP-OGLOBIN**

For Diagnostic Laboratory Reagent for Hemoglobin Testing (Int. Cl. 1).  
First use Oct. 1, 1969.

**Class 7—Cordage**

SN 335,317. Berwick Textile Products Co., Inc., Paramus, N.J. Filed Aug. 14, 1969.

**RAY-BAND**

For Ribbons of Synthetic Strands and Fibers for Packaging and Package Decorating (Int. Cl. 26).  
First use July 25, 1969.

**Class 8—Smokers' Articles, Not Including Tobacco Products**

SN 318,064. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.

**TRUE**

Owner of Reg. No. 819,409.  
For Cigarette Lighters (Int. Cl. 34).  
First use Dec. 16, 1968.

SN 329,858. Hebor S.A., Renens, Switzerland. Filed June 12, 1969.



For Pipes for Smokers (Int. Cl. 34).  
First use March 1963; in commerce November 1965.  
Subj. to Intf. with SN 323,967.

**Class 12—Construction Materials**

SN 313,845. U.S. Polymatrix, Inc., Los Angeles, Calif. Filed Dec. 6, 1968.

**CORNER-MATE**

For Decorative Molding Assemblies, for Use With Picture Frames, Shelves, Furniture and Similar Items (Int. Cl. 19).  
First use Aug. 11, 1968.

SN 315,231. Interpace Corporation, Los Angeles, Calif. Filed Dec. 26, 1968.

**FRANCISCAN TERRA WALL**

The term "Wall" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 720,858, 813,804, and 813,805.  
For Ceramic Tile (Int. Cl. 19).  
First use September 1966.

SN 318,282. Alcoa Building Products, Inc., Pittsburgh, Pa. Filed Feb. 4, 1969.

**FORECAST**

For Metal Siding, Gutters, Downspouts, Roofing, Metal Fascia, Soffit, Shutters, and Flashing (Int. Cl. 6).  
First use at least as early as Jan. 13, 1968.

SN 321,839. Tucker Aluminum Products, Inc., Moultrie, Ga. Filed Mar. 14, 1969.

**SEAL-MASTER**

For Aluminum Window Units (Int. Cl. 6).  
First use Feb. 28, 1961.



SN 321,840. Tucker Aluminum Products, Inc., Moultrie, Ga. Filed Mar. 14, 1969.  
 SN 332,189. Illinois Tool Works Inc., Chicago, Ill. Filed July 9, 1969.

## PATIO MASTER

Applicant disclaims the word "Patio" apart from the mark as shown.  
 For Sliding Glass Doors (Int. Cl. 19).  
 First use Sept. 19, 1960.

SN 323,551. GAF Corporation, New York, N.Y. Filed Apr. 3, 1969.

## STRATALITE

For Laminated Mineral Construction Materials—Namely, Roofing and Siding Materials in Sheet and Shingle Form (Int. Cl. 19).  
 First use Mar. 19, 1969.

SN 324,873. American Stair Corp., Inc., McCook, Ill. Filed Apr. 18, 1969.

## SPEEDSTAIR

For Stair Assemblies and Parts Thereof (Int. Cl. 19).  
 First use Mar. 27, 1968.

SN 325,552. Midland Extrusions Limited, Birmingham, Warwick, England. Filed Apr. 25, 1969.

## SPANFAST

Owner of British Reg. No. B892,996, dated Apr. 12, 1966.  
 For Rolled and Extruded Metal Sections Used for Roofing Purposes (Int. Cl. 6).  
 First use May 1966; in commerce May 1966.

SN 326,612. Allancewall Corporation, Alliance, Ohio. Filed May 7, 1969.

## BELGRANO

For Porcelain Finish Metal Architectural Building Panels (Int. Cl. 6).  
 First use on or about Apr. 11, 1969.

SN 328,073. Products Filling and Packaging Co., Chicago, Ill. Filed May 22, 1969.

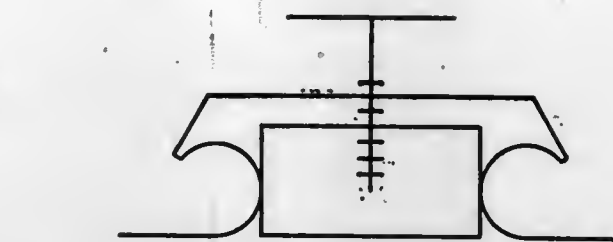
## PROFILPAK

For Mastic Cements and Caulks Sold in Cans, Tubes and Caulking Cartridges (Int. Cl. 17).  
 First use Oct. 8, 1965.

SN 329,978. Haugh's Products Limited, Toronto, Ontario, Canada. Filed June 13, 1969.



Owner of Canadian Reg. No. 161,968, dated Apr. 3, 1969.  
 For Above-Ground Swimming Pools (Int. Cl. 19).



For Pre-Pour Concrete Anchoring Insert (Int. Cl. 19).  
 First use on or before May 1, 1968.

SN 337,591. Sunco Manufacturing Company, Inc., Muskogee, Okla. Filed Sept. 10, 1969.

## SOLAR FLAIR

Applicant disclaims the word "Solar." Owner of Reg. No. 807,732.  
 For Aluminum Panel Solar Screen Used in Building Construction To Cover Walls and Windows (Int. Cl. 6).  
 First use February 1969.

SN 339,684. Simpson Timber Company, Seattle, Wash. Filed Oct. 3, 1969.

## MILANO

For Wood Doors for Interior and Exterior Use (Int. Cl. 19).  
 First use Jan. 13, 1969.

SN 348,834. General Refractories Company, Philadelphia, Pa. Filed Jan. 19, 1970.

## DIKLAD

For Refractory Brick for Use in Furnaces, Kilns, Ovens and the Like in the Metal, Glass, Cement and Like Industries (Int. Cl. 19).  
 First use Nov. 3, 1969.

SN 351,029. GAF Corporation, New York, N.Y. Filed Feb. 10, 1970.

## STRATA-PLY

For Roofing Felts (Int. Cl. 19).  
 First use on or about Jan. 5, 1970.

SN 351,386. Plaskolite, Inc., Columbus, Ohio. Filed Feb. 16, 1970.



For Rubber and Synthetic Resin Elastomeric Surfacing Materials for Tennis Courts and Other Recreational Areas (Int. Cl. 19).  
 First use Aug. 10, 1969.

SN 354,372. United States Steel Corporation, Pittsburgh, Pa. Filed Mar. 18, 1970.  
 SN 343,948. Consolidated Brass Company, Matthews, N.C. Filed Nov. 19, 1969.

## WE'RE INVOLVED

For Steel Structural Shapes (Int. Cl. 6).  
 First use Jan. 31, 1970.

## Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 321,661. The Lee Company, Westbrook, Conn. Filed Mar. 13, 1969.



For Hydraulic Inserts—Namely, Sealing Plugs, Flow Restrictors, Check Valves, Nozzles, and Other Components for Controlling the Flow of Fluids and Gases (Int. Cls. 6 and 17).  
 First use on or before June 30, 1967.

SN 321,664. The Lee Company, Westbrook, Conn. Filed Mar. 13, 1969.



For Hydraulic Inserts—Namely, Sealing Plugs (Int. Cl. 17).  
 First use on or before Jan. 1, 1964.

SN 333,978. Long's Fence Company, Incorporated, Gambrills, Md. Filed July 30, 1969.

## LONG'S

For Wire Enclosures (Int. Cl. 6).  
 First use 1944.

SN 339,528. Ampor Marine Corporation, Rochester, N.Y. Filed Oct. 2, 1969.

## ANCHOR AWAY

For Anchor Retractors (Int. Cl. 6).  
 First use at least as early as Feb. 21, 1968.

SN 343,755. Rockford Products Corporation, Rockford, Ill. Filed Nov. 17, 1969.



For Bolts (Int. Cl. 6).  
 First use Nov. 12, 1969.

## APOLLO

For Ball Valves (Int. Cl. 6).  
 First use Oct. 29, 1969.

SN 354,371. United States Steel Corporation, Pittsburgh, Pa. Filed Mar. 18, 1970.

## WE'RE INVOLVED

For Steel Pipes and Tubes (Int. Cl. 6).  
 First use Jan. 30, 1970.

## Class 14—Metals and Metal Castings and Forgings

SN 329,075. General Electric Company, East Cleveland, Ohio. Filed June 4, 1969.

## HOT SHOT

For Refractory Metals and Alloys for Use in Fabricating Into Die Casting Dies and Parts Thereof (Int. Cl. 6).  
 First use May 15, 1969.

## Class 15—Oils and Greases

SN 348,112. The Burmah Oil Company, Limited, London, England. Filed Jan. 9, 1970.

## BURMAH

For Hydraulic Oil (Int. Cl. 4).  
 First use Nov. 7, 1969; in commerce Nov. 7, 1969.

SN 349,151. The American Oil Company, Chicago, Ill. Filed Jan. 21, 1970.

## OUR CUSTOMERS ARE OUR WARMEST FRIENDS

For Fuel Oils for Heating and Cooking (Int. Cl. 4).  
 First use July 1, 1964.

SN 349,607. Ensign Products Company, Cleveland, Ohio. Filed Jan. 26, 1970.

## VERSATOIL

For Lubricating Oil and Penetrating Agent (Int. Cl. 4).  
 First use June 30, 1969.

SN 354,129. Cato Oil and Grease Co., Oklahoma City, Okla. Filed Mar. 16, 1970.

## MERIT

Owner of Reg. No. 524,266.  
 For Lubricating Oils and Greases (Int. Cl. 4).  
 First use Feb. 17, 1928.



SN 356,484. The Cincinnati Milling Machine Company, Cincinnati, Ohio. Filed Apr. 10, 1970.

## CINCINNATI

Owner of Reg. No. 612,130.  
For Fluid for Lubricating and Cooling in Metal Forming and Cutting (Int. Cl. 4).  
First use on or about Sept. 3, 1964.

SN 358,535. The American Oil Company, Chicago, Ill. Filed May 1, 1970.

## AMOMIST

For Lubricating Oils (Int. Cl. 4).  
First use May 15, 1967.

## Class 16—Protective and Decorative Coatings

SN 314,473. D. A. Stuart Oil Co., Limited, Chicago, Ill. Filed Dec. 13, 1968.

## DASCO RP

Owner of Reg. Nos. 524,061, 806,617, and others.  
For Rust Preventing Coating Compositions in Liquid Form for Depositing on Metal Surfaces (Int. Cl. 2).  
First use August 1957.

SN 335,855. The Egyptian Lacquer Manufacturing Company, Kearny, N.J. Filed Aug. 21, 1969.

## ENDURALAC

For Lacquers (Int. Cl. 2).  
First use September 1966.

SN 338,485. National Lead Company, New York, N.Y. Filed Sept. 22, 1969.



Owner of Reg. Nos. 62,136, 841,063, and others.  
For Paints (Int. Cl. 2).  
First use on or about Aug. 1, 1968.

SN 340,816. Penecrete Corporation, Denver, Colo. Filed Oct. 15, 1969.

## PENECLEAR

For Protective Penetrant for Treating Porous Concrete and Masonry Surfaces (Int. Cl. 2).  
First use on or about July 3, 1969.

SN 341,563. Yasutomo & Company, San Francisco, Calif. Filed Oct. 23, 1969.

## STUFF

For Finger Paints (Int. Cl. 2).  
First use Aug. 1, 1969.

SN 343,714. Insilco Corporation, Chicago, Ill. Filed Nov. 17, 1969.

## ONE BETTER

For Interior Paints (Int. Cl. 2).  
First use Sept. 23, 1969.

## Class 17—Tobacco Products

SN 320,241. T. E. Brooks & Co., Red Lion, Pa. Filed Feb. 27, 1969.

## LAS VEGAS

For Cigars (Int. Cl. 34).  
First use Feb. 13, 1969.  
Subj. to Intf. with SN 346,069.

SN 334,919. Brown & Williamson Tobacco Corporation, Louisville, Ky. Filed Aug. 11, 1969.

## LARAMIE

For Cigarettes (Int. Cl. 34).  
First use July 25, 1969.  
Subj. to Intf. with SN 333,918.

## Class 18—Medicines and Pharmaceutical Preparations

SN 305,953. Medco Lab, Inc., Sioux City, Iowa. Filed Aug. 26, 1968.

## MEDCO

For Pharmaceutical Preparation for Skin Care (Int. Cl. 5).  
First use August 1964.  
Subj. to Intf. with SN 302,348.

SN 321,274. Richardson-Merrell Inc., New York, N.Y. Filed Mar. 10, 1969.

## SUL-TROL-E

For Veterinary Preparation for Use as an Aid in Control of Bacterial Pneumonia and Dysentery Bacterial Enteritis Shipping Fever (Int. Cl. 5).  
First use Jan. 10, 1969.

SN 324,921. Laboratorio Chimico Farmaceutico Giorgio Zoja S.p.A., Milan, Italy. Filed Apr. 18, 1969.

## ETIBI

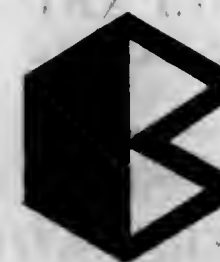
Owner of Italian Reg. No. 177,044, dated Mar. 18, 1966.  
For Antitubercular Preparation (Int. Cl. 5).

SN 325,242. USV Pharmaceutical Corporation, New York, N.Y. Filed Apr. 22, 1969.

## ACNECYCLINE

For Preparation for Treatment of Certain Dermatoses (Int. Cl. 5).  
First use Mar. 18, 1969.

SN 326,466. Boots Pure Drug Company Limited, Nottingham, England. Filed May 5, 1969.



Owner of British Reg. No. B906,830, dated Mar. 16, 1967.  
For Eye Ointments, Nasal Sprays, Antibiotics, Cortisone and Hydrocortisone, Diuretics, Prednisolone, Potassium Supplement, and Tranquillizers (Int. Cl. 5).

SN 326,484. Richardson-Merrell Inc., New York, N.Y. Filed May 6, 1969.

## COUNTRY CLEAR

For Medicated Preparations for Use in the Treatment of Acne, Pimples, and Other Skin Conditions (Int. Cl. 5).  
First use Feb. 26, 1969.

SN 326,918. Semi S.A., Geneva, Switzerland. Filed May 9, 1969.

## OGENYX

Owner of Swiss Reg. No. 228,602, dated Nov. 21, 1967.  
For Hydrogen Peroxide Primarily for Use as an Antiseptic and Disinfectant (Int. Cl. 5).

SN 331,783. Wayne Drug Co., Inc., Newark, N.Y. Filed July 3, 1969.

## HISCODENE

For Cough Remedy (Int. Cl. 5).  
First use on or about June 15, 1959.

SN 332,002. Edlaw Pharmaceuticals Incorporated, Glendale, N.Y. Filed July 8, 1969.

## HEMO-DIAL

For Pharmaceutical Concentrate for Hemodialysis (Int. Cl. 5).  
First use Oct. 1, 1967.

SN 332,080. Byk-Gulden, Inc., Hicksville, N.Y. Filed July 9, 1969.

## NUTRILYSIN

For Vitamins (Int. Cl. 5).  
First use Oct. 14, 1960.

SN 332,530. Smith, Miller & Patch, Inc., New York, N.Y. Filed July 14, 1969.

## SOLODOSE

For Ophthalmic Drops (Int. Cl. 5).  
First use June 20, 1969.

SN 337,034. Ford Laboratories, Inc., Moonachie, N.J. Filed Sept. 4, 1969.

## BIPPEES

For Chewable Multiple Vitamins (Int. Cl. 5).  
First use Aug. 8, 1969.

SN 337,095. The Purdue Frederick Company, Yonkers, N.Y. Filed Sept. 4, 1969.

## APOLLODINE

For Antiseptic Germicide (Int. Cl. 5).  
First use Sept. 2, 1969.

SN 338,109. American Cyanamid Company, Wayne, N.J. Filed Sept. 17, 1969.

## CYCOSTAT

For Preparation for the Treatment of Coccidiosis in Poultry (Int. Cl. 5).  
First use Sept. 5, 1969.

SN 339,417. Bristol-Myers Company, New York, N.Y. Filed Oct. 1, 1969.

## FIRST HOURS

For Sleep-Aid Tablets (Int. Cl. 5).  
First use Aug. 7, 1969.

SN 339,477. Yonkers Laboratories, Inc., Yonkers, N.Y. Filed Oct. 1, 1969.

## ASPER-CALM

For Tranquillizer Tablets (Int. Cl. 5).  
First use Sept. 18, 1969.

SN 339,478. Yonkers Laboratories, Inc., Yonkers, N.Y. Filed Oct. 1, 1969.

## ASPER-FEM

For Analgesic Tablets (Int. Cl. 5).  
First use Sept. 18, 1969.

SN 339,479. Yonkers Laboratories, Inc., Yonkers, N.Y. Filed Oct. 1, 1969.

## ASPER-RITIS

For Analgesic Tablets (Int. Cl. 5).  
First use Sept. 18, 1969.

SN 339,525. Zayre Corp., Natick, Mass. Filed Oct. 2, 1969.

## ZAYRE

For Medicinal Preparations—Namely, Aspirin, A.P.C., Milk of Magnesia, Saccharin, Pain Reliever, Vitamins, Boric Acid, Epsom Salt, Vitamin Ointment, First Aid Cream, Antiseptic Liquids, Calamine Lotion, Witch Hazel, Hydrogen Peroxide, and Mineral Oil (Int. Cl. 5).  
First use at least as early as September 1966.

SN 339,546. Bristol-Myers Company, New York, N.Y. Filed Oct. 2, 1969.

## EARLY HOURS

For Sleep-Aid Tablets (Int. Cl. 5).  
First use Aug. 7, 1969.

SN 339,625. Block Drug Company, Inc., Jersey City, N.J. Filed Oct. 2, 1969.

## REVELEE

For Medicinal Preparation—Namely, Stimulant and Analgesic (Int. Cl. 5).  
First use Sept. 15, 1969.



SN 340,629. USV Pharmaceutical Corporation, New York, N.Y. Filed Oct. 13, 1969.

**PERISPAN**

For Peripheral Vasodilator (Int. Cl. 5).  
First use Sept. 10, 1969.

SN 340,631. USV Pharmaceutical Corporation, New York, N.Y. Filed Oct. 13, 1969.

**VERTISPAN**

For Cerebral Vasodilator (Int. Cl. 5).  
First use Sept. 10, 1969.

SN 341,839. The Norwich Pharmacal Company, Norwich, N.Y. Filed Oct. 27, 1969.

**FUROX**

Owner of Reg. No. 587,238.  
For Veterinary Feed-Additive Medication Preparations (Int. Cl. 5).  
First use Sept. 23, 1969.

SN 341,897. Abbott Laboratories, North Chicago, Ill. Filed Oct. 28, 1969.

**SIL-DES**

For Growth Promotant for Use in Animals (Int. Cl. 5).  
First use Nov. 27, 1968.

SN 342,386. Alpine Geophysical Associates, Inc. Norwood, N.J. Filed Nov. 3, 1969.

**PROTOCURE**

For Drugs Useful for Treating Diseases of Fishes and Other Aquatic Animals (Int. Cl. 5).  
First use on or about Oct. 6, 1969.

SN 350,436. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 4, 1970.

**ANDROGESTIN**

Owner of Reg. No. 576,287.  
For Antineoplastic Agent (Int. Cl. 5).  
First use Nov. 17, 1969.

SN 350,549. Key Pharmaceuticals, Inc., Miami, Fla. Filed Feb. 5, 1970.

**PAVAKEY-SA**

For Papaverine Hydrochloride Capsules (Int. Cl. 5).  
First use Oct. 27, 1969.

SN 355,088. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Mar. 26, 1970.

**ORNACOL**

For Cough-Cold Preparation (Int. Cl. 5).  
First use Mar. 12, 1970.

SN 356,178. Syntex Laboratories, Inc., Palo Alto, Calif. Filed Apr. 7, 1970.

**FAPG**

For Topical Dermatological Preparation (Int. Cl. 5).  
First use Mar. 12, 1970.

SN 357,165. Elkins-Sinn, Inc., Cherry Hill, N.J. Filed Apr. 17, 1970.

**MEPARIN**

For Anticoagulants (Int. Cl. 5).  
First use Oct. 31, 1969.

SN 358,150. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 28, 1970.

**PERSUADE**

For Laxative (Int. Cl. 5).  
First use Mar. 31, 1970.

SN 358,151. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 28, 1970.

**NORMALIN**

For Non-Narcotic Tranquillizer (Int. Cl. 5).  
First use Mar. 31, 1970.

SN 358,398. The Upjohn Company, Kalamazoo, Mich. Filed Apr. 30, 1970.

**ANESTROL**

For Progestogen for Veterinary Use (Int. Cl. 5).  
First use Dec. 22, 1969.

SN 359,790. C. F. Kirk Laboratories, Inc., Hillside, N.J. Filed May 15, 1970.

**FLUORESCITE**

For Sterile Solution Generally Used Intravenously as an Aid to Visualize Abnormal Conditions in the Body and as a Means of Determining Circulation Time in the Blood (Int. Cl. 5).  
First use January 1941.

**Class 19—Vehicles**

SN 285,647. Cape Dory Co., Inc., West Bridgewater, Mass. Filed Nov. 27, 1967.

**CAPE DORY**

Applicant disclaims the word "Dory" and the representation of an oar, apart from the mark as shown.  
For Boats (Int. Cl. 12).  
First use September 1963.

SN 298,713. Eastwand Enterprises, Inc., Palmdale, Calif. Filed May 21, 1968.

**Bug BAR**

The word "Bar" apart from the mark as shown is disclaimed.  
For Automotive Appliances, Supplies, and Accessories—Namely, Tow Bars (Int. Cl. 12).  
First use on or about Mar. 1, 1968.

SN 308,721. Sumitomo Chemical Co., Ltd., Higashi-ku, Osaka, Japan. Filed Oct. 2, 1968.

**SUMIPEX**

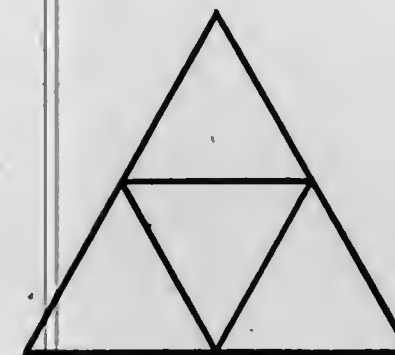
Priority claimed under Sec. 44(d) on Japanese application, filed Apr. 5, 1968; Reg. No. 849,403, dated Mar. 13, 1970.  
For Automobile and Aircraft Windshields and/or Windows (Int. Cl. 12).

SN 326,239. Koneta Rubber Company, Inc., Wapakoneta, Ohio. Filed May 2, 1969.

**NYRAGLAS**

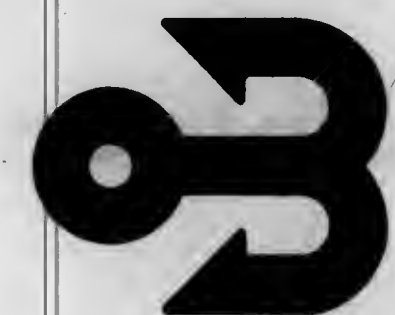
Owner of Reg. Nos. 706,755 and 713,426.  
For Splash Guards and Dock Bumpers, Both for Vehicles (Int. Cl. 12).  
First use Apr. 2, 1969.

SN 326,696. Tridon Limited, Burlington, Ontario, Canada. Filed May 7, 1969.



Owner of Canadian Reg. No. 127,029, dated June 29, 1962.  
For Automotive or Motor Vehicle Windshield Wipers (Int. Cl. 12).

SN 329,274. Santaconstancia Tecelagem S/A., Sao Paulo, Brazil. Filed June 5, 1969.



For Spars, Including Masts and Booms, for Racing Sailboats (Int. Cl. 12).  
First use Jan. 10, 1969; in commerce Jan. 10, 1969.

SN 329,425. Ansen Automotive Engineering, Gardena, Calif. Filed June 9, 1969.

**GROUND GRABBER**

For Traction Bar for Use With Leaf Springs Changing the Rear Wheel Suspension of a Vehicle (Int. Cl. 12).  
First use in or about March 1969.



For Stabilizers for Controlling Swaying Motions in Motor Cars, Motor Trucks, Motor Boats, and Airplanes (Int. Cl. 12).  
First use Dec. 27, 1968.

SN 334,797. ACF Industries, Incorporated, St. Charles, Mo. Filed Aug. 8, 1969.

**CENTER FLOW**

For Railway Freight Cars and Parts Thereof (Int. Cl. 12).  
First use on or about June 15, 1961.

SN 341,972. BTR Industries Limited, London, England. Filed Oct. 29, 1969.

**AEROLID**

Owner of British Reg. No. B919,466, dated Jan. 9, 1968.  
For Luggage Racks and Garment Racks and Covers Therefor, All Adapted for Use as Fittings in Aircraft (Int. Cl. 12).

SN 343,979. Instant Homes, Inc., Minneapolis, Minn. Filed Nov. 19, 1969.



The drawing is lined for the color red. Exclusive right to the use of the word "Homes," apart from the mark as shown is disclaimed.

For Mobile Homes (Int. Cl. 12).  
First use Apr. 22, 1969.

SN 346,970. Skamper, Incorporated, Bristol, Ind. Filed Dec. 22, 1969.

**SKAMPER**

Owner of Reg. No. 764,579.  
For Truckmount Campers and Nonfoldable Travel Trailers (Int. Cl. 12).  
First use January 1967, on truckmount campers.

SN 355,727. Advance Outboard, Inc., Seattle, Wash. Filed Apr. 2, 1970.



For Boats (Int. Cl. 12).  
First use April 1967.

SN 357,034. International Harvester Company, Chicago, Ill. Filed Apr. 16, 1970.

**CARGOSTAR**

For Motor Trucks (Int. Cl. 12).  
First use Feb. 19, 1970.



SN 357,760. Studebaker Southern, Inc., Lake Wales, Fla. Filed Apr. 23, 1970.

**HIGHLANDER**

For Mobile Homes (Int. Cl. 12).  
First use July 1968.

SN 358,038. Leisure Time Products, Inc., Nappanee, Ind. Filed Apr. 27, 1970.

**CASUAL**

For Truck Campers and Travel Trailers (Int. Cl. 12).  
First use August 1966.

**Class 20—Linoleum and Oiled Cloth**

SN 342,128. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed Oct. 30, 1969.

**BOUTONNIERE**

For Vinyl Asbestos Flooring (Int. Cl. 27).  
First use Aug. 14, 1969.

**Class 21—Electrical Apparatus, Machines, and Supplies**

SN 305,830. International Scanatron Systems Corp., Wyandanch, N.Y. Filed Aug. 23, 1968.

**SCANATRON**

For Graphic Communication Equipment and Supplies—Namely, Receiving and Terminal Equipment for Radio and Wirephotos and Teleprinters, Dual Diversity Teletype Receiving Console, Crystal Controlled Receiver and Teletype Driver, Ultrasonic Cleaner, Audio Frequency Shift Converter, and HF/VHF Crystal Controlled Receiver (Int. Cl. 9).  
First use Mar. 25, 1968.

SN 305,924. Compagnie Generale d'Electricite, Paris, France. Filed Aug. 26, 1968.

**FLUOBLOC**

Owner of French Reg. No. 528,916, dated Mar. 9, 1965 (Seine); Natl. Inst. No. 242,625.  
For Circuit Breakers and Parts Thereof (Int. Cl. 9).

SN 313,252. Applied Materials Technology, Inc., Santa Clara, Calif. Filed Nov. 29, 1968.

**applied materials**

For Chemical Vapor Deposition Reactors and Components Thereof (Int. Cl. 9).  
First use Apr. 23, 1968.

SN 320,097. Stelma Incorporated, Stamford, Conn. Filed Feb. 25, 1969.

**PORTACOM**

For Portable Data Terminals and Modems (Int. Cl. 9).  
First use Dec. 18, 1968.

SN 321,369. S S Systems, Inc., Bridgeport, W. Va. Filed Mar. 11, 1969.

**INSTA-LOCK**

For Electric Burglar Alarm Systems (Int. Cl. 9).  
First use Feb. 22, 1969.

SN 323,576. MKC Electronics Corporation, Kansas City, Kans. Filed Apr. 3, 1969.

**CONTROL PLUS**

For Electrical Counting Apparatus and Parts and Components Thereof (Int. Cl. 9).  
First use Dec. 10, 1968.

SN 327,062. Six S.A.S. Di Chialbergo Primo & C., Turin, Italy. Filed May 12, 1969.

**NUL-FLUX**

Priority claimed under Sec. 44(d) on Italian application, filed Mar. 11, 1969; Reg. No. 237,633, dated May 28, 1969.  
For Electrical and Electronic Apparatus for Magnetizing and Demagnetizing the Following: Workpieces, Chucks and Work Tables for Machine Tools (Int. Cl. 9).

SN 331,622. Indecor, Inc., Milford, Conn. Filed July 2, 1969.

**MILFORD GUILD**

For Floor, Table, and Wall Lamps (Int. Cl. 20).  
First use September 1968.

SN 333,717. Intech Incorporated, Santa Clara, Calif. Filed July 28, 1969.

**intech**

For Analog Modular Products, Consisting of Operational Amplifiers, Chopper Stabilized Amplifiers, Instrumentation Amplifiers and Power Supplies, and Communications Equipment, Consisting of Marine Radio Transceivers and Parts and Accessories Thereof (Int. Cl. 9).  
First use June 6, 1969.

SN 337,533. Food Inc., Cambridge, Mass. Filed Sept. 10, 1969.

**Balkan**

For Electric Yogurt Maker for Domestic Use (Int. Cl. 11).  
First use Feb. 8, 1961.

SN 339,794. McGraw Edison Company, Elgin, Ill. Filed Oct. 6, 1969.

**FEED-THRU**

For Junction Box as Part of a Lighting Fixture (Int. Cl. 11).  
First use Sept. 10, 1969.

SN 340,792. IMS Corporation, Albuquerque, N. Mex. Filed Oct. 15, 1969.

**LUNA LITE**

Applicant disclaims exclusive rights to the term "Lite" apart from the mark as shown.  
For Ultra-Violet Light Fixtures (Int. Cl. 11).  
First use July 15, 1969.

SN 342,231. Computervision Corporation, Waltham, Mass. Filed Oct. 31, 1969.

**INTERGRAPHIC**

For Interactive and Multi-Media Computer Graphics Terminals (Int. Cl. 9).  
First use July 1969.

SN 344,266. Texas Instruments Incorporated, Dallas, Tex. Filed Nov. 21, 1969.

**SILECT**

For Plastic Encapsulated Transistors and Semiconductor Devices (Int. Cl. 9).  
First use as early as Aug. 15, 1968.

SN 344,308. American Gage & Machine Company, Elgin, Ill. Filed Nov. 24, 1969.

**STAN-PAD**

Owner of Reg. No. 795,091.  
For Electric Transformers, and Parts Thereof (Int. Cl. 9).  
First use Aug. 1, 1969.

SN 348,179. RJ Communication Products, Inc., Phoenix, Ariz. Filed Jan. 9, 1970.

**SUPERTAP**

For Cable Television Couplers and Directional Couplers (Int. Cl. 9).  
First use Aug. 27, 1969.

SN 348,329. Princeton Electronic Products, Inc., Princeton, N.J. Filed Jan. 12, 1970.

**LITHOCON**

For Electrical Storage Tubes (Int. Cl. 9).  
First use May 3, 1969.

SN 349,669. Motorola, Inc., Franklin Park, Ill. Filed Jan. 26, 1970.

**DIONIC**

For Radiation Hardened Semiconductors—Namely, Transistors and Diodes and Radiation Hardened Integrated Circuits (Int. Cl. 9).  
First use at least as early as Oct. 24, 1969.

**VIDEOROVER**

For Video Tape Recorders (Int. Cl. 9).  
First use Apr. 30, 1968.

SN 350,935. Metex Corporation, Edison, N.J. Filed Feb. 9, 1970.

**PORCUPINE**

For Radio Frequency Interference Shielding Material (Int. Cl. 17).  
First use January 1964.

SN 351,103. Berk-Tek Inc., Reading, Pa. Filed Feb. 11, 1970.

**VYLEX**

For Insulation for Electrical Wire (Int. Cl. 17).  
First use July 3, 1969.

SN 351,569. Troy Industries, Inc., Chicago, Ill. Filed Feb. 16, 1970.

**CYCLOMATIC**

For Reversing Switch Assemblies (Int. Cl. 9).  
First use Aug. 19, 1965.

SN 351,614. General Electric Company, Schenectady, N.Y. Filed Feb. 17, 1970.

**THYMOTROL**

For Electronic Tube Apparatus for Controlling the Starting, Running and Stopping of Electric Motors (Int. Cl. 9).  
First use as early as April 1941.

SN 351,669. American Sign & Indicator Corporation, Spokane, Wash. Filed Feb. 18, 1970.

**DIAL-A-SIGN**

For Electrically Operated Display Signs and Controls (Int. Cl. 9).  
First use Jan. 19, 1970.

SN 351,719. PRD Electronics, Inc., Syosset, N.Y. Filed Feb. 18, 1970.

**POLYOHM**

For Electrical Resistors (Int. Cl. 9).  
First use in or about July 1955.

SN 354,240. Textron Incorporated, Providence, R.I. Filed Mar. 16, 1970.

**ALPHAMET**

For Electrodes (Int. Cl. 9).  
First use Feb. 11, 1970.

SN 346,355. ARC-CO Incorporated, Bridgeport, Conn. Filed Dec. 16, 1969.

**ARC-CO**

Owner of Reg. Nos. 871,603 and 871,662.  
For Electrical Conduit Boxes (Int. Cl. 9).  
First use Nov. 2, 1966.



SN 356,919. Natvar Corporation, Woodbridge, N.J. Filed Apr. 15, 1970.

**POLYTEMP**

For Electrical Insulation Material in Sheet and Tape Form (Int. Cl. 17).  
First use Feb. 11, 1970.

SN 357,032. Fedtro, Inc., Rockville Centre, N.Y. Filed Apr. 16, 1970.

**PROTECT-O-MATIC**

Owner of Reg. No. 888,584.  
For Battery-Operated Personal Alarms, Electric Automobile Ignition Guards and Automobile Door Warning Signal Lights (Int. Cls. 9 and 11).  
First use Nov. 12, 1969.

**Class 22—Games, Toys, and Sporting Goods**

SN 292,904. Carpento Manufacturing Ltd., Victoria, British Columbia, Canada, assignee of Fred Francis, d.b.a. Carpento Manufacturing Co., Victoria, British Columbia, Canada. Filed Mar. 11, 1968.

***Carpento***

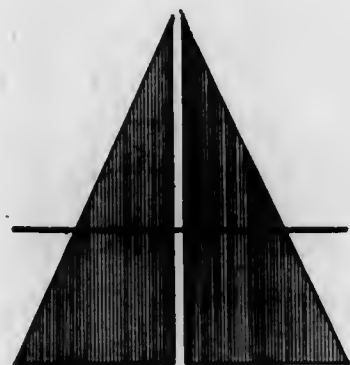
Priority claimed under Sec. 44(d) on Canadian application, filed Sept. 9, 1967; Reg. No. 160,904, dated Jan. 31, 1969.  
For Children's Toy Building Sets, Including Tools and Accessories Therefor (Int. Cl. 28).

SN 297,559. Gladding Corporation, South Otselic, N.Y. Filed May 7, 1968.

**BLUE CATFISH**

For Fishing Lines (Int. Cl. 28).  
First use August 1956.

SN 303,976. Axaline, Inc., Inglewood, Calif. Filed July 31, 1968.



The drawing is lined for the color red but the color red is not claimed as a part of the mark.  
For Golf Equipment—Namely, Golf Clubs, Golf Putters, and Golfing Woods (Int. Cl. 28).  
First use on or before Mar. 31, 1966.

SN 304,407. Susie's Friends, New York, N.Y. Filed Aug. 5, 1968.

**A FRIENDLY**

For Stuffed Doll and Animal Figures (Int. Cl. 28).  
First use July 26, 1968.

SN 312,583. Falk Felix Gottschalkson, Los Angeles, Calif. Filed Nov. 19, 1968.

**NUMBER JACK**

Applicant disclaims the word "Number" apart from the mark as shown.  
For Puzzles Using Numbers for Answers Instead of Words and Equipment (or Apparatus) Sold as Units for Playing Board, Card or Similar Type Parlor Games (Int. Cl. 28).  
First use 1941.

SN 313,565. Falls Resources Corporation, Jamaica, N.Y. Filed Dec. 4, 1968.

**GRAND SLAM**

For Tennis Rackets (Int. Cl. 28).  
First use Nov. 1, 1968.

SN 322,160. Franklin Sports Industries, Inc., Brockton, Mass. Filed Mar. 19, 1969.

***"The Backhander"***

For Baseball Gloves (Int. Cl. 28).  
First use July 1968.

SN 322,191. Ginny Scott, d.b.a. Creative Communications & Research, San Francisco, Calif. Filed Mar. 19, 1969.

**OH PEG IT**

No claim is made for the word "Peg" apart from the mark as shown.  
For Equipment (or Apparatus) Sold as a Unit for Playing a Board-Type Parlor Game (Int. Cl. 28).  
First use Feb. 15, 1969.

SN 323,949. Flexi-Mat Corporation, Chicago, Ill. Filed Apr. 8, 1969.

***Flexi-Turf***

For Golf Practice Mat (Int. Cl. 28).  
First use Jan. 10, 1969.

SN 331,868. Columbia Industries, Inc., San Antonio, Tex. Filed July 7, 1969.

***Striker***  
**300**

For Bowling Balls (Int. Cl. 28).  
First use Apr. 23, 1969.  
Subj. to Intf. with SN 325,335.

SN 337,488. Larson Industries, Inc., Minneapolis, Minn. Filed Sept. 10, 1969.

***Bankun***

For Pool Tables, Billiard Tables, and Parts and Accessories for the Foregoing; and Table Tennis Tables, and Parts and Accessories Therefor (Int. Cl. 28).  
First use in or about December 1946 on table tennis tables.

SN 338,318. Mattel, Inc., Hawthorne, Calif. Filed Sept. 19, 1969.

**DOTTIE DRAW-A-PICTURE**

Applicant makes no claim to exclusive rights in the words "Draw-A-Picture" apart from the mark.  
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use Aug. 14, 1969.

SN 342,177. Jon Pickerell, Wichita, Kans. Filed Oct. 30, 1969.

**LIBATION**

For Equipment Sold as a Unit for Playing a Board Game (Int. Cl. 28).  
First use Sept. 23, 1969.

SN 351,760. Kusan, Inc., Nashville, Tenn. Filed Feb. 19, 1970.

**RAMROD**

For Children's Toys—Namely, Gun and Holster Sets (Int. Cl. 28).  
First use Feb. 11, 1969.  
Subj. to Intf. with SN 339,096.

SN 358,378. Mattel, Inc., Hawthorne, Calif. Filed Apr. 30, 1970.

**BRAIN DRAIN**

For Puzzle Comprised of a Multiplicity of Parts Adapted To Be Arranged in Specific Designs (Int. Cl. 28).  
First use Feb. 17, 1970.

**BABY TICKLES**

No claim of exclusive right is made to the word "Baby" apart from the mark.  
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use Feb. 26, 1970.

SN 358,380. Mattel, Inc., Hawthorne, Calif. Filed Apr. 30, 1970.

**WORLD O' FUN**

For Kit Containing a Plurality of Dolls (Int. Cl. 28).  
First use Feb. 26, 1970.

SN 358,381. Mattel, Inc., Hawthorne, Calif. Filed Apr. 30, 1970.

**FLIPPITY-FLOPPITY**

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use Feb. 26, 1970.

SN 358,382. Mattel, Inc., Hawthorne, Calif. Filed Apr. 30, 1970.

**FIRE-EATER**

For Toy Automobile (Int. Cl. 28).  
First use Feb. 27, 1970.

SN 358,383. Mattel, Inc., Hawthorne, Calif. Filed Apr. 30, 1970.

**STRAIGHT SCOOP**

For Toy Automobile (Int. Cl. 28).  
First use Feb. 27, 1970.

SN 358,384. Mattel, Inc., Hawthorne, Calif. Filed Apr. 30, 1970.

**HEAD HUNTER**

For Toy Automobile (Int. Cl. 28).  
First use Feb. 27, 1970.

SN 358,385. Mattel, Inc., Hawthorne, Calif. Filed Apr. 30, 1970.

**HIP HUGGER**

For Toy Automobile (Int. Cl. 28).  
First use Feb. 27, 1970.

SN 358,386. Mattel, Inc., Hawthorne, Calif. Filed Apr. 30, 1970.

**SPEED BOX**

For Toy Battery Charger for Toy Automobiles (Int. Cl. 28).  
First use Mar. 10, 1970.

SN 358,388. Mattel, Inc., Hawthorne, Calif. Filed Apr. 30, 1970.

**BOLD BREED**

For Toy Automobiles (Int. Cl. 28).  
First use Mar. 10, 1970.



SN 358,505. Mattel, Inc., Hawthorne, Calif. Filed May 1, 1970. SN 317,597. Morrell Company, Troy, Mich. Filed Jan. 27, 1969.

**HOBO HAULER**

For Toy Automobile Camper (Int. Cl. 28).  
First use Mar. 10, 1970.

**Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof**

SN 305,122. The Gates Rubber Company, Denver, Colo. Filed Aug. 14, 1968.

**PolyTrac**

For Vehicle Endless Tracks (Int. Cl. 12).  
First use May 10 1968.

SN 309,470. North American Rockwell Corporation, Pittsburgh, Pa. Filed Oct. 11, 1968.

**DIESELPAC**

Owner of Reg. No. 388,837.  
For Replacement Units for Oil Refining Devices for Diesel Engines (Int. Cl. 7).  
First use Mar. 27, 1940.

SN 311,543. Willy Sauter KG, Metzingen, Wurttemberg, Germany. Filed Nov. 8, 1968.



Owner of German Reg. No. 764,049, dated Sept. 30, 1961.  
For Machine Tools and Components of Machine Tools—Namely, Copying Lathes, Milling Machines, Boring Apparatus, and Copying Attachments for Such Machine Tools; Fluid Pumps; Hydraulic Valves; and Hydraulic Drive Units (Int. Cl. 7).

SN 313,015. Murray Company of Texas, Inc., d.b.a. Boston Gear Works, Pittsburgh, Pa. Filed Nov. 25, 1968.

**300 SERIES**

Owner of Reg. No. 622,151.  
For Speed Reducers (Int. Cl. 7).  
First use Oct. 7, 1968.

SN 313,030. Carter-Day Company, Minneapolis, Minn., assignee of Seedburo Equipment Company, Chicago, Ill. Filed Nov. 25, 1968.

**STRAND**

For Samplers—Namely, Devices for Dividing, Separating and Sampling Material From a Free Flowing Stream Thereof (Int. Cl. 7).  
First use October 1963.



The drawing is lined for the color red, but color is not claimed as an integral part of the mark. The lining comprises a stylized letter "M."  
For Hydraulic and Pneumatic Valves and Motors (Int. Cl. 7).  
First use June 1967.

SN 317,598. Murray Company of Texas, Inc., d.b.a. Boston Gear Works, Pittsburgh, Pa. Filed Jan. 27, 1969.

**BOSTONE**

Owner of Reg. Nos. 522,911, 837,074, and others.  
For Cylindrical, Plain Sleeve, Flange, Spherical, Thrust, Roll End and Roller Plastic Bearings and Multi-Jaw Couplings (Int. Cl. 7).  
First use Nov. 22, 1968.

SN 323,094. The Fellows Gear Shaper Company, Springfield, Vt. Filed Mar. 28, 1969.

**MULTIFLOW**

For Machines for Forming Metal by a Flowing Action Induced by Pressure (Int. Cl. 7).  
First use on or about Mar. 20, 1969.

SN 324,410. Clyde Corporation, Troy, Mich. Filed Apr. 14, 1969.



For Conveyor Line and Associated Automatic Work Stations (Int. Cl. 7).  
First use 1969.

SN 324,616. Yamauchi Rubber Industry Co., Ltd., Osaka, Japan. Filed Apr. 15, 1969.

**HIGH TOP ROLL**

The word "Roll" is disclaimed apart from the mark as a whole.  
For Press Parts—Namely, Press Rolls for Paper Machines, Textile Machines, and Metal Working Machines (Int. Cl. 7).  
First use February 1969; in commerce Mar. 14, 1969.

SN 326,853. Compressed Air Service Company, Dayton, Ohio. Filed May 9, 1969.

**AIRSERV**

For Fluid Operated Cylinders, and Air Exhaust Mufflers for Silencing Noise on Air Operated Equipment (Int. Cl. 7).  
First use Nov. 7, 1968.

SN 329,892. Rockland, Inc., Winter Garden, Fla. Filed June 12, 1969. SN 340,033. Netzsch Mohnpumpen GmbH, Selb, Bavaria, Germany. Filed Oct. 7, 1969.

**ROCKLAND**

Owner of Reg. Nos. 634,549 and 860,017.  
For Machines for Spreading Bulk Materials Such as Cement and the Like, and Parts Thereof (Int. Cl. 7).  
First use Apr. 4, 1969.

SN 330,731. Galaxy Wedgebore Corp., Farmington, Mich. Filed June 23, 1969.

**WEDGEBORE**

For Boring Bars, Cutting Blades and Boring Bar Heads (Int. Cl. 7).  
First use on or before Jan. 16, 1967.

SN 331,739. Forster Mfg. Co., Inc., Wilton, Maine. Filed July 3, 1969.

**HOSTESS**

For Plastic Forks, Knives and Spoons (Int. Cl. 8).  
First use June 1967.

SN 332,483. Ingersoll-Rand Company, New York, N.Y. Filed July 14, 1969.

**CYCLO-FLO**

For Centrifugal Pump (Int. Cl. 7).  
First use Aug. 26, 1968.

SN 333,285. Mes-Dan, Salo, Brescia, Italy. Filed July 23, 1969.

**UNIRAPID**

Owner of Italian Reg. No. 233,368, dated Nov. 25, 1968.  
For Textile Knotting Machines (Int. Cl. 7).

SN 335,689. Diemould Service Company Limited, High Wycombe, Bucks, England. Filed Aug. 19, 1969.



For Ejector Pins for Die Casting Molds (Int. Cl. 7).  
First use Aug. 20, 1964; in commerce Aug. 1, 1967.

SN 338,530. Bernardi Bros., Inc., Harrisburg, Pa. Filed Sept. 22, 1969.

**TURBO-BRUSH**

For Automatic Vehicle Washing Installations (Int. Cl. 7).  
First use Oct. 13, 1968.

SN 338,812. Ro Be T Mfg. Co., Inc., Union City, Ind. Filed Sept. 24, 1969.

**FLY-HI-WASH**

For Self-Contained Mobile Spray Washing Unit for Washing, Cleaning, Degreasing, Deicing, and Waxing Airplanes and Other Vehicles (Int. Cl. 7).  
First use June 1, 1969.

**NEMO**

Owner of German Reg. No. 855,133, dated Oct. 16, 1968.  
For Pumps—Namely, Worm Pumps (Int. Cl. 7).

SN 345,241. George Hartley & Sons Limited, Manchester, England. Filed Dec. 4, 1969.

**KOLECTASET**

For Collating Machines and Parts Thereof (Int. Cl. 7).  
First use July 1967; in commerce May 1968.

SN 348,666. Kabushiki Kaisha Hamada Insatuki Seizosho, d.b.a. Hamada Printing Press Mfg. Co., Ltd., Osaka-shi, Osaka-fu, Japan. Filed Jan. 15, 1970.

**HAMADA STAR**

For Printing Machine, Printing Press Machine (Offset Press Machine) (Int. Cl. 7).  
First use Sept. 1, 1966; in commerce Nov. 10, 1966.

SN 349,397. Springwater Mfg. Co., Inc., Springwater, N.Y. Filed Jan. 22, 1970.

**SMC**

For Combination Punching, Pressing, Shearing, and Bending Machines (Int. Cl. 7).  
First use on or about Sept. 11, 1969.

SN 349,413. Wrap-O-Matic Machinery Company Limited, Scarborough, Ontario, Canada. Filed Jan. 22, 1970.



For Shrink Packaging Machines, and Bag Closing Machines (Int. Cl. 7).  
First use March 1968; in commerce March 1968.

SN 349,466. Illinois Iron & Bolt Co., Carpentersville, Ill. Filed Jan. 23, 1970.

**LAND BLASTER 716**

For Plowshares (Int. Cl. 7).  
First use at least as early as Dec. 15, 1969.

SN 350,124. SCM Corporation, New York, N.Y. Filed Jan. 30, 1970.

**COUGAR**

For Typewriters (Int. Cl. 16).  
First use June 30, 1969.

SN 350,200. American Coldset Corporation, Dallas, Tex. Filed Feb. 2, 1970.

**TURBO-CORE**

For Core Barrels for Oil Well Drilling (Int. Cl. 7).  
First use Nov. 25, 1969.



SN 350,299. Reiff & Nestor Company, Lykens, Pa. Filed Feb. 2, 1970.

**CONIT**

For Cutting Taps (Int. Cl. 8).  
First use July 24, 1966.

SN 350,303. Reiff & Nestor Company, Lykens, Pa. Filed Feb. 2, 1970.

**PENTA**

For Cutting Taps (Int. Cl. 8).  
First use July 1, 1965.

SN 350,863. Automated Packaging Systems, Inc., Twinsburg, Ohio. Filed Feb. 9, 1970.

**ZIP-MATIC**

For Machines for Forming Plastic Enclosures for Collated Materials Inserted Therein (Int. Cl. 7).  
First use at least as early as May 8, 1969.

SN 350,982. U.S. Promoter Sales Corporation, Brownsville, Tex. Filed Feb. 9, 1970.

**GOLD MEDAL**

For Typewriters (Int. Cl. 16).  
First use Dec. 4, 1969.

SN 351,052. Donald W. Olsen, d.b.a. Automatic Samplers, Lebanon, Oreg. Filed Feb. 10, 1970.

**HYDRAGARD**

For Automatic Liquid Sampler Which Takes a Small Sample From Free Flowing Liquid at Adjustable Intervals (Int. Cl. 7).  
First use June 16, 1969.

SN 351,141. Oriental Chain Kogyo Kabushiki Kaisha (Oriental Chain Mfg. Co., Ltd.), Jingujimachi, Kanazawa, Japan. Filed Feb. 11, 1970.

**OCM**

For Roller Chains, Sprockets and Worm Gear Speed Reducers (Int. Cl. 7).  
First use on or about Sept. 15, 1947; in commerce on or about May 18, 1951.

SN 351,479. Kahr Bearing Corporation, Burbank, Calif. Filed Feb. 16, 1970.

**KAHR-LON**

For Self-Aligning Spherical, Rod End and Cylindrical Aircraft High Load Bearings (Int. Cl. 12).  
First use Jan. 20, 1970.

SN 352,862. Rosco Manufacturing Company, Minneapolis, Minn. Filed Mar. 2, 1970.

**HYDRA-SWEEP**

For Self-Propelled Street Broom or Sweeper (Int. Cl. 7).  
First use June 18, 1969.

SN 357,680. Fuller Company, Catasauqua, Pa. Filed Apr. 23, 1970.

**GRIDUCTOR**

For Machines for Use in Standard Sewage Disposal Plants for Grinding and Comminuting Sewage Solids, and Parts Thereof (Int. Cl. 7).  
First use on or about May 5, 1939.

SN 358,236. Dynamic Fluid Power Co., Winona, Minn. Filed Apr. 29, 1970.

**SKY/DRAULIC**

For Hydraulic Cranes (Int. Cl. 7).  
First use Mar. 7, 1969.

**Class 24 — Laundry Appliances and Machines**

SN 315,285. Zeolux Corporation, Greenville, S.C. Filed Dec. 28, 1968.

**LAUNDERAMA**

For Laundry Equipment—Namely, Coin Operated Washing Machines and Dryers for Institutional and Home Use (Int. Cl. 7).  
First use 1961.

SN 343,171. Sentry Hardware Corporation, Cleveland, Ohio. Filed Nov. 10, 1969.

**SENTRY**

Owner of Reg. Nos. 764,970, 865,167, and others.  
For Ironing Board Pads and Covers, Laundry Bags, Clothes Pin Bags, Laundry Cart Liners, Washing Machine Bags, and Similar Laundry Accessories (Int. Cl. 21).  
First use May 27, 1969.

**Class 25 — Locks and Safes**

SN 342,783. Kokusan Kinzoku Kogyo Kabushiki Kaisha, Ota-ku, Tokyo, Japan. Filed Nov. 5, 1969.



Owner of Japanese Reg. No. 552,667, dated July 6, 1960.  
For Locks and Keys (Int. Cl. 6).

SN 343,502. John D. Brush & Co., Inc., Rochester, N.Y. Filed Nov. 14, 1969.

**SENTRYBOX**

Owner of Reg. No. 652,712.  
For Fire and Theft Resistive Safes and Record Containers (Int. Cl. 6).  
First use Since July 25, 1969.

**Class 26 — Measuring and Scientific Appliances**

SN 344,942. Albert Lins, Kusnacht, Zurich, Switzerland. Filed Dec. 1, 1969.

SN 288,976. Nitro Nobel Aktiebolag, Nora, Sweden. Filed Jan. 16, 1968.



Owner of Swedish Reg. No. 118,579, dated Jan. 13, 1967.  
For Recording Instruments for Recording Ground Vibrations and Testing Equipment for Detonating Systems (Int. Cl. 9).

SN 303,783. Deutsche Lectron Gesellschaft mit beschränkter Haftung Produktions- und Entwicklungsgesellschaft & Co., Munich, Germany, assignee of Egger Bahn GmbH & Co. KG, Munich, Germany. Filed July 29, 1968.



For Educational Science Set or Kit Comprising Electronic Blocks for Conducting Experiments and Demonstrating Basic Electronic Principles (Int. Cl. 9).  
First use September 1967; in commerce September 1967.

SN 316,655. Kabushiki Kaisha Cosina, Nakano-ku, Tokyo, Japan. Filed Jan. 15, 1969.

**HI-LITE**

For Photographic Camera (Int. Cl. 9).  
First use May 1, 1968; in commerce May 1, 1968.

SN 324,677. Beckman Instruments, Inc., Fullerton, Calif. Filed Apr. 16, 1969.

**CENTURY**

For pH Measuring Instruments (Int. Cl. 9).  
First use August 1968.

SN 325,359. Honeywell Inc., Minneapolis, Minn. Filed Apr. 23, 1969.

**PRESSMASTER**

For Electronic Photographic Flash Lamps (Int. Cl. 9).  
First use at least as early as September 1968.

SN 325,950. Becton, Dickinson and Company, East Rutherford, N.J. Filed Apr. 30, 1969.

**TRANDEX**

For Applicator, Glass Slide and Tube for Collection and Transportation of Biological Specimens for Laboratory Examination (Int. Cl. 9).  
First use on or about Aug. 29, 1968.



The drawing is lined for the colors red, blue and purple. Priority claimed under Sec. 44(d) on Swiss Reg. No. 238,676, dated May 30, 1969.

For Central Heating Equipment and Heating Control Apparatus—Namely, Automatic Controllers for Controlling Temperature, Pressure, Liquid Level, Rate of Flow, and Like Variables (Int. Cl. 9).

SN 347,515. Kem Electronic Mechanic Corporation, New York, N.Y. Filed Dec. 31, 1969.



For Film Editing Machines (Int. Cl. 9).  
First use July 1969.

SN 349,358. Information Technology, Inc., Pennsauken, N.J. Filed Jan. 22, 1970.

**COMTAR**

For Electronic Cash Register (Int. Cl. 9).  
First use Dec. 9, 1969.

SN 351,693. Expedite Manufacturing Corporation, Keene, N.H. Filed Feb. 18, 1970.

**EXPEDATA**

For Punched Paper Tape Reading Mechanism (Int. Cl. 9).  
First use Oct. 23, 1969.

SN 353,046. EG & G, Inc., Bedford, Mass. Filed Mar. 4, 1970.

**MULTROMETER**

For Electric Measuring Instrument (Int. Cl. 9).  
First use in or about April 1968.

SN 353,600. Tokheim Corporation, Fort Wayne, Ind. Filed Mar. 9, 1970.

**TOPS**

For Fuel Measuring and Dispensing Apparatus (Int. Cl. 9).  
First use at least as early as July 18, 1969.

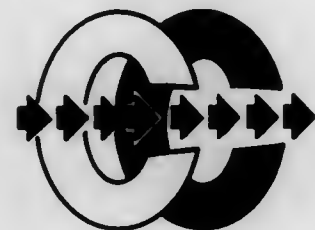


SN 354,019. Neefe Optical Lab, Big Spring, Tex. Filed Mar. 13, 1970. SN 332,638. Warren W. Welch, Colorado Springs, Colo. Filed July 15, 1969.

**PANOFOCAL**

For Ophthalmic Lenses (Int. Cl. 9).  
First use Jan. 19, 1970.

SN 354,401. Coulter Electronics, Inc., Hialeah, Fla. Filed Mar. 18, 1970.



Owner of Reg. Nos. 709,046, 839,801, and others.  
For Particle Counting, Study and/or Analyzing Apparatus for the Biological and Industrial Field, Apparatus for Hematological Study and Analysis (Int. Cl. 9).  
First use on or about Dec. 20, 1965.

**Class 27—Horological Instruments**

SN 305,209. Cyma Watch Co. S.A., La Chaux-de-Fonds, Switzerland. Filed Aug. 15, 1968.



For Watches, Watch Parts, and Alarm Clocks (Int. Cl. 14).  
First use in 1955; in commerce in 1955.

SN 332,297. Waltham Watch Company, Chicago, Ill. Filed July 11, 1969.

**MAVERICK**

For Watches (Int. Cl. 14).  
First use June 26, 1969.  
Subj. to Intf. with SN 332,638.

**Class 28—Jewelry and Precious-Metal Ware**

SN 329,379. Owl's Head Jewelry Corporation, Hicksville, N.Y. Filed June 6, 1969.



For Articles of Jewelry—Namely, Medals, Rings, Bracelets, Pins, Clips, and Charms (Int. Cl. 14).  
First use May 12, 1969.



For Jewelry (Int. Cl. 14).  
First use Apr. 30, 1969.  
Subj. to Intf. with SN 332,297.

SN 348,912. Maurice Duchin, Inc., New York, N.Y. Filed Jan. 19, 1970.

**MAYFLOWER**

For Sterling Silver Holloware (Int. Cl. 14).  
First use Dec. 31, 1969.

**Class 30—Crockery, Earthenware, and Porcelain**

SN 322,442. Interpace Corporation, d.b.a. Shenango China, New Castle, Pa. Filed Mar. 21, 1969.

**MAGNA**

For China Dinnerware (Int. Cl. 21).  
First use Nov. 11, 1968.

SN 333,803. American Commercial Incorporated, Los Angeles, Calif. Filed July 29, 1969.

**PREMIERE**

For China Dinnerware (Int. Cl. 21).  
First use May 16, 1969.

SN 334,546. Bovano Industries, Incorporated, Cheshire, Conn. Filed Aug. 6, 1969.

**BOVANO**

Owner of Reg. No. 688,752.  
For Articles Made by Fusing Glass and Porcelain on Metal, Such as Copper—Namely, Bowls, Plates and the Like (Int. Cl. 21).  
First use on or about Mar. 18, 1958.

**Class 31—Filters and Refrigerators**

SN 296,777. Standard Oil Company, Flemington, N.J. Filed Apr. 29, 1968.

**EXXON**

For Oil Filters and Oil Filter Elements (Int. Cl. 11).  
First use Apr. 17, 1968.

**Class 33—Glassware**

SN 314,429. L'Etain a la Rose, Nangis, France. Filed Dec. 13, 1968.



"L'Etain a la Rose" means "the pewter of the rose." Owner of U.S. Reg. No. 872,429.

For Kitchenware Made of Glass—Namely, Glass Drinking Receptacles, Crockery, Spice Containers, Ice Pails, Carafes, Bottles, Coffee Pots, Tea Pots, Vases, Salt Cellars, Pepper Pots, Jars, and Sugar Bowls (Int. Cl. 21).  
First use July 1962; in commerce Sept. 7, 1964.

**Class 34—Heating, Lighting, and Ventilating Apparatus**

SN 337,723. Sun Sauna Health Center, Inc., Arnold, Pa. Filed Sept. 11, 1969.

**SUN SAUNA**

No claim is made to the word "Sauna" apart from the mark as shown.

For Prefabricated Sauna Rooms and Automatic Electric Heaters Therefor (Int. Cl. 11).  
First use at least as early as Aug. 25, 1965.

SN 351,145. Rotron Incorporated, Woodstock, N.Y. Filed Feb. 11, 1970.

**SERGEANT**

For Electric Motor Driven Fans and Blowers (Int. Cl. 11).  
First use on or about Jan. 9, 1970.

SN 356,577. Purex Corporation, Ltd., Lakewood, Calif. Filed Apr. 13, 1970.

**ISLANDER**

For Swimming Pool Water Heaters (Int. Cl. 11).  
First use Mar. 24, 1970.

**Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires**

SN 348,116. Carlisle Corporation, Carlisle, Pa. Filed Jan. 9, 1970.

**SAF-T-BRITE**

For Tires (Int. Cl. 12).  
First use Nov. 19, 1969.

SN 348,128. Dodge-Wasmund Mfg., Inc., Pico Rivera, Calif. Filed Jan. 9, 1970.

**OH-BAN**

For Pneumatic and Hydraulic Seals (Int. Cl. 17).  
First use Oct. 7, 1969.

SN 348,130. Dodge-Wasmund Mfg., Inc., Pico Rivera, Calif. Filed Jan. 9, 1970.

**HEX-RING**

For Pneumatic and Hydraulic Seals (Int. Cl. 17).  
First use Oct. 7, 1969.

SN 348,131. Dodge-Wasmund Mfg., Inc., Pico Rivera, Calif. Filed Jan. 9, 1970.

**EL-RING**

For Pneumatic and Hydraulic Seals (Int. Cl. 17).  
First use Oct. 7, 1969.

SN 348,241. American Machine & Foundry Company, New York, N.Y. Filed Jan. 12, 1970.

**AMF**

Owner of Reg. Nos. 714,104, 811,921, and others.  
For Tread Rubber and Tire Repair Materials for Vehicle Tires—Namely, Rubbers, Gums and Cord Repair Fabrics (Int. Cl. 12).  
First use June 1957.

SN 350,470. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Feb. 4, 1970.

**POLAR TRANSPORT**

Owner of Reg. Nos. 159,855, 807,817, and others.  
For Rubber Tubes for Vehicle Tires (Int. Cl. 12).  
First use Jan. 12, 1970.

SN 352,313. George Angus & Company Limited, Newcastle Upon Tyne, England. Filed Feb. 25, 1970.

**SPIROSEAL**

For Fluid-Sealing and Other Packing Rings and Sleeves (Int. Cl. 17).  
First use on or before Sept. 18, 1969; in commerce on or before Jan. 12, 1970.

SN 352,802. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Mar. 2, 1970.

**LAND FILL**

For Resilient Vehicle Tires (Int. Cl. 12).  
First use Jan. 30, 1970.

**Class 36—Musical Instruments and Supplies**

SN 305,208. Copa Corporation, Miami, Fla. Filed Aug. 15, 1968.

**COPA**

For Tape Cartridges (Int. Cl. 9).  
First use Apr. 1, 1968.



SN 332,598. Anthology Record and Tape Corporation, Lynn, Mass. Filed July 15, 1969.



For Phonograph Records and Prerecorded Tapes (Int. Cl. 9).  
First use Nov. 1, 1968.

### Class 37—Paper and Stationery

SN 347,154. Crown Zellerbach Corporation, San Francisco, Calif. Filed Dec. 29, 1969.



The mark consists of a fanciful representation of the letters "CZ." Owner of Reg. Nos. 593,901 and 616,568.  
For Plastic Packaging Film, Wrapping Paper, Toilet Tissue, and Printing Paper (Int. Cl. 16).  
First use Nov. 24, 1969.

### Class 38—Prints and Publications

SN 328,862. Kaynar Mfg. Co., Inc., Fullerton, Calif. Filed June 2, 1969.

### FASTEN-ATOR

For House Organ, Published Periodically, in Which Are Included Product Bulletins (Int. Cl. 16).  
First use Sept. 22, 1961.

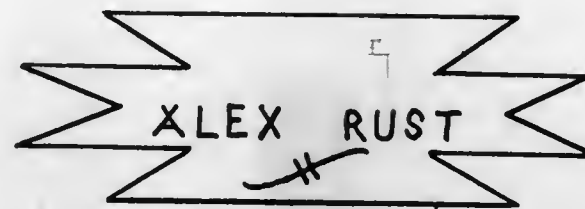
SN 332,023. Clarence E. Lovejoy, Little Silver, N.J. Filed July 8, 1969.



Lovejoy's Educational Guides

Applicant disclaims the right to exclusive use of the words "Educational Guides" apart from the mark as shown.  
For Books and Magazines Containing Information and Advice Concerning Colleges and Other Institutions of Learning (Int. Cl. 16).  
First use May 1969.

SN 348,339. Mrs. Eleanor A. Rust, d.b.a. Alex Rust, Vista, Calif. Filed Jan. 12, 1970.



For Printed Needlepoint Patterns (Int. Cl. 16).  
First use Jan. 1, 1969.

SN 351,264. The Stopwatch Inc., Bethesda, Md. Filed Feb. 13, 1970.

### STOPWATCHER

For Magazine (Int. Cl. 16).  
First use at least as early as Aug. 6, 1965.

SN 352,734. Quigley Publishing Company, Inc., New York, N.Y. Filed Mar. 2, 1970.

### TELEVISION TODAY

Owner of Reg. Nos. 641,902 and 736,591.  
For Regularly Published Section in a Motion Picture Magazine and Newspaper (Int. Cl. 16).  
First use July 18, 1955.

SN 356,453. Western Publishing Company, Inc., Racine, Wis. Filed Apr. 9, 1970.



Owner of Reg. No. 885,922.  
For Children's Books—Namely, Picture Books, Picture-Story Books, Story Books, Coloring Books, Painting Books, Things-To-Do Activity Books; Primarily Intended for the Amusement, Entertainment and Education of Children (Int. Cl. 16).  
First use Feb. 25, 1970.

SN 356,714. Litton Educational Publishing, Inc., New York, N.Y. Filed Apr. 13, 1970.

### VNR

For Books (Int. Cl. 16).  
First use not later than on or about July 28, 1969.

SN 356,715. Litton Educational Publishing, Inc., New York, N.Y. Filed Apr. 13, 1970.



For Books (Int. Cl. 16).  
First use not later than on or about July 28, 1969.

### Class 39—Clothing

SN 302,720. Clutson-Penn International Limited, Coalville, England. Filed July 15, 1968.



Priority claimed under Sec. 44(d) on British Reg. No. 923,327, dated Apr. 3, 1968.

For Articles of Clothing—Namely, Coats, Jackets, Skirts, Trousers, Dresses, Jumpers, Sweaters, Cardigans, Brassieres, Corsets, Corselettes, Girdles, Pantie Girdles, Corsets Combined With Brassiere and Pantie, Suspender Belts, Suspenders, Garters, Belts, and Braces (Int. Cl. 25).

SN 309,615. Piper Sportswear, Inc., New York, N.Y. Filed Oct. 14, 1968.



For Women's Slacks (Int. Cl. 25).  
First use May 17, 1968.  
Subj. to Intf. with SN 309,954.

SN 315,779. Nan-Flower Lingerie, Inc., New York, N.Y. Filed Jan. 3, 1969.

### FLIP-OVER

For Ladies' Sleepwear and Lounge Wear (Int. Cl. 25).  
First use Nov. 4, 1968.

## Verde

The English meaning of the term "Verde" is "green." Owner of Reg. Nos. 819,139 and 824,089.  
For Men's Shoes (Int. Cl. 25).  
First use about 1967.

SN 335,263. Rink's Department Stores, Inc., Cleveland, Ohio. Filed Aug. 13, 1969.

### RINK'S FASHION-CODE

Owner of Reg. No. 815,173.  
For Men's, Ladies' and Children's Wearing Apparel—Namely, Men's, Ladies', Boys' and Girls' Socks; Men's Sport and Knit Shirts; Men's Dress Slacks, Sport Coats and Sweaters; and Boys' Sweaters (Int. Cl. 25).  
First use Mar. 15, 1969.

SN 336,809. Kayser-Roth Corporation, New York, N.Y. Filed Sept. 2, 1969.

### ME+PLUS

For Ladies' Skirts, Pants, Blouses, Vests, Jackets, and Sweaters (Int. Cl. 25).  
First use July 9, 1969.

SN 336,819. Linn's Inc., Baltimore, Md. Filed Sept. 2, 1969.

### UNIFORM CITY

The word "Uniform" is disclaimed apart from the mark as shown.

For Doctors', Nurses', Technicians', Waitresses' and Custodians' Uniforms; Dentists' and Doctors' Aprons and Coats; Choir and Church Robes, Church Uniforms and Shoes (Int. Cl. 25).

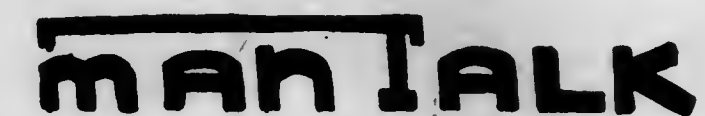
First use November 1968.

SN 337,934. Highland Queen Sportswear Limited, Toronto, Ontario, Canada. Filed Sept. 15, 1969.

### HIGHLAND QUEEN

For Women's Skirts, Pants, Vests, Jackets, Dresses, and Suits (Int. Cl. 25).  
First use Mar. 28, 1957; in commerce July 9, 1957.

SN 338,186. Str, Inc., Cleveland, Ohio. Filed Sept. 17, 1969.



For Men's, Boys' and Women's Suits, Coats, Jackets, Slacks, Shirts, Ties, and Hats (Int. Cl. 25).  
First use May 1, 1966.



SN 338,385. Federated Department Stores, Inc., Brooklyn, N.Y. Filed Sept. 19, 1969.

## BALMORAL

Owner of Reg. No. 514,436.  
For Men's Suits, Coats, and Overcoats (Int. Cl. 25).  
First use Jan. 1, 1914.

SN 339,787. Consolidated Foods Corporation, Chicago, Ill. Filed Oct. 6, 1969.

## ACE TENNIS GLOVE

The words "Tennis Glove" are disclaimed apart from their use in the mark.  
For Stretch Fabric Gloves (Int. Cl. 25).  
First use July 14, 1969.

SN 341,271. Exquisite Form Industries, Inc., New York, N.Y., by change of name and assignment from Exquisite Form Industries, Inc., New York, N.Y. Filed Oct. 21, 1969.

## LIKE BABY'S

For Brassieres and Girdles (Int. Cl. 25).  
First use Oct. 7, 1969.

SN 341,356. Baracuta (Clothing) Limited, Manchester, England. Filed Oct. 22, 1969.

## BARACUTA

Owner of U.S. Reg. Nos. 444,069, 567,093, and others.  
For All Types of Outerwear, Both Men's and Ladies', i.e., Rainwear, Overcoats, Beachwear, Bath Robes, Car Coats, Golf Jackets, Golf Suits, Anoraks, and Detachable Liners for Raincoats (Int. Cl. 25).  
First use 1947; in commerce 1947.

SN 344,899. Stanly Knitting Mills, Inc., Oakboro, N.C. Filed Nov. 28, 1969.

## JOLLY ROGER

Owner of Reg. No. 627,441.  
For Fully Fashioned Sweaters and Shirts (Int. Cl. 25).  
First use Nov. 3, 1969.

SN 345,730. Cyrus W. Scott Manufacturing Company, Wichita Falls, Tex. Filed Dec. 9, 1969.

**SCOTT'S**  
**BEST**

The drawing is lined for the color red. Owner of Reg. No. 261,751.  
For Overalls, Pants, Work Shirts, and Coveralls (Int. Cl. 25).  
First use Mar. 1, 1907.

SN 345,777. A & S Enterprises, Inc., Miami, Fla. Filed Dec. 10, 1969.

*Pat Nichols*

"Pat Nichols" is a fictitious name and does not refer to a living individual.  
For Dresses (Int. Cl. 25).  
First use on or about Aug. 1, 1967.

SN 346,870. Countess Mara, Inc., New York, N.Y. Filed Dec. 22, 1969.

## MUFFSCOT

For Combination Muffler and Ascot (Int. Cl. 25).  
First use Sept. 4, 1969.

SN 348,215. Hercules Equipment & Rubber Co., Inc., San Francisco, Calif. Filed Jan. 12, 1970.

**HSG**  
company

For Protective Clothing—Namely, Rain Coats, Jackets, Overalls, Aprons, Gloves and Footwear (Int. Cl. 25).  
First use Dec. 12, 1969.

SN 348,463. Wembley Industries, Inc., New Orleans, La. Filed Jan. 13, 1970.

## SHILLINGS & PENCE

For Men's Neckwear (Int. Cl. 25).  
First use Oct. 29, 1969.

SN 348,465. Wembley Industries, Inc., New Orleans, La. Filed Jan. 13, 1970.

*Mr. R*

For Men's Neckwear (Int. Cl. 25).  
First use Oct. 29, 1969.

SN 348,815. Wide Awake Shirt Co., Inc., Reading, Pa. Filed Jan. 16, 1970.

*Elbeco*

Owner of Reg. No. 510,095.  
For Dress, Negligee and Work Shirts for Men and Boys (Int. Cl. 25).  
First use on or about Aug. 15, 1968.

SN 349,078. Kinney Shoe Corporation, New York, N.Y. Filed Jan. 20, 1970.

## REVETTE

Owner of Reg. No. 443,840.  
For Women's Shoes and Women's Hosiery (Int. Cl. 25).  
First use at least as early as 1954, on women's shoes.

SN 349,571. Barney's Clothes, Inc., New York, N.Y. Filed Jan. 26, 1970.

## The Underground

For Men's Suits, Overcoats, Topcoats, and Coats (Int. Cl. 25).  
First use Sept. 9, 1969.

SN 349,602. Don Sophisticates, Inc., New York, N.Y. Filed Jan. 26, 1970.

## PRIVATE CIRCLE

For Misses' and Ladies' Dresses, Slacks, Suits, Blouses, and Skirts (Int. Cl. 25).  
First use Dec. 30, 1969.

SN 349,626. W. R. Grace & Co., New York, N.Y. Filed Jan. 26, 1970.

## FABRI-WEAR

For Examination Gowns and Capes (Int. Cl. 25).  
First use Dec. 18, 1969.

SN 349,629. Gold Medal Hosiery Co., Inc., New York, N.Y. Filed Jan. 26, 1970.

## ROLS ROICE

For Ladies' Hosiery (Int. Cl. 25).  
First use Dec. 18, 1969.

SN 349,634. Grodins of California, Inc., Oakland, Calif. Filed Jan. 26, 1970.

*Arnold Michaels*

"Arnold Michaels" is the name of a living individual whose consent is of record.  
For Men's Suits, Sport Coats, Slacks, and Top Coats (Int. Cl. 25).  
First use 1963.



**ohicks**

For Socks (Int. Cl. 25).  
First use on or about Oct. 6, 1954; in commerce Oct. 10, 1969.  
Subj. to Intf. with SN 326,074.

## Class 40—Fancy Goods, Furnishings, and Notions

SN 302,722. Clutson-Penn International Limited, Coalville, England. Filed July 15, 1968.



Priority claimed under Sec. 44(d) on British Reg. No. 923,328, dated Apr. 3, 1968.  
For Textile Woven, Knitted and Braided Fabric Smallware—Namely, Textile Fabric Trimmings, Facings, Frills, Lacings, Straps, Tapes, and Cords (Int. Cl. 26).

## Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 303,954. The Surgil Textile Corporation, New York, N.Y. Filed June 24, 1968.

## SOLO

For Fabrics Used as Interfacings, Interlinings, and Linings (Int. Cl. 24).  
First use June 5, 1968.  
Subj. to Intf. with SN 309,615.

SN 338,129. Continental Industries, Inc., Sale Creek, Tenn. Filed Sept. 17, 1969.

*Modulon*

For Carpets (Int. Cl. 27).  
First use Apr. 30, 1969.

## Class 43—Thread and Yarn

SN 351,764. National Spinning Co., Inc., New York, N.Y. Filed Feb. 19, 1970.

## CRIMPILAC

For Crimped Yarns of Fibers of Synthetic Materials (Int. Cl. 25).  
First use Jan. 12, 1968.



**Class 44—Dental, Medical, and Surgical Appliances**

SN 321,501. Johnson & Johnson, New Brunswick, N.J. Filed Mar. 12, 1969.

**DERMILITE**

Owner of Reg. Nos. 719,395, 847,935, and others.  
For Surgical and/or Medical Adhesive Paper Tape for Use on Skin (Int. Cl. 5).  
First use Feb. 24, 1969.

SN 324,786. American Hospital Supply Corporation, Evanston, Ill. Filed Apr. 17, 1969.

**STEELCREST**

For Medical Suite and the Individual Items Thereunder—Namely, Medical Examining Table, Treatment Cabinet, Instrument Cabinet, Waste Receptacle, and Operator's Stool, Sold as a Complete Unit (Int. Cl. 10).  
First use on or before Feb. 4, 1969.

SN 332,973. North American Rockwell Corporation, Pittsburgh, Pa. Filed July 18, 1969.



For Hypodermic, Surgical and Vaccinating Needles, and Parts Thereof (Int. Cl. 10).  
First use Apr. 11, 1969.

SN 332,974. North American Rockwell Corporation, Pittsburgh, Pa. Filed July 18, 1969.

**NORTH AMERICAN ROCKWELL**

For Hypodermic, Surgical and Vaccinating Needles, and Parts Thereof (Int. Cl. 10).  
First use Apr. 11, 1969.

SN 338,918. Med-Science Electronics Inc., St. Louis, Mo. Filed Sept. 25, 1969.

**HELIALYZER**

For Helium Gas Meters for Application in the Medical Field (Int. Cl. 10).  
First use about May 1965.

SN 341,090. Orthoband Company, Inc., St. Louis, Mo. Filed Oct. 24, 1969.

**ORTHO BAND**

For Orthodontic Appliances and Orthodontic Accessories—Namely, Cervical Elastic Traction Bands, Adjustable Headgear With Tubular Face Bow Guide, Adjustable Headgear With Foam Pad Face Bow Guide, Foam Rubber Cheek Pads, Foam Rubber Padding, Kloebe-Type Neckbands, Elastic Retainer Hooks, Shrink Tubing for Use as a Protective Sleeve for Orthodontic Wire Appliances, Face Bow Wire Guides, Foam Rubber Traction Pads, Foam Rubber Neckbands, and Plastic Purses for Orthodontic Appliances and Accessories (Int. Cl. 10).  
First use January 1957.

SN 342,058. Bergen Brunswick Corporation, Saddle Brook, N.J., assignee of Mediservice Inc., Wallington, N.J. Filed Oct. 29, 1969.

**SURGITRAY**

For Packaged Sterilized Tray Unit Including a Tray Carrying Surgical Instruments Used in Hospital Operating Rooms and Out Patient Departments (Int. Cl. 10).  
First use Oct. 8, 1969.

SN 343,126. The Hygienic Dental Manufacturing Company, Akron, Ohio. Filed Nov. 10, 1969.

**RECON**

For Oral Tissue Conditioner and Impression Material (Int. Cl. 5).  
First use in or about October 1969.

SN 350,481. Guardian Products Company, Inc., North Hollywood, Calif. Filed Feb. 4, 1970.

**400**

For Crutch Tips (Int. Cl. 10).  
First use 1945.

SN 350,482. Guardian Products Company, Inc., North Hollywood, Calif. Filed Feb. 4, 1970.

**500**

For Crutch Tips (Int. Cl. 10).  
First use 1945.

SN 350,483. Guardian Products Company, Inc., North Hollywood, Calif. Filed Feb. 4, 1970.

**550**

For Crutch Tips (Int. Cl. 10).  
First use 1945.

SN 350,484. Guardian Products Company, Inc., North Hollywood, Calif. Filed Feb. 4, 1970.

**VERSI-LINE**

For Invalid Canes, Crutches and Walkers, and Tips, Pads and Cushions Therefor (Int. Cl. 10).  
First use Jan. 15, 1970.

SN 350,485. Guardian Products Company, Inc., North Hollywood, Calif. Filed Feb. 4, 1970.

**SAFE-T-FOLD**

For Invalid Walkers (Int. Cl. 10).  
First use Jan. 20, 1970.

**Class 45—Soft Drinks and Carbonated Waters**

SN 279,587. Vendwell, Inc., Holland, Mich. Filed Sept. 1, 1967.

**VENDWELL**

For Syrups for Making Soft Drinks (Int. Cl. 32).  
First use on or about Apr. 1, 1961.

SN 320,764. Castle & Cooke, Inc., d.b.a. Dole Company, Honolulu, Hawaii. Filed Mar. 5, 1969.

**Pearl City**

For Canned Fruit Juice Drink Containing Water (Int. Cl. 32).  
First use Feb. 19, 1969.

SN 323,202. Parke, Davis & Company, Detroit, Mich. Filed Apr. 1, 1969.

**JOGGER JUICE**

Applicant disclaims the word "Juice" separate from the mark.  
For Flavored Soft Drink (Int. Cl. 32).  
First use Mar. 26, 1969.

SN 323,546. Etablissement Actimonde, Vaduz, Liechtenstein. Filed Apr. 3, 1969.

**ACTINISE**

Owner of Liechtenstein Reg. No. 1,229, dated Nov. 6, 1961.  
For Carbonated Soft Drinks and Natural Mineral Water (Int. Cl. 32).

SN 335,440. Dr. Pepper Bottling Company of Fort Worth, Fort Worth, Tex. Filed Aug. 15, 1969.

**Charly 2**

For Soft Drinks (Int. Cl. 32).  
First use on or about July 25, 1969.

SN 336,568. Graf's Beverages, Inc., Milwaukee, Wis. Filed Aug. 28, 1969.

**GRAF'S**

Owner of Reg. Nos. 406,221 and 885,956.  
For Soft Drinks (Int. Cl. 32).  
First use in or about 1873.

SN 353,368. General Mills, Inc., Minneapolis, Minn. Filed Mar. 9, 1970.

**KISKA**

For Carbonated Soft Drinks (Int. Cl. 32).  
First use on or about Feb. 16, 1970.

TM 876 O.G.—10

SN 353,369. General Mills, Inc., Minneapolis, Minn. Filed Mar. 9, 1970.

**NOTHIN'**

For Carbonated Soft Drinks (Int. Cl. 32).  
First use on or about Feb. 16, 1970.

SN 357,903. The Coca-Cola Company, Atlanta, Ga. Filed Apr. 27, 1970.

**BLITZ**

For Citrus Flavored Soft Drink and Syrup for Making Same (Int. Cl. 32).  
First use Apr. 1, 1970.

**Class 46—Foods and Ingredients of Foods**

SN 271,843. Salada Foods Ltd., Don Mills, Ontario, Canada. Filed May 18, 1967.



For Dried and Canned Cooked Fruits; Dehydrated Sliced Onions; Dehydrated Chopped Onions; Frozen Foods—Namely, Strawberries, Raspberries, Blueberries, Boysenberries, Loganberries, Blackberries, Peaches, Apples, Rhubarb, Prunes, Broccoli, Beans, Corn, Mixed Vegetables, Peas, Peas and Carrots, Asparagus, Potatoes, Spinach, Cauliflower, Brussel Sprouts, Lima Beans, Carrots; Cocoa; Hot Chocolate Base; Roasted and Ground Instant Coffee; Packaged Tea, Instant Tea and Tea Bags; Iced Tea Mix; Canned Fruit Juices; Canned Vegetable Juices; Fruit Juices in Dehydrated and/or Powder and/or Crystal and/or Frozen Concentrated Form—Namely, Orange Juice, Grapefruit Juice, Apple Juice and Blended Juices; Blends; Pre-Cooked Oatmeal, Barley and Wheat Cereals for Infants; Oatmeal, Barley and Wheat Cereal Preparations; Fudge Mix; Ice Cream Cones; Frozen Egg Whites; Milk Products—Namely, Buttermilk Tablets, Preparations for Coagulating or Curdling Milk; Freezing Mix for Making Ice Cream; Ice Cream; Fresh Eggs; Frozen Egg Whites; Frozen Egg Yolks; Frozen Whole Eggs; Marmalade—Namely, Orange, Lemon and Grapefruit and Pineapple; Honey; Treacle; Fruit Breakfast Spreads; Caramel Spread; Chocolate Spread; Dehydrated Instant Mashed Potatoes; Dehydrated au Gratin Potatoes; Dehydrated Scalloped Potatoes; Dehydrated Sliced Potatoes; Frozen French Fried Potatoes; Frozen Diced Potatoes; Packaged Shoe String Potatoes; Potato Chips; Packaged Potato Puffs; Starch Puddings; Instant Puddings; Jelly Powders; Gelatin Desserts; Frosting Mix; Sherbet Mix; Pie Fillings; Shelled Peanuts; a Flavoured Sour Cream Commonly Known as a Dip Mix Which Is Consumed With Snack Foods Such as Potato Chips; Prepared Popcorn; Caramel Corn; Mixed and Assorted Shelled Nuts; Cheese-Flavoured Prepared Popcorn; Cheese-Flavoured Corn Sticks; Flavouring Bases for Making Soup; Food Colouring Preparations; Preparations of Chicory and Malt for Use as a Substitute for Coffee; Table Syrup; and Flavoured Syrups Used for Toppings for Ice Cream and Sugar (Int. Cls. 5, 29, 30, and 32).  
First use Dec. 20, 1966; in commerce Dec. 20, 1966.

SN 282,390. S. Parkinson & Son (Doncaster) Limited, Doncaster, England. Filed Oct. 12, 1967.

**PARKINSON'S**

Owner of British Reg. No. 870,833, dated Oct. 24, 1964.  
For Candy (Int. Cl. 30).  
First use 1912; in commerce July 1958.



SN 300,876. Jiffy Fry, Inc., Crookston, Minn. Filed June 20, 1968.  
 SN 315,733. The Chicken Chef Systems Incorporated, Jackson, Miss. Filed Jan. 3, 1969.



For Frozen French Fried and Crinkle Cut Potatoes (Int. Cl. 29).  
 First use Oct. 1, 1961.

SN 301,049. Duffy-Mott Company, Inc., New York, N.Y. Filed June 21, 1968.

## SURFCAKE

For Frozen Seafood Patties (Int. Cl. 29).  
 First use June 12, 1968.

SN 307,178. Afrikanische Frucht Compagnie Laelsz & Co., Hamburg, Germany. Filed Sept. 12, 1968.

## ONKEL TUCA

Priority claimed under Sec. 44(d) on German application, filed Mar. 19, 1968; Reg. No. 849,084, dated Aug. 27, 1968. The word "Onkel" means "uncle" in English, "Tuca" being a fanciful arbitrary word.

For Fresh Bananas and Bananas in Dried, Powdered and Mashed Form (Int. Cls. 29 and 31).

SN 308,379. Jung's Gourmet Foods, Inc., Beverly Hills, Calif. Filed Sept. 27, 1968.

## TOUCH OF THE ORIENT

For Sweet and Sour Sauce, Marinade, Barbecue Sauce, Orange/Lemon Glaze and Salad Dressing (Int. Cls. 29 and 30).  
 First use on or before Dec. 24, 1967.

SN 309,733. American Flavor Corporation, St. Louis, Mo. Filed Oct. 16, 1968.



For Prepared Popcorn (Int. Cl. 30).  
 First use Nov. 8, 1967.

SN 311,018. Doughboy Industries, Inc., New Richmond, Wis. Filed Oct. 31, 1968.

## HAM MAKER

For High Protein Supplement for Baby Pig Feed, Sow Feed and Hog Feed (Int. Cl. 31).  
 First use Aug. 26, 1968.

SN 315,733. The Chicken Chef Systems Incorporated, Jackson, Miss. Filed Jan. 3, 1969.

## GOLDEN NUGGETS

For Boned, Cubed Cooked Chicken Breast (Int. Cl. 29).  
 First use Dec. 21, 1968.

SN 317,751. Lever Brothers Company, New York, N.Y. Filed Jan. 28, 1969.

## THE HAPPY MARGARINE

Applicant disclaims the word "Margarine" apart from the mark as shown.

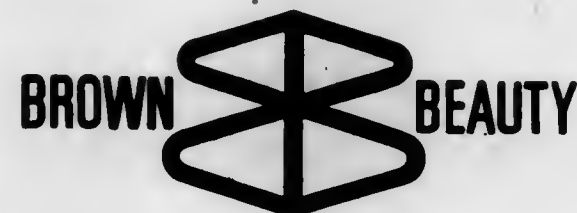
For Margarine (Int. Cl. 29).  
 First use Jan. 6, 1969.

SN 317,941. See Fresh Corporation, Belmont, Calif. Filed Jan. 30, 1969.



For Pasteurized Crab and Shrimp Meat (Int. Cl. 29).  
 First use Dec. 16, 1968.

SN 318,317. Michigan Fruit Cannery, Inc., Benton Harbor, Mich. Filed Feb. 4, 1969.



Owner of Reg. No. 129,025.

For Canned Foods—Namely, Pinto Beans, Regular; Pinto Beans, Mexican Style; Pinto Beans, Western Style; Pinto Beans, With Pork; Pinto Beans, Bar-B-Q; Spanish Rice; Creole Macaroni Combination; Baked Beans; and Pork & Beans (Int. Cls. 29 and 30).  
 First use Nov. 27, 1916.

SN 318,318. Michigan Fruit Cannery, Inc., Benton Harbor, Mich. Filed Feb. 4, 1969.

## UNCLE WILLIAM

Owner of Reg. No. 167,126.

For Canned Pork and Beans; Hominy; Kidney, Lima, Green and Butter Beans; Sauerkraut; Peas; Spinach; Mustard, Turnip, and Mixed Greens; Beets; Carrots; Mixed Vegetables; Asparagus; Corn; and Cherries (Int. Cl. 29).  
 First use Dec. 29, 1920.

SN 319,062. Merged Foods, Inc., Mineola, N.Y. Filed Feb. 13, 1969.



For Frozen Dinners Consisting of Fish and Vegetables (Int. Cl. 29).  
 First use Dec. 31, 1968.

SN 321,386. Danske Andelskøtteri Tarmalg, Glostrup, Denmark. Filed Mar. 11, 1969.  
 SN 325,426. Eskimo Pie Corporation, Richmond, Va. Filed Apr. 24, 1969.

## DAT

For Meat Products—Namely, Smoked and Canned Salamis, Canned Hams, Canned Cocktail Sausages, and Canned Bacon (Int. Cl. 29).

First use on or about 1966; in commerce on or about 1966.

SN 321,848. Wasabrod Aktiebolag, Filipstad, Sweden. Filed Mar. 14, 1969.



Owner of Swedish Reg. No. 105,579, dated Mar. 15, 1963; and U.S. Reg. Nos. 825,381, 862,076, and 862,077.

For Bread, Biscuits, Cakes, Cookies and Crackers (Int. Cl. 30).

SN 324,310. SCM Corporation, d.b.a. Durkee Famous Foods, Cleveland, Ohio. Filed Apr. 11, 1969.

## KAORICH

For Vegetable Shortening (Int. Cl. 29).  
 First use July 8, 1968.

SN 325,197. Hickory Chef Foods, Inc., Philadelphia, Pa. Filed Apr. 22, 1969.



Applicant disclaims exclusive right to the words "Charcoal Baked Hams" aside and apart from the mark as shown.

Owner of Reg. No. 883,453.  
 For Cooked Vacuum Packed Meats (Int. Cl. 29).  
 First use Apr. 2, 1969.

SN 325,410. Standard Fruit and Steamship Company, New Orleans, La. Filed Apr. 23, 1969.



The drawing is lined for the color red.  
 For Fresh Fruits and Fresh Vegetables (Int. Cl. 31).  
 First use Mar. 1, 1969.



Owner of Reg. Nos. 300,055, 793,010, and others.  
 For Frozen Confections (Int. Cl. 30).  
 First use at least as early as Dec. 9, 1968; at least as early as 1930, in a different form.

SN 325,628. Standard Fruit and Steamship Company, New Orleans, La. Filed Apr. 25, 1969.



The drawing is lined for the colors red and gold. Owner of Reg. Nos. 704,730, 866,926, and others.  
 For Fresh Bananas (Int. Cl. 31).  
 First use Mar. 5, 1969; Oct. 30, 1959, as to "Cabana."

SN 326,921. Stokely-Van Camp, Inc., Columbus, Ohio. Filed May 9, 1969.



For Oleomargarine and Shortening of Animal and Vegetable Origin (Int. Cl. 29).  
 First use June 1, 1964.

SN 327,267. General Foods Corporation, White Plains, N.Y. Filed May 14, 1969.



Owner of Reg. Nos. 813,538 and 869,459.  
 For Salt To Be Used on Popcorn and Nuts (Int. Cl. 30).  
 First use on or about Sept. 30, 1964.



SN 327,484. General Foods Corporation, White Plains, N.Y. Filed May 16, 1969.

## DELI-CHIPS

For Snack in Chip Form Derived From Potatoes (Int. Cl. 29).  
First use Apr. 1, 1969.

SN 328,827. Cosby-Hodges Milling Company, Birmingham, Ala. Filed June 2, 1969.

## WINNER

For Dog Food (Int. Cl. 31).  
First use May 27, 1969.

SN 332,187. Blue Barn Dog Food Co., New Albany, Ind. Filed July 8, 1969.

## BLUE BARN



For Dog Food (Int. Cl. 31).  
First use Mar. 25, 1966.

SN 332,890. Ole Harry's Corn Dog Batter Mix, Inc., Hope, Ind. Filed July 18, 1969.

## OLE HARRY'S

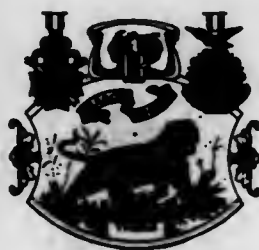
For Dry Flour Mix (Int. Cl. 30).  
First use Nov. 25, 1968.

SN 333,061. R. J. Reynolds Foods, Inc., New York, N.Y. Filed July 22, 1969.

## COUNTY FAIR

For Table Syrup (Int. Cl. 30).  
First use Feb. 19, 1969.

SN 334,623. Societa Anonima Lucchese Olii Vini, d.b.a. Fortuna Fontana & Co., Lucca, Italy. Filed Aug. 6, 1969.



The word "Tigre" is in Italian and its translation into English is "Tiger." The word "Marca" is in Italian and its translation into English is "Mark." All rights to the said word "Marca" (or its English Translation "Mark") are hereby disclaimed.

For Olive Oil for Culinary Use (Int. Cl. 29).  
First use Mar. 1, 1910; in commerce Mar. 1, 1910.

SN 334,730. Lucious Cheese Company, Allegan, Mich. Filed Aug. 7, 1969.

## ALLEGAN

Owner of Reg. No. 798,248.  
For Cheese (Int. Cl. 29).  
First use March 1964.

SN 334,840. Galletera Gilda, Inc., Bronx, N.Y. Filed Aug. 8, 1969.

## GILDA

For Crackers (Int. Cl. 30).  
First use 1955.

SN 335,505. General Mills, Inc., Minneapolis, Minn. Filed Aug. 18, 1969.

## BRANDING IRON

For Pet Food for Dogs and Cats (Int. Cl. 31).  
First use on or about June 25, 1969.

SN 335,510. General Mills, Inc., Minneapolis, Minn. Filed Aug. 18, 1969.

## SHURCHOICE

Owner of Reg. Nos. 232,387 and 699,503.  
For Pet Food for Dogs and Cats (Int. Cl. 31).  
First use on or about June 25, 1969.

SN 335,577. Hilton Meat Company, Brooklyn, N.Y. Filed Aug. 18, 1969.



Applicant disclaims the term "Brand" apart from the mark as shown.

For Fresh and Frozen Meats and Prepared Meat Products (Int. Cl. 29).

First use on or about June 1, 1953.

SN 335,676. Armour-Dial, Inc., Chicago, Ill. Filed Aug. 19, 1969.

## DINERSAURS

For Combination Package Containing Yeast, Flour Mixture and Sauce Used To Make Pizza Products (Int. Cl. 30).  
First use on or prior to July 1, 1969.

SN 336,418. Colonial Stores Incorporated, d.b.a. Aristotle Vending Co., Atlanta, Ga. Filed Aug. 27, 1969.

## ARISTOTLE

For Coffee (Int. Cl. 30).  
First use July 25, 1969.

SN 336,914. Cal-Tex Citrus Juice, Inc., Houston, Tex. Filed Sept. 3, 1969.

## VITA-FRESH

For Orange Juice (Int. Cl. 32).  
First use Sept. 12, 1961.

SN 337,077. Mrs. J. G. McDonald Chocolate Company, Salt Lake City, Utah. Filed Sept. 4, 1969.

## PECANA RUFFIES

For Candy (Int. Cl. 30).  
First use on or about Sept. 15, 1968.

SN 337,299. W. R. Grace & Co., New York, N.Y. Filed Sept. 8, 1969.

## MOONFIRE

For Bubble Gum (Int. Cl. 30).  
First use Oct. 10, 1968.

SN 337,326. Killebrew, Inc., Salt Lake City, Utah. Filed Sept. 8, 1969.

## POWERTEIN

For High Protein Concentrate To Be Used in Making a Food Beverage (Int. Cl. 5).  
First use Aug. 15, 1969.

SN 337,371. Sunline, Inc., d.b.a. Concorde Confections, St. Louis, Mo. Filed Sept. 8, 1969.

## CABARET

For Candy (Int. Cl. 30).  
First use Aug. 19, 1969.

SN 337,427. H. C. Brill Company, Inc., Cedar Grove, N.J. Filed Sept. 9, 1969.

## BUT-A-VAN

For Imitation Butter-Vanilla Flavor (Int. Cl. 30).  
First use Dec. 10, 1964.

SN 337,428. H. C. Brill Company, Inc., Cedar Grove, N.J. Filed Sept. 9, 1969.

## BUT-R-ALL

For Imitation Butter Flavor (Int. Cl. 30).  
First use Nov. 2, 1963.

SN 337,539. General Foods Corporation, White Plains, N.Y. Filed Sept. 10, 1969.

## RDA

For Cereal Breakfast Food (Int. Cl. 30).  
First use July 30, 1969.

SN 338,100. Vessey Packing, Inc., San Juan Bautista, Calif. Filed Sept. 17, 1969.



No claim is made to the word "Flavor" apart from the mark as shown.

For Fresh Garlic (Int. Cl. 31).  
First use September 1962.

SN 338,181. George Rybak, d.b.a. Flavorcraft Mfg., Burbank, Calif. Filed Sept. 17, 1969.



For Concentrated Natural and Imitation Flavorings; Imitation Flavor Bases; True Fruit Flavors; Pure and Imitation Flavor Extracts and Emulsions; Food Colorings; and Natural Fruit Concentrates (Int. Cls. 2 and 30).  
First use Oct. 1, 1967.

SN 338,731. The Southland Corporation, Dallas, Tex. Filed Sept. 24, 1969.

## VELDA FARMS

Owner of Reg. No. 543,751.  
For Fresh Milk, Buttermilk, Cream, Cottage Cheese, Eggnog, Cream Topping, Ice Milk, Butter, Margarine, Eggs, Sour Cream Dressing, Cheese Base Dip, and Fresh Orange Juice (Int. Cls. 29, 30, and 32).  
First use at least as early as Sept. 1, 1962.

SN 338,799. Mason, Au & Magenheimer Confy. Mfg. Co., Inc., Mineola, N.Y. Filed Sept. 24, 1969.

## BIPPY

For Candy (Int. Cl. 30).  
First use Aug. 19, 1969.

SN 338,842. Dutchess Food Specialties Co., Inc., d.b.a. Dutchess Food Specialties Co., Hawthorne, N.Y. Filed Sept. 25, 1969.



For Cheeses (Int. Cl. 29).  
First use at least as early as 1939.



SN 339,161. Duffy-Mott Company, Inc., New York, N.Y. Filed Sept. 29, 1969.

## ROYAL KITCHEN

For Canned Fruits and Canned Vegetables (Int. Cl. 29).  
First use Sept. 21, 1905.

SN 339,198. L & C Food Products, Inc., Austin, Tex. Filed Sept. 29, 1969.

## GEORGETTE'S

For Barbecue Sauce (Int. Cl. 30).  
First use April 1969.

SN 339,691. Holton Food Products Company, Chicago, Ill. Filed Oct. 3, 1969.

## CREME-O-FLUFF

For Meringue Powder (Int. Cl. 30).  
First use May 7, 1969.

SN 340,280. The Rath Packing Company, Waterloo, Iowa. Filed Oct. 9, 1969.

## GOLDEN HARVEST

For Fresh Meat (Int. Cl. 29).  
First use Sept. 29, 1969.

SN 340,774. Charbone Corporation, Manhasset, N.Y. Filed Oct. 15, 1969.

## BEEF-BONE BRAND

Applicant disclaims the word "Brand." Owner of Reg. No. 793,746.  
For Dog Biscuits (Int. Cl. 31).  
First use Sept. 10, 1969.

SN 340,775. Charbone Corporation, Manhasset, N.Y. Filed Oct. 15, 1969.

## LIVER-BONE BRAND

Applicant disclaims the word "Brand." Owner of Reg. No. 793,746.  
For Dog Biscuits (Int. Cl. 31).  
First use Sept. 10, 1969.

SN 340,788. Gilda Industries Inc., Hialeah, Fla. Filed Oct. 15, 1969.

## GILDA

For Cuban Crackers and Ladyfingers (Int. Cl. 30).  
First use June 1967.

SN 344,707. P. Ferrero & C. S.p.A., d.b.a. Piazza Pietro Ferrero, Alba, Cuneo, Italy. Filed Nov. 26, 1969.



The representation of the goods and the container are disclaimed apart from the mark as a whole. The drawing is lined for the color gold. Owner of Reg. No. 855,647.  
For Fudge Nut Spread (Int. Cl. 29).  
First use at least as early as 1966; in commerce Oct. 13, 1967.

SN 348,672. National Biscuit Company, New York, N.Y. Filed Jan. 15, 1970.

## BRIC-A-BRAC

For Biscuits and Crackers (Int. Cl. 30).  
First use Jan. 2, 1970.

SN 349,260. Barton's Candy Corporation, Brooklyn, N.Y. Filed Jan. 22, 1970.



The exclusive right to use of the word "Bonbonniere" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 528,007, 849,538, and others.  
For Candles; Ice Cream; Frozen Candles; Canded and Salted Nuts; Snack Foods—Namely, Caramelized Popcorn; Baked Goods—Namely, Cookies and Cakes (Int. Cls. 29 and 30).  
First use March 1968; Aug. 1, 1940, in a different form.

SN 349,380. Peter Paul, Inc., Naugatuck, Conn. Filed Jan. 22, 1970.

## TWIRLERS

For Candy (Int. Cl. 30).  
First use Feb. 19, 1969.  
Subj. to Intf. with SN 319,769.

SN 349,382. Peter Paul, Inc., Naugatuck, Conn. Filed Jan. 22, 1970.

## TWIRLS

For Candy (Int. Cl. 30).  
First use Feb. 19, 1969.  
Subj. to Intf. with SN 319,769.

SN 350,251. Fisher Flouring Mills Co., Seattle, Wash. Filed Feb. 2, 1970.



The drawing is lined for the colors blue and red. Owner of Reg. Nos. 162,751, 712,226, and others.

For Wheat Products for Human and Animal Consumption—Namely, Flour, Prepared Biscuit Mixes, Pancake Mixes, Cereals, and Poultry, Cattle and Horse Feeds (Int. Cls. 30 and 31).  
First use Sept. 1, 1969.

SN 350,252. Fisher Flouring Mills Co., Seattle, Wash. Filed Feb. 2, 1970.

## BRONCO BUSTER

For Grain Type Horse Feed (Int. Cl. 31).  
First use Dec. 17, 1969.

SN 350,420. General Foods Corporation, White Plains, N.Y. Filed Feb. 4, 1970.

## GAINES SUPREME

The word "Supreme" is disclaimed apart from the mark as a whole. Owner of Reg. Nos. 342,441, 832,270, and others.  
For Dog Food (Int. Cl. 31).  
First use Jan. 6, 1970.

SN 358,510. National Biscuit Company, New York, N.Y. Filed May 1, 1970.

## FESTINO

For Sugar Wafers (Int. Cl. 30).  
First use Feb. 15, 1902.

SN 358,511. National Biscuit Company, New York, N.Y. Filed May 1, 1970.

## BARONET

For Biscuits (Int. Cl. 30).  
First use Nov. 16, 1908.

## Class 47—Wines

SN 308,146. Sociedade dos Vinhos Borges & Irmao, S.A.R.L., Vila Nova de Gaia, Portugal. Filed Sept. 24, 1968.

## PUSS IN BOOTS

Priority claimed under Sec. 44(d) on Portuguese Reg. No. 149,648, dated June 24, 1968.  
For Wines (Int. Cl. 33).

SN 328,901. Schweppes (Overseas) Limited, London, England. Filed June 2, 1969.

## SCHWEPES

Owner of British Reg. No. 658,940, dated Nov. 25, 1946; and U.S. Reg. Nos. 144,921, 655,910, and others.  
For Wines (Int. Cl. 33).

SN 330,022. Miguel Torres, Villafranca del Panades, Spain. Filed June 13, 1969.

## SANGRIA DE TORO

No claim is made to the word "Sangria" apart from the mark. The word "Sangria" means "a red wine with citrus fruit juice" or simply "wine punch." The wording "de Toro" means "of the bull." Owner of Reg. No. 773,809.

For Red Wine With Citrus Fruit Juice Added (Int. Cl. 33).  
First use on or about Feb. 15, 1967; in commerce on or about Feb. 15, 1967.

SN 335,096. Veuve Laurent-Perrier & Co., Reims (Marne), France. Filed Aug. 11, 1969.

## LAURENT PERRIER

"Laurent Perrier" is the name of the founder of applicant's business, now deceased. Owner of French Reg. No. 700,387, dated Sept. 27, 1965; and U.S. Reg. Nos. 680,206, 718,039, and 745,935.  
For Wines (Int. Cl. 33).

SN 338,499. United Vintners, Inc., d.b.a. Lejon Champagne Cellars, San Francisco, Calif. Filed Sept. 22, 1969.



Owner of Reg. Nos. 401,266, 828,388, and others.  
For Blend of Champagne and Sparkling Burgundy (Int. Cl. 33).  
First use July 8, 1969.

SN 345,420. Lindemans Wines Pty. Limited, Marrickville, New South Wales, Australia. Filed Dec. 5, 1969.

## PORPHYRY

Owner of Australian Reg. No. A198,697, dated June 26, 1909.  
For Wines (Int. Cl. 33).  
First use at least as early as 1909; in commerce January 1969.

SN 345,421. Lindemans Wines Pty. Limited, Marrickville, New South Wales, Australia. Filed Dec. 5, 1969.

## CAWARRA

Owner of Australian Reg. No. A8,705, dated Dec. 31, 1909.  
For Wines (Int. Cl. 33).  
First use at least as early as 1900; in commerce November 1968.



SN 345,422. Lindemans Wines Pty. Limited, Marrickville, New South Wales, Australia. Filed Dec. 5, 1969.

**BEN EAN**

Owner of Australian Reg. No. 135,337, dated Jan. 17, 1958. For Wines (Int. Cl. 33).  
First use in or about August 1956; in commerce January 1969.

**Class 48 — Malt Beverages and Liquors**

SN 311,166. Melster Brau, Inc., Chicago, Ill. Filed Nov. 1, 1968.



The drawing is lined for the color blue. Applicant claims the exclusive right to use of the word "Brau" in combination with the word "Melster," but not in other dissimilar combinations, and not as a separate or individual word. Owner of Reg. Nos. 209,158, 602,804, and others.

For Beer With No Available Carbohydrates (Int. Cl. 32).  
First use May 15, 1967; at least as early as 1901, as to "Melster Brau."

SN 313,176. Maltina Sales Co., Chicago, Ill. Filed Nov. 27, 1968.

**MALTINA**

For Non-Alcoholic Beverages Prepared From Barley Malt, Hops, Sugar, Water, and Lesser Ingredients (Int. Cl. 32).  
First use Nov. 11, 1968.

SN 324,916. G. Helleman Brewing Company, Inc., La Crosse, Wis. Filed Apr. 18, 1969.



Without waiving its common law rights thereto, applicant disclaims the word "Genuine" apart from the mark shown. Owner of Reg. Nos. 376,419, 803,199, and others.  
For Beer (Int. Cl. 32).  
First use Mar. 24, 1969; as early as Jan. 1, 1882, in a different form.

SN 331,728. Carling Brewing Company Incorporated, Cleveland Ohio. Filed July 3, 1969.

**HEIDELBERG**

Owner of Reg. Nos. 113,900, 667,511, and others. For Beer (Int. Cl. 32).  
First use at least as early as June 15, 1915.

SN 332,233. G. Helleman Brewing Company, Inc., La Crosse, Wis. Filed July 10, 1969.



Owner of Reg. Nos. 512,804 and 512,811. For Beer (Int. Cl. 32).  
First use Aug. 11, 1947.

SN 333,814. Carling Brewing Company, Incorporated, Cleveland Ohio. Filed July 29, 1969.



The lining in the drawing is an integral part of the mark, and is not for the purpose of indicating color. For Beer (Int. Cl. 32).  
First use at least as early as May 15, 1969.

SN 340,144. Theodore Hamm Brewing Co., St. Paul, Minn. Filed Oct. 8, 1969.



Owner of Reg. Nos. 533,200, 846,397, and others. For Beer (Int. Cl. 32).  
First use May 31, 1969.

SN 340,676. Plzensky Prazdroj, Narodni Podnik Plzen, Plzen, Czechoslovakia. Filed Oct. 14, 1969.

**PRAZDROJ**

"Prazdroj" may be translated from the Czech language into English as "wellspring" or "fountainhead." Owner of Czechoslovak Reg. No. 111,530, dated Oct. 27, 1968.  
For Beer (Int. Cl. 32).

**Class 49 — Distilled Alcoholic Liquors**

SN 302,021. Joseph E. Seagram & Sons, Inc., New York, N.Y. Filed July 5, 1968.

**ZINGER**

Owner of Reg. No. 809,646. For Prepared Alcoholic Cocktails (Int. Cl. 33).  
First use June 19, 1968.

SN 323,196. The Huntington Creek Corporation, New York, N.Y. Filed Apr. 1, 1969.

**CHERI-SUISSE**

"Cheri" is the French word for "dear" or "cherished," and "Suisse" means "Switzerland." For Liqueur (Int. Cl. 33).  
First use Mar. 18, 1969.

SN 330,764. A/S Vinmonopolet, Oslo, Norway. Filed June 23, 1969.



"Jorgen B. Lysholm" is deceased. For Aquavit (Int. Cl. 33).  
First use Sept. 14, 1885; in commerce Jan. 1, 1956.

SN 331,509. Heublein, Inc., d.b.a. The Club Distilling Co., Hartford, Conn. Filed July 1, 1969.

**CLUBTAIL**

Owner of Reg. No. 46,616. For Prepared Alcoholic Cocktails (Int. Cl. 33).  
First use May 9, 1969.

SN 332,237. John Hopkins & Co. Limited, Glasgow, Scotland. Filed July 10, 1969.

**GLEN ROYAL**

Owner of British Reg. No. B914,211, dated Sept. 8, 1967. For Scotch Whisky (Int. Cl. 33).

SN 341,658. Heaven Hill Distilleries, Inc., Bardstown, Ky. Filed Oct. 24, 1969.

**AMERICAN MIST**

The exclusive use of the word "Mist" is disclaimed apart from the mark as shown. For Bottled Whiskey (Int. Cl. 33).  
First use Oct. 10, 1969.

SN 356,572. National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co., New York, N.Y. Filed Apr. 13, 1970.

**PM**

Owner of Reg. No. 346,559. For Whiskey (Int. Cl. 33).  
First use November 1939.

**Class 50 — Merchandise Not Otherwise Classified**

SN 354,942. Tackmer Corporation, Palo Alto, Calif. Filed Mar. 24, 1970.

**HOLD-UP**

For Self-Adhesive Display Panels (Int. Cl. 20).  
First use Dec. 4, 1969.  
Subj. to Intf. with SN 351,630.

**Class 51 — Cosmetics and Toilet Preparations**

SN 243,145. Lia Jene Inc., New York, N.Y. Filed Apr. 11, 1966.

**SPA**

For Bath Foam Comprising a Toilet Preparation, Including a Water Softener, To Be Added to the Bath (Int. Cl. 3).  
First use June 1, 1937.

SN 308,701. Jovan, Inc., Chicago, Ill. Filed Oct. 2, 1968.

**MINK & PEARLS**

For Bath Oil (Int. Cl. 3).  
First use Oct. 26, 1966.

SN 326,786. New York Pencil Co., Inc., New York, N.Y. Filed May 8, 1969.

**EYE SHADOW BOUQUET**

Applicant disclaims the words "Eye Shadow" apart from the mark as shown. For Eye Shadow (Int. Cl. 3).  
First use Aug. 13, 1968.

SN 334,721. Johnson & Johnson, New Brunswick, N.J. Filed Aug. 7, 1969.

**SOFT & YOUNG**

Applicant disclaims the word "Soft" apart from the mark. For Hand Lotions (Int. Cl. 3).  
First use June 13, 1969.

SN 334,723. Johnson & Johnson, New Brunswick, N.J. Filed Aug. 7, 1969.

**YOUNG & SOFT**

Applicant disclaims the word "Soft" apart from the mark. For Hand Lotions (Int. Cl. 3).  
First use June 13, 1969.

SN 337,197. Jacques Rallo, Casablanca, Morocco. Filed Sept. 5, 1969.

**COCOSUN**

Owner of Moroccan Reg. No. 20,220, dated Oct. 25, 1967. For Sun Tan Lotion (Int. Cl. 3).

SN 338,678. Franz J. Greiter, d.b.a. Greiter Special Cosmetic AG., Vienna-Weidling, Austria. Filed Sept. 23, 1969.

**VALLUGA**

"Valluga" is the name of a mountain in Austria at the border of Tirol and Vorarlberg. Owner of Austrian Reg. No. 63,082, dated Nov. 15, 1968.  
For Perfume, Sun Tanning Lotions, Oils and Creams, After Sun Moisturizers and Lipstick (Int. Cl. 3).

SN 340,370. Clairol Incorporated, New York, N.Y. Filed Oct. 10, 1969.

**MIST'N SET**

Applicant disclaims "Set" apart from the mark as shown. For Hair Setting Spray and Hair Setting Lotion (Int. Cl. 3).  
First use July 31, 1969.



SN 340,756. Arts et Techniques de l'Information, d.b.a. Fontarel, Neuilly-sur-Seine (Seine), France. Filed Oct. 15, 1969.

**FONTAREL**

Owner of French Reg. No. 514,544, dated July 4, 1963 (Paris); Natl. Inst. No. 208,438; and U.S. Reg. No. 842,203. For Cosmetic Lotions and Creams for the Face, Body, and Hands (Int. Cl. 3).

SN 340,757. Arts et Techniques de l'Information, d.b.a. Fontarel, Neuilly-sur-Seine (Seine), France. Filed Oct. 15, 1969.

**FONTARELLA**

Owner of French Reg. No. 748,654, dated Oct. 17, 1968; and U.S. Reg. No. 842,203. For Cosmetic Lotions and Creams for the Face, Body, and Hands (Int. Cl. 3).

SN 343,518. Chesebrough-Pond's Inc., New York, N.Y. Filed Nov. 14, 1969.

**EVOLUTION**

For After-Shave Lotion (Int. Cl. 3).  
First use Oct. 29, 1969.

SN 344,056. Leon Products, Inc., Jacksonville, Fla. Filed Nov. 20, 1969.

**GOLD MINK**

The word "Mink" is disclaimed apart from the mark as shown, but applicant waives none of its common law rights in the word, the mark, or any feature thereof. Owner of Reg. Nos. 690,670, 764,068, and 884,309. For Cologne (Int. Cl. 3).  
First use Aug. 29, 1969.

SN 344,785. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 28, 1969.

**CUDDLE**

For Hand Lotion (Int. Cl. 3).  
First use Oct. 24, 1969.  
Subj. to Intf. with SN 341,748.

SN 353,743. The Fleetwood Company, Chicago, Ill. Filed Mar. 11, 1970.

**FABULAN**

For Mink Oil Skin Cream (Int. Cl. 3).  
First use Oct. 5, 1953.

SN 357,557. Beecham Inc., Clifton, N.J. Filed Apr. 22, 1970.

**DRY DOCK**

For Personal Deodorant (Int. Cl. 5).  
First use Feb. 17, 1970.

SN 357,566. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Apr. 22, 1970.

**TURKISH TOWEL**

For After Bath Liquid Skin Freshener (Int. Cl. 3).  
First use Mar. 20, 1969.

**Class 52—Detergents and Soaps**

SN 305,470. Mars Chemical Corporation, Atlanta, Ga. Filed Aug. 19, 1968.

**PERMASOLVE**

For Cleaning Solvents (Int. Cl. 3).  
First use July 17, 1968.

SN 305,738. Helene Curtis Industries, Inc., Chicago, Ill. Filed Aug. 22, 1968.

Natur  
Elle

For Wig Cleaning Preparation (Int. Cl. 3).  
First use on or about June 27, 1968.

SN 322,407. Chemiro A.G., St. Gallen, Switzerland. Filed Mar. 21, 1969.

K2r

Owner of U.S. Reg. No. 735,047. For Preparation for Removing Spots From Clothing, Upholstery, Carpets, and Wallpaper (Int. Cl. 3).  
First use August 1959; in commerce September 1959.

SN 335,424. Brittany House Limited, Valley Park, Mo. Filed Aug. 15, 1969.

**PAINT 'N KLEEN**

For Paint Removing Towelettes (Int. Cl. 3).  
First use Aug. 13, 1969.

SN 337,995. Williamsburg Soap and Candle Co., Williamsburg, Va. Filed Sept. 15, 1969.



For Toilet Soap (Int. Cl. 3).  
First use October 1966.

SN 342,803. The Procter & Gamble Company, Cincinnati, Ohio. Filed Nov. 6, 1969.

**DETAIL**

For Sudsing Detergent for Domestic and Industrial Use (Int. Cl. 3).  
First use July 17, 1969.

SN 344,057. Leon Products, Inc., Jacksonville, Fla. Filed Nov. 20, 1969.

**GOLD MINK**

The word "Mink" is disclaimed apart from the mark as shown, but applicant waives none of its common law rights in the word, the mark, or any feature thereof. Owner of Reg. Nos. 690,670, 764,068, and 884,309. For Hair Shampoo Concentrate (Int. Cl. 3).  
First use Aug. 29, 1969.

SN 346,615. Gamma Process Company, Inc., New York, N.Y. Filed Dec. 18, 1969.

**STERILASE**

For Bacteria-Free Laundry Enzymes for Removing Protein-Based Stains (Int. Cl. 3).  
First use Sept. 23, 1969.

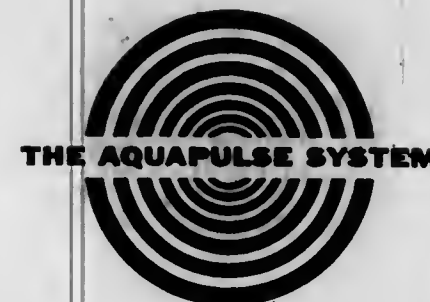
SN 346,686. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 19, 1969.



The mark is lined for the colors brown, yellow, and orange. The words "With Optical Brighteners," "Shampoo," and "11 Fl. Oz." are disclaimed apart from the mark as shown. For Shampoo (Int. Cl. 3).  
First use Sept. 10, 1969.

**SERVICE MARKS****Class 100—Miscellaneous**

SN 304,637. Western Geophysical Company of America, Houston, Tex. Filed Aug. 7, 1968.



For Seismic Marine Exploration Services for Others (Int. Cl. 42).  
First use May 15, 1967.

SN 346,690. Instant Mobile Powerwash Service, Inc., Little Rock, Ark. Filed Dec. 19, 1969.

**IMPS**

Owner of Reg. Nos. 874,907 and 874,908. For Detergents, Solvent/Detergents, and Concentrated Chemical Cleaning Solutions for Use in Powerwashing Equipment for Mobile Equipment for Washing Automobiles, Trucks, and Other Vehicles, Building Exteriors, Mobile Homes, and Other Equipment and Apparatus Lending Itself to Powerwashing (Int. Cl. 3).  
First use May 9, 1968.

SN 348,207. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Jan. 12, 1970.

**ECONO-TREAT**

Owner of Reg. No. 745,643. For Rust and Scale Removing Compositions for Use in the Metal Plating Industry (Int. Cl. 1).  
First use Sept. 23, 1968.

SN 348,629. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 15, 1970.

**HEXAR**

For Bath and Toilet Soap (Int. Cl. 3).  
First use on or prior to Oct. 10, 1969.

SN 356,816. Lever Brothers Company, New York, N.Y. Filed Apr. 15, 1970.

**ALL WEEK**

For Hair Shampoo (Int. Cl. 3).  
First use Mar. 16, 1970.

SN 307,406. Richard L. Smith, d.b.a. Architectural Associates, South Charleston, W. Va. Filed Sept. 16, 1968.



The service mark is a stylized design of the letters "AA" with the horizontal bar of the letters connected. For Architectural Services (Int. Cl. 42).  
First use 1967.

SN 312,444. Engineering Management, Inc., Des Plaines, Ill. Filed Nov. 18, 1968.

**EMI**

For Engineering Design Services in the Field of Chemical and Food Processing Plants and Processing Systems (Int. Cl. 42).  
First use January 1960.



SN 319,389. Stanford Research Institute, Menlo Park, Calif. Filed Feb. 17, 1969. SN 349,046. Dairy Dandy, Inc., Indianapolis, Ind. Filed Jan. 20, 1970.



For Scientific Research in the Fields of Physical and Life Sciences, Economics, Management Sciences, Systems Sciences, and Engineering (Int. Cl. 42).  
First use Dec. 31, 1968.  
Subj. to Intf. with SN 326,572.

SN 324,892. Anthony D'Alto, New Haven, Conn. Filed Apr. 18, 1969.



For Preparing, Serving and Dispensing Food, Beverages, and Drinks in Restaurants (Int. Cl. 42).  
First use Mar. 31, 1969.

SN 326,572. Scientific Resources Incorporated, Union, N.J. Filed Feb. 18, 1969.

SRI

For Consulting Services in Behavioral Sciences—Namely, Psychological Testing, Individual and Group Psychotherapy, and Career Counseling (Int. Cl. 42).  
First use Oct. 22, 1965.  
Subj. to Intf. with SN 319,389.

SN 326,883. Edward F. Kinohy, d.b.a. Pine Acres Motel, Colonial Heights, Va. Filed May 9, 1969.

*Pine Acres*  
**MORTEL**

For Providing Lodging Services Including Equipped Kitchen (Int. Cl. 42).  
First use Mar. 21, 1969.

SN 340,479. The Isaly Company, Pittsburgh, Pa. Filed Oct. 13, 1969.

SWEET WILLIAM

For Restaurant Services (Int. Cl. 42).  
First use May 9, 1969.

SN 349,046. Dairy Dandy, Inc., Indianapolis, Ind. Filed Jan. 20, 1970.

DAIRY DANDY

For Drive-In Restaurant Services (Int. Cl. 42).  
First use April 1960.

SN 350,034. Taw International Leasing, Inc., New York, N.Y. Filed Jan. 30, 1970.

TAW

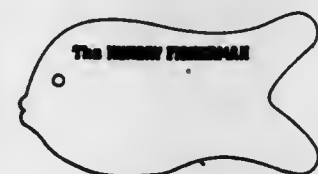
For Leasing of Equipment of All Kinds (Int. Cl. 42).  
First use Sept. 18, 1968.

SN 350,035. Taw International Leasing, Inc., New York, N.Y. Filed Jan. 30, 1970.



For Leasing of Equipment of All Kinds (Int. Cl. 42).  
First use Sept. 18, 1968.

SN 351,730. Shoney's of South Carolina No. 3, Inc., Charleston, W. Va. Filed Feb. 18, 1970.



The mark consists of a menu having an outline of a fish. For Restaurant Services (Int. Cl. 42).  
First use Oct. 9, 1969.  
Subj. to Intf. with SN 352,474.

## Class 101—Advertising and Business

SN 296,449. Labor Pool of America, Inc., Oak Brook, Ill., assignee of Personnel Pool of America, Inc., Fort Lauderdale, Fla. Filed Apr. 24, 1968.



Without waiver of any common law or statutory rights, and for the purposes of this registration only, the term "Personnel Pool" is disclaimed apart from the mark as shown.  
For Furnishing Temporary Personnel to the Users Thereof (Int. Cl. 35).  
First use in or about November 1967.

SN 302,348. Standard Drug Co., Inc., Richmond, Va. Filed July 9, 1968. SN 321,393. Arthur S. Kranzley and Company Incorporated, Cherry Hill, N.J. Filed Mar. 11, 1969.

MEDCO

For Drug Store Services (Int. Cl. 35).  
First use Oct. 14, 1965.  
Subj. to Intf. with SN 305,953.

SN 306,964. Uniroyal, Inc., New York, N.Y. Filed Sept. 9, 1968.



The drawing is lined for red, but color is not claimed as an essential feature of the mark. Applicant waives no common law rights to color. Owner of Reg. No. 785,612.

For Retail Home and Auto Supply Store Services (Int. Cl. 35).  
First use 1965.

SN 306,965. Uniroyal, Inc., New York, N.Y. Filed Sept. 9, 1968.



The drawing is lined for blue, but color is not claimed as an essential feature of the mark. Applicant waives no common law rights to color. Owner of Reg. Nos. 756,434 and 850,236.

For Retail Home and Auto Supply Store Services (Int. Cl. 35).  
First use 1964.

SN 314,670. Patterson International Corporation, Cincinnati, Ohio. Filed Oct. 14, 1968.

FOOSER

For Promoting the Establishment of Miniaturized, Coin-Operated Soccer Game Concessions and Advising, Instructing, and Financially Assisting in the Operation Thereof (Int. Cl. 35).  
First use Jan. 2, 1964.

SN 318,089. A. C. Nielsen Company, Chicago, Ill. Filed Jan. 31, 1969.



For Shoppers' Guide Services—Namely, Referring Shoppers to Outlets Where Specifically Requested Goods Can Be Purchased and Notifying Advertisers and Media of Names and Addresses of Interested Shoppers (Int. Cl. 35).  
First use Aug. 28, 1968.

CHARGE-SERV

For Setting Up Computer Programming for Maintenance of Financial Records for Retail, Wholesale, and Service Establishments (Int. Cl. 35).  
First use at least as early as Feb. 20, 1969.

SN 321,802. Industrial Lubricants Co., San Antonio, Tex. Filed Mar. 14, 1969.

**U-OIL-IT**  
AUTO STORE

No claim is made to the words "Auto Store" apart from the mark as shown without waiving any common law rights therein.

For Retail Store Services Directed to Automobile Supplies (Int. Cl. 35).  
First use on or about Oct. 1, 1967.

SN 322,118. Bancsave Inc., St. Louis, Mo. Filed Mar. 19, 1969.

BANCSAVE

For Retail Sale Promotions Comprising a Discount Buying Program To Increase Sales of Member Merchants and Develop Cash Banked Savings for Their Customers (Int. Cl. 35).  
First use on or about Dec. 9, 1968.

SN 327,541. CompuMarketing Services Corporation, Chicago, Ill. Filed May 19, 1969.

NATIONAL BUSINESS LISTS

Applicant disclaims the words "Business Lists" apart from the mark as shown, and without prejudice or otherwise abandoning its common law rights in the words "Business Lists" whether separately or in the composite mark. Owner of Reg. No. 620,162.

For Preparation of Mailing Lists (Int. Cl. 35).  
First use July 21, 1960.

SN 330,491. Food Merchandisers of America, Inc., Washington, D.C. Filed June 19, 1969.

KWIK-N-E-Z

For Aiding in the Development and Operation of Retail Grocery Stores (Int. Cl. 35).  
First use Mar. 10, 1969.

SN 338,844. Robert P. Herr, Miami, Fla. Filed Sept. 25, 1969.



For Advertising Agency Services (Int. Cl. 35).  
First use Apr. 15, 1964.



**Class 102 — Insurance and Financial**

SN 283,023. Nationwide Mutual Insurance Company, Columbus, Ohio. Filed Oct. 20, 1967.

**NATIONWIDE'S ONE CHECK PLAN**

The wording "One Check Plan" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 713,962 and 733,565. For Insurance Premium Collection Services (Int. Cl. 36). First use Nov. 15, 1961.

SN 304,771. The American Savings and Accounting Supply, Incorporated, Chicago, Ill., assignee of First Federal Savings & Loan Association of Lincoln, Nebraska, Lincoln, Nebr. Filed Aug. 9, 1968.



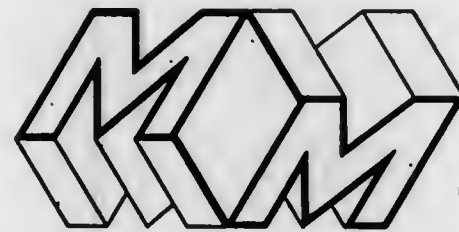
The dollar sign is disclaimed apart from the mark as shown. For Savings Account Services (Int. Cl. 36). First use June 3, 1968.

SN 321,452. Astro National Incorporated, Chicago, Ill. Filed Mar. 12, 1969.



For General Insurance Agency Services (Int. Cl. 36). First use Sept. 1, 1967.

SN 326,664. Manasett Corporation, Providence, R.I. Filed May 7, 1969.



For Services of Investment Management—Namely, Managing Funds Consisting of Stocks, Bonds and Real Estate (Int. Cl. 36). First use Dec. 31, 1968.

SN 349,803. National Liberty Corporation, Valley Forge, Pa. Filed Jan. 28, 1970.

**GOLD STAR**

For Insurance Underwriting Services (Int. Cl. 36). First use Oct. 1, 1959.

**Class 103 — Construction and Repair**

SN 315,198. Behring Corporation (Delaware corporation), Fort Lauderdale, Fla., assignee of Behring Corporation (Florida corporation), Fort Lauderdale, Fla. Filed Dec. 26, 1968.

**MODIFLEX**

For Construction of Modular Buildings to the Order of Others (Int. Cl. 37). First use Dec. 13, 1968.

SN 321,540. Serv-Quik, Inc., Richmond, Ky. Filed Mar. 12, 1969.



For Dry Cleaning Services (Int. Cl. 37). First use Jan. 7, 1969.

SN 325,751. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Apr. 28, 1969.



The words "Belt Service" are disclaimed apart from the mark as shown. For Custom Automotive and Industrial Belting Services (Int. Cl. 37). First use July 1967.

SN 332,867. Tune-O Corporation, Dallas, Tex. Filed July 17, 1969.

**TUNE-O**

For Inspecting, Adjusting and Repairing Motor Vehicle Engines (Int. Cl. 37). First use at least as early as June 17, 1969. Subj. to Intf. with SN 343,335.

SN 347,762. Lien Chemical Company, Franklin Park, Ill. Filed Jan. 5, 1970.

**KEEP CLEAN—WITH LIEN**

Without waiving any common law rights, applicant disclaims "Keep Clean" apart from the mark as shown. Owner of Reg. Nos. 585,575, 615,466, and others. For Building Cleaning Services, Restroom Cleaning, Sanitizing and Air Freshening Services, and Pest Control Services (Int. Cl. 37). First use Apr. 11, 1953.

**Class 105 — Transportation and Storage**

SN 324,440. Fun in the Sun Tours, Inc., Abington, Pa. Filed Apr. 14, 1969.

**FUN IN THE BARBADOS SUN**

Applicant disclaims the word "Barbados" apart from the mark as shown. Owner of Reg. Nos. 820,506 and 865,527. For Travel Agency Services, Tour Planning and Making Reservations (Int. Cl. 39). First use Mar. 30, 1968.

**Class 106 — Material Treatment**

SN 330,403. Paramount Photo Service, Inc., Jacksonville, Fla. Filed June 18, 1969.

**SUPERCOLOR**

For Photo Finishing Services (Int. Cl. 40). First use Mar. 26, 1964. Subj. to Intf. with SN 339,403.

**Class 107 — Education and Entertainment**

SN 325,486. Al Heydrick Associates, Lighthouse Point, Fla. Filed Apr. 24, 1969.

**BosSecretary**

For Education Services—Namely, Executive-Secretary Training in Office Management (Int. Cl. 41). First use Aug. 1, 1967.

SN 325,949. Bar Review Incorporated, Chicago, Ill. Filed Apr. 30, 1969.

**BRI**

For Legal Educational Services—Namely, a Bar Examination Review Course (Int. Cl. 41). First use in or before December 1966.

SN 349,793. Walt Disney Productions, Burbank, Calif. Filed Jan. 28, 1970.

**FRONTIERLAND**

For Providing Participation Type Entertainment in an Amusement and Educational Park (Int. Cl. 41). First use July 17, 1955.

**COLLECTIVE MEMBERSHIP MARKS****Class 200**

SN 320,843. National Association of Independent Nursing Homes, Inc., Oklahoma City, Okla. Filed Mar. 5, 1969.

**NATIONAL ASSOCIATION OF INDEPENDENT NURSING HOMES, INC.**

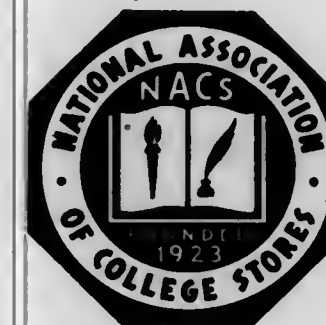
For Indicating Membership in Applicant. First use February 1967.

SN 327,732. American Veterans of World War II, Washington, D.C. Filed May 20, 1969.

**AMVETS**

Owner of Reg. No. 440,552. For Indicating Membership in Applicant. First use on or about Feb. 12, 1945.

SN 330,529. National Association of College Stores, Inc., Oberlin, Ohio. Filed June 19, 1969.



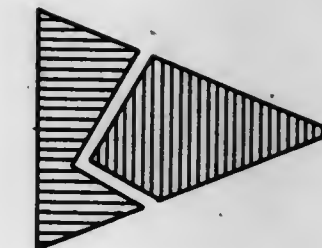
For Indicating Membership in Applicant. First use 1939.

SN 340,108. Alpha Phi Omega, Kansas City, Mo. Filed Oct. 8, 1969.

**ALPHA PHI OMEGA**

Owner of Reg. No. 265,052. For Indicating Membership in Applicant. First use During 1925.

SN 340,565. Leland Yacht Club, Leland, Mich. Filed Oct. 13, 1969.



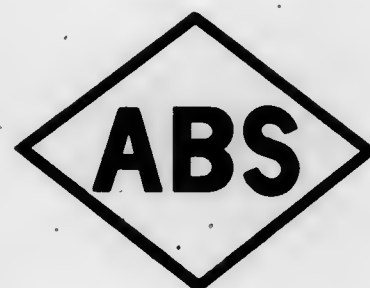
For Indicating Membership in Applicant. First use July 1931.



## CERTIFICATION MARKS

### Class A — Goods

SN 340,339. ABS Institute, Inc., New York, N.Y. Filed Oct. 10, 1969.



The mark certifies both that the products are manufactured from materials, and that the finished products possess physical and chemical properties, specified by applicant for products made by applicant's members.

For Drainage Pipe and Pipe Fittings.  
First use Sept. 4, 1969.

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## TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

### Class 1 — Raw or Partly Prepared Materials Class 4 — Abrasives and Polishing Materials

895,268. ZELAR. Gladwin Industries, Inc., assignee of Sepsco Inc. SN 258,417. Pub. 10-24-67. Filed 11-10-66.  
895,269. ADLOCK. Furane Plastics, Incorporated. SN 319,863. Pub. 5-12-70. Filed 2-24-69.  
895,270. TRILON GASKO-SHEET. Tri-Point Industries, Inc. SN 324,316. Pub. 5-12-70. Filed 4-11-69.  
895,271. 3M. Minnesota Mining and Manufacturing Company. SN 329,657. Pub. 5-12-70. Filed 6-11-69.  
895,272. MATINA. Minnesota Mining and Manufacturing Company. SN 329,658. Pub. 5-12-70. Filed 6-11-69.  
895,273. RICS. Owens-Corning Fiberglas Corporation. SN 334,109. Pub. 5-12-70. Filed 7-31-69.  
895,274. 7 HILLS. Johns-Manville Corporation. SN 335,230. Pub. 5-12-70. Filed 8-13-69.  
895,275. FESCO-JEL. Johns-Manville Corporation. SN 335,231. Pub. 5-12-70. Filed 8-13-69.  
895,276. CHEYENNE RAWHIDE. Manasse-Block Tanning Company. SN 335,243. Pub. 5-12-70. Filed 8-13-69.  
895,277. COPE. Ickes-Braun Glasshouses, Inc. MULTIPLE CLASS (Classes 1 and 38). SN 335,814. Pub. 5-12-70. Filed 8-21-69.  
895,278. CANUCK. Atlantic Forest Products Limited. SN 348,069. Pub. 5-12-70. Filed 1-8-70.

### Class 5 — Adhesives

895,292. ENTHUSE. Wyandotte Chemicals Corporation. SN 304,420. Pub. 5-12-70. Filed 8-5-68.  
895,293. SCHLEGEL #5. The Schlegel Manufacturing Company. SN 339,233. Pub. 5-12-70. Filed 9-29-69.  
895,294. SPERRY RAND (LOGO). Sperry Rand Corporation. MULTIPLE CLASS (Classes 5, 11, 14, 16, 23, 29, 32, and 37). SN 326,583. Pub. 5-12-70. Filed 5-7-69.  
895,295. UNOFLEX. Polymer Industries, Inc. SN 344,173. Pub. 5-12-70. Filed 11-20-69.

### Class 6 — Chemicals and Chemical Compositions

895,296. PERMA PLUS. American Cyanamid Company. SN 307,403. Pub. 5-13-69. Filed 9-16-68.  
895,297. CARBORAFFIN. Farbenfabriken Bayer Aktiengesellschaft. SN 314,326. Pub. 5-12-70. Filed 12-12-68.  
895,298. INDY AND FLAG DESIGN. Federal Chemical Company, Incorporated, d.b.a. Indy Chemical Company. SN 316,090. Pub. 5-12-70. Filed 1-8-69.  
895,299. PLASTIPREP. Red Spot Paint and Varnish Co., Inc. SN 316,467. Pub. 5-12-70. Filed 1-13-69.  
895,300. N.A.F. NATURE'S AIR FRESH. Jesse E. Martin. SN 323,716. Pub. 5-12-70. Filed 4-4-69.  
895,301. THE OLFACTORY. Fred B. Block, d.b.a. The Olfactory. SN 325,158. Pub. 5-12-70. Filed 4-22-69.  
895,302. BROOKS. The Brooks Oil Company. SN 330,474. Pub. 5-12-70. Filed 6-19-69.  
895,303. SKYLITE. Hercules Incorporated. SN 345,756. Pub. 5-12-70. Filed 12-10-69.  
895,304. LCCO. Liquid Carbonic Corporation. SN 345,898. Pub. 5-12-70. Filed 12-11-69.  
895,305. OPEN HOUSE. Lever Brothers Company. SN 346,177. Pub. 5-12-70. Filed 12-15-69.  
895,306. CRONAFLEX. E. I. du Pont de Nemours and Company. SN 347,009. Pub. 5-12-70. Filed 12-23-69.

### Class 8 — Smokers' Articles, Not Including Tobacco Products

895,307. KENT AND DESIGN. Lorillard Corporation. SN 318,062. Pub. 5-5-70. Filed 1-31-69.

### Class 2 — Receptacles

895,279. T DESIGN. Tucker Manufacturing Corporation. SN 317,983. Pub. 5-12-70. Filed 1-30-69.  
895,280. PEMAR. Pemar Engineering, Inc. SN 324,089. Pub. 5-12-70. Filed 4-9-69.  
895,281. GAS PROCESSORS INC. AND DESIGN. Gas Processors, Inc. MULTIPLE CLASS (Classes 2, 23, and 34). SN 324,111. Pub. 5-12-70. Filed 4-10-69.  
895,282. DOTTED SWISS. Lincoln Metal Products Corporation. SN 334,776. Pub. 5-12-70. Filed 8-8-69.  
895,283. THE MOOD SERIES. Lincoln Metal Products Corporation. SN 334,777. Pub. 5-12-70. Filed 8-8-69.  
895,284. CHAMPIGNON. Lincoln Metal Products Corporation. SN 335,173. Pub. 5-12-70. Filed 8-13-69.  
895,285. FEMALE GENIE DESIGN. Ethyl Corporation. SN 340,784. Pub. 5-12-70. Filed 10-15-69.  
895,286. STACK-AWAY. Frances R. and Arthur E. Hartshorn, d.b.a. Edfran Mfg. Co. and Edfran Manufacturing Co. SN 341,814. Pub. 5-12-70. Filed 10-27-69.  
895,287. POST LOCK. Bird Plastics, Inc. SN 344,320. Pub. 5-12-70. Filed 11-24-69.  
895,288. CRYSTAL-TUF. Crystal-X Corporation. SN 344,686. Pub. 5-12-70. Filed 11-26-69.  
895,289. AQUA-SHIELD AND DESIGN. American Forest Products Corporation. SN 345,125. Pub. 5-12-70. Filed 12-3-69.

### Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

895,290. GSGS AND SNAKE DESIGN. Giuseppe Siletti di Romeo Siletti. SN 311,258. Pub. 5-12-70. Filed 11-4-68.  
895,291. PANTHER BAG. John C. Stires II, d.b.a. Stires & Company. SN 319,827. Pub. 4-21-70. Filed 3-13-69.

### Class 9 — Explosives, Firearms, Equipments, and Projectiles

895,308. SNAZZY. Michaels of Oregon Co. SN 316,227. Pub. 5-12-70. Filed 1-9-69.

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**Class 10 — Fertilizers**

895,309. CLAW DESIGN. Brandt Chem. Co., Inc. SN 335,318. Pub. 5-12-70. Filed 8-14-69.

**Class 11 — Inks and Inking Materials**

895,294. (See Class 5 for this trademark.)  
895,310. SPERRY RAND. Sperry Rand Corporation, MULTIPLE CLASS (Classes 11, 21, 23, 25, 26, 32, 37, and 38). SN 325,536. Pub. 5-12-70. Filed 4-25-69.  
895,311. SPERRY RAND (LOGO). Sperry Rand Corporation, MULTIPLE CLASS (Classes 11, 21, 23, 25, 26, 32, 37, and 38). SN 325,537. Pub. 5-12-70. Filed 4-25-69.

**Class 12 — Construction Materials**

895,312. DIXI-DEEP-RIB. Dixsteel Buildings, Inc. SN 304,904. Pub. 5-12-70. Filed 8-12-68.  
895,313. MAGIC TOP AND DESIGN. Hoboken Paints, Inc. SN 308,585. Pub. 5-12-70. Filed 10-3-68.  
895,314. "WHITEKOTE." The Great Western Sugar Company. SN 310,561. Pub. 5-12-70. Filed 10-25-68.  
895,315. TRANSPELLO. Ranco Industrial Products Corporation. SN 316,829. Pub. 5-12-70. Filed 1-16-69.  
895,316. PJ DESIGN. Fiberglass Resources Corporation. SN 335,127. Pub. 5-12-70. Filed 8-12-69.

**Class 13 — Hardware and Plumbing and Steam-Fitting Supplies**

895,317. ANACONDA. The Anaconda Company, MULTIPLE CLASS (Classes 13 and 21). SN 298,784. Pub. 5-12-70. Filed 5-22-68.  
895,318. SYNCROPAK. Rotork Controls Limited, by change of name from Rotork Engineering Company Limited. SN 303,198. Pub. 5-12-70. Filed 7-19-68.  
895,319. W AND DROPLET DESIGN. Western Drinking Fountains, Inc. SN 314,120. Pub. 5-12-70. Filed 12-10-68.  
895,320. W AND DESIGN. Waldman Corporation. SN 314,376. Pub. 5-12-70. Filed 12-12-68.  
895,321. PSS AND DESIGN. Perfection Spring & Stamping Corp. MULTIPLE CLASS (Classes 13, 14, 21, and 103). SN 318,613. Pub. 5-12-70. Filed 2-7-69.  
895,322. U AND DESIGN. Universal Tool & Die Co. SN 319,001. Pub. 5-12-70. Filed 2-12-69.  
895,323. FLEX-A-SEAL. PEM Corporation. SN 321,072. Pub. 5-12-70. Filed 3-7-69.  
895,324. HS AND DESIGN. Hoffman Specialty Mfg. Corp. SN 322,592. Pub. 5-12-70. Filed 3-24-69.  
895,325. STYLECRAFT. Stylecraft Hardware, Inc. SN 327,519. Pub. 5-12-70. Filed 5-16-69.  
895,326. "ADJUS-TO-WALL." Jay R. Smith Mfg. Co. SN 329,280. Pub. 5-12-70. Filed 6-5-69.  
895,327. KARTRON INDUSTRIAL AND DESIGN. Kar Products of the Greater Southwest, Inc. SN 331,758. Pub. 5-12-70. Filed 7-3-69.  
895,328. COLONY. American Standard Inc. SN 340,488. Pub. 5-12-70. Filed 10-13-69.  
895,329. NEUVOGUE. Crane Co. SN 342,235. Pub. 5-12-70. Filed 10-31-69.  
895,330. KENNEDY. Kennedy Valve Mfg. Co., Inc. SN 342,746. Pub. 5-12-70. Filed 11-5-69.  
895,331. BEAUTYWARE. Lincoln Metal Products Corporation. SN 348,737. Pub. 5-12-70. Filed 1-16-70.

**Class 14 — Metals and Metal Castings and Forgings**

895,294. (See Class 5 for this trademark.)  
895,321. (See Class 13 for this trademark.)  
895,332. LWT. Baldt Corporation, assignee of Universal Marion Corporation. SN 281,933. Pub. 5-12-70. Filed 10-5-67.  
895,333. CALSIFER. Foote Mineral Co. SN 342,036. Pub. 5-12-70. Filed 10-29-69.

**Class 15 — Oils and Greases**

895,334. SEXAUER PRODUCTS AND DESIGN. J. A. Sexauer Mfg. Co., Inc. SN 328,596. Pub. 5-12-70. Filed 5-28-69.

**Class 16 — Protective and Decorative Coatings**

895,294. (See Class 5 for this trademark.)  
895,335. ZIP-GUARD. Star Bronze Company. SN 319,083. Pub. 5-12-70. Filed 2-13-69.

**Class 17 — Tobacco Products**

895,336. ARD RI. P. J. Carroll & Company Limited. SN 317,818. Pub. 5-12-70. Filed 1-29-69.  
895,337. BRADBERRY AND DESIGN. Bradberry Briar Pipe Corporation. SN 319,576. Pub. 5-12-70. Filed 2-19-69.  
895,338. CLOVER BLOOM. Scott Tobacco Company. SN 326,599. Pub. 5-12-70. Filed 5-7-69.  
895,339. MYSTERE. Bayuk Cigars Incorporated. SN 328,262. Pub. 5-12-70. Filed 5-26-69.  
895,340. LOUP DEMER. Loup-de-Mer Corp. SN 331,120. Pub. 5-12-70. Filed 6-27-69.  
895,341. LOUP DEMER AND DESIGN. Loup-de-Mer Corp. SN 331,121. Pub. 5-12-70. Filed 6-27-69.

**Class 18 — Medicines and Pharmaceutical Preparations**

895,342. BQ. The Norwich Pharmacal Company (Delaware corporation), assignee of The Norwich Pharmacal Company (New York corporation). SN 271,888. Pub. 1-9-68. Filed 5-19-67.  
895,343. GELIFUNDOL. Biotest Serum-Institut GmbH. SN 309,021. Pub. 5-21-70. Filed 10-7-68.  
895,344. GASTRILS. Endo Laboratories, Inc. (Delaware corporation), assignee of Endo Laboratories, Inc. (New York corporation). SN 319,150. Pub. 5-12-70. Filed 2-14-69.  
895,345. FE-BRONE. Betan Company, Inc. SN 321,174. Pub. 5-12-70. Filed 3-10-69.  
895,346. HANSOLAR. Parke, Davis & Company. SN 331,835. Pub. 5-12-70. Filed 7-7-69.  
895,347. METROGESIC. Metro Med, Inc. SN 331,921. Pub. 5-12-70. Filed 7-7-69.  
895,348. AARANE. Syntex Laboratories, Inc. SN 347,070. Pub. 5-12-70. Filed 12-24-69.  
895,349. INTERSEPT. Johnson & Johnson. SN 347,552. Pub. 5-12-70. Filed 1-2-70.  
895,350. RETINAC. Johnson & Johnson. SN 347,553. Pub. 5-12-70. Filed 1-2-70.

**Class 19 — Vehides**

895,351. SPICER. Dana Corporation, MULTIPLE CLASS (Classes 19 and 23). SN 300,175. Pub. 5-12-70. Filed 6-11-68.  
895,352. ESCORT. Ford Motor Company Limited. SN 304,454. Pub. 11-11-69. Filed 8-6-68.  
895,353. LIFE GUARD CONSTRUCTION LGC AND DESIGN. Larson Industries, Inc. SN 309,590. Pub. 5-12-70. Filed 10-14-68.  
895,354. F AND DESIGN. Georg Fritzmeier KG. SN 315,076. Pub. 5-12-70. Filed 12-23-68.  
895,355. LINDER-LENE. Greene's Material Handling Equipment & Supply Inc. SN 321,355. Pub. 5-12-70. Filed 1-6-69.  
895,356. MISCELLANEOUS DESIGN. Globestar Industries, Inc. SN 322,288. Pub. 5-12-70. Filed 3-20-69.  
895,357. PEEK-A-BOO DINK AND DESIGN. Lott's Marine Interiors, Inc. SN 323,460. Pub. 5-12-70. Filed 4-2-69.  
895,358. RAIDER. Rudi Schoppenthau. SN 323,476. Pub. 5-12-70. Filed 4-2-69.  
895,359. WHITE CONSTRUCTOR. White Motor Corporation. SN 325,638. Pub. 5-12-70. Filed 4-25-69.  
895,360. CAVEMAN CAMPER. Di Giorgio Leisure Products, Inc., assignee of Caveman Campers, Inc. SN 326,070. Pub. 5-12-70. Filed 5-1-69.  
895,361. WAGTAIL. Victor N. Davies. SN 326,080. Pub. 5-12-70. Filed 5-1-69.  
895,362. C AND DESIGN. Cushionflight Corporation. SN 327,865. Pub. 5-12-70. Filed 5-15-69.  
895,363. GULFSTREAM. Gulfstream Boats, Inc. SN 329,468. Pub. 5-12-70. Filed 6-9-69.  
895,364. WAFFLE SIDE. Pullman Incorporated. SN 330,194. Pub. 5-12-70. Filed 6-16-69.  
895,365. F FALCON AND DESIGN. Pan American World Airways, Inc. SN 334,110. Pub. 5-12-70. Filed 7-31-69.  
895,366. ALJO. Skyline Corporation. SN 335,779. Pub. 5-12-70. Filed 8-20-69.  
895,367. SLOT MAG. International Mfg. Co., Inc. SN 336,261. Pub. 5-12-70. Filed 8-14-69.  
895,368. AVCO AND DESIGN. Avco Corporation. SN 342,584. Pub. 5-12-70. Filed 11-4-69.  
895,369. KINGS CRAFT AND DESIGN. Kings-Craft Corporation. SN 344,720. Pub. 5-12-70. Filed 11-26-69.  
895,370. CARGONAUT. Fairchild Hiller Corporation. SN 348,388. Pub. 5-12-70. Filed 1-13-70.  
895,371. FH-227. Fairchild Hiller Corporation. SN 348,389. Pub. 5-12-70. Filed 1-13-70.  
895,372. MONITOR. Monitor Coach Company, Inc. SN 348,562. Pub. 5-12-70. Filed 1-14-70.  
895,373. COTTON PICKER. Schwinn Bicycle Company. SN 349,088. Pub. 5-12-70. Filed 1-20-70.  
895,374. SUBURBAN. Schwinn Bicycle Company. SN 349,218. Pub. 5-12-70. Filed 1-21-70.  
895,375. FUTURA. De Rose Industries, Inc. SN 349,955. Pub. 5-12-70. Filed 1-29-70.

**Class 20 — Linoleum and Oiled Cloth**

895,376. CASTILIAN. Armstrong Cork Company. SN 342,714. Pub. 5-12-70. Filed 11-5-69.

**Class 21 — Electrical Apparatus, Machines, and Supplies**

895,310. (See Class 11 for this trademark.)  
895,311. (See Class 11 for this trademark.)

895,317. (See Class 13 for this trademark.)  
895,321. (See Class 13 for this trademark.)  
895,377. TBM AND DESIGN. Tsubame Radio Co., Ltd. SN 239,345. Pub. 4-11-67. Filed 2-21-66.  
895,378. TOCCOSTAT. Park-Ohio Industries, Incorporated. MULTIPLE CLASS (Classes 21 and 34). SN 308,247. Pub. 5-12-70. Filed 9-26-68.  
895,379. GOLDEN T. T.G. & Y. Stores Company. SN 314,989. Pub. 5-12-70. Filed 12-20-68.  
895,380. SEAL-SITTER. Crane Packing Company. SN 315,304. Pub. 5-12-70. Filed 12-27-68.  
895,381. MINITELL. H. Levitt, d.b.a. Levitt Ventures. SN 316,662. Pub. 5-12-70. Filed 1-15-69.  
895,382. CONSTAVOLT FLOAT. Austin W. La Marche. SN 316,795. Pub. 5-12-70. Filed 1-16-69.  
895,383. SUPER BUTE AND DESIGN. General Electric Company. SN 317,446. Pub. 5-12-70. Filed 1-24-69.  
895,384. SWELEC 700. Stewart-Warner Corporation. SN 319,208. Pub. 5-12-70. Filed 2-14-69.  
895,385. MSL. MSL Industries, Inc. MULTIPLE CLASS (Classes 21 and 34). SN 320,630. Pub. 5-12-70. Filed 3-3-69.  
895,386. POSITOOL. Autonumerics, Inc. SN 321,161. Pub. 5-12-70. Filed 3-10-69.  
895,387. SPC. Solid Power Corporation. SN 322,915. Pub. 5-12-70. Filed 3-26-69.  
895,388. SP DESIGN. Solid Power Corporation. SN 322,916. Pub. 5-12-70. Filed 3-26-69.  
895,389. R-GAP. American Plasticraft Company. SN 322,950. Pub. 5-12-70. Filed 3-27-69.  
895,390. TELESCEIENCES. Telescences, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 325,523. Pub. 5-12-70. Filed 4-24-69.  
895,391. ADM. Audio Designs and Manufacturing, Inc. SN 325,702. Pub. 2-10-70. Filed 4-28-69.  
895,392. URBAN. Preformed Line Products Company. SN 326,682. Pub. 5-12-70. Filed 5-7-69.  
895,393. CRO-MO-TROL. Chromalloy American Corporation. SN 327,234. Pub. 5-12-70. Filed 5-14-69.  
895,394. RADIO SPEAKER DESIGN. Chicago Bell Limited Co. SN 327,857. Pub. 5-12-70. Filed 5-21-69.  
895,395. PONY VAC. Proctor-Siler Incorporated. SN 330,774. Pub. 5-12-70. Filed 6-23-69.  
895,396. IPAC. The Ipac Group, Inc. SN 330,836. Pub. 5-12-70. Filed 6-24-69.  
895,397. POWERDYNE. Powerdyne Inc. SN 330,951. Pub. 5-12-70. Filed 6-25-69.  
895,398. UCAR. Union Carbide Corporation. SN 332,759. Pub. 5-12-70. Filed 7-16-69.  
895,399. SPEED JUDGE. Rex Chainbelt Inc. SN 334,875. Pub. 5-12-70. Filed 8-4-69.  
895,400. ACCU-CODER. Encoder Products Company. SN 335,004. Pub. 5-12-70. Filed 8-11-69.  
895,401. NPC. Nucleonic Products Company, Inc. SN 335,301. Pub. 5-12-70. Filed 8-14-69.  
895,402. LUNALAR. Solar Light Manufacturing Co. SN 336,188. Pub. 5-12-70. Filed 8-25-69.  
895,403. TRANSPHONIC. Morse Electro Products Corp. MULTIPLE CLASS (Classes 21 and 36). SN 339,066. Pub. 5-12-70. Filed 9-29-69.  
895,404. POWERSONIC. International Battery, Inc. SN 340,021. Pub. 5-12-70. Filed 10-7-69.  
895,405. MMA DESIGN. RFM Industries Corporation. SN 340,739. Pub. 5-12-70. Filed 10-15-69.  
895,406. UTAH. Utah-American Corporation. SN 344,479. Pub. 5-12-70. Filed 11-24-69.  
895,407. ALUMADROP. Superior Continental Corporation. SN 346,127. Pub. 5-12-70. Filed 12-12-69.  
895,408. DIGITAMP (DESIGN). Selectrons, Ltd. SN 347,003. Pub. 5-12-70. Filed 12-23-69.



**Class 22 — Games, Toys, and Sporting Goods**

- 895,409. MUSKIE-PIKE. Gladding Corporation. SN 297,558. Pub. 5-12-70. Filed 5-7-68.
- 895,410. "MATCHBOX." Lesney Products & Co., Limited. SN 299,850. Pub. 10-21-69. Filed 6-6-68.
- 895,411. RANGE-O-MATIC. Richard F. Carella, d.b.a. Range-O-Matic Sight Company. SN 303,823. Pub. 5-12-70. Filed 7-29-68.
- 895,412. SOCK-IT-TO-ME. George Schlatter-Ed Friendly Productions and Romart, Inc. (Joint venture). SN 313,695. Pub. 5-12-70. Filed 12-5-68.
- 895,413. SCAPEGOAT. Scapegoat, Inc. SN 314,460. Pub. 5-12-70. Filed 12-13-68.
- 895,414. RIDERS UP. Joseph Imperato. SN 315,292. Pub. 5-12-70. Filed 12-27-68.
- 895,415. MAN AND GOLF CLUB DESIGN. Karsten Solheim. SN 316,143. Pub. 5-12-70. Filed 1-8-69.
- 895,416. GALAXY AND DESIGN. Arrow International Ltd., d.b.a. Complex. SN 316,176. Pub. 5-12-70. Filed 1-9-69.
- 895,417. FISH, WAVED LINES AND DESIGN. Anderson Bait Distributors, Inc. SN 318,874. Pub. 5-12-70. Filed 11-25-68.
- 895,418. MARK THE LANDMARK. The Franklin Mint, Inc. SN 320,481. Pub. 5-12-70. Filed 3-3-69.
- 895,419. SPACE AGE. The Franklin Mint, Inc. SN 320,508. Pub. 5-12-70. Filed 3-3-69.
- 895,420. GREAT ADVENTURE. The Franklin Mint, Inc. SN 320,517. Pub. 5-12-70. Filed 3-3-69.
- 895,421. GREAT DISCOVERIES. The Franklin Mint, Inc. SN 320,529. Pub. 5-12-70. Filed 3-3-69.
- 895,422. SPIRIT OF '76. The Franklin Mint, Inc. SN 320,538. Pub. 5-12-70. Filed 3-3-69.
- 895,423. SPORTSARAMA. The Franklin Mint, Inc. SN 320,549. Pub. 5-12-70. Filed 3-3-69.
- 895,424. HEROES OF HISTORY. The Franklin Mint, Inc. SN 320,564. Pub. 5-12-70. Filed 3-3-69.
- 895,425. WORLD POWER. Staton D. Lorenz. SN 322,601. Pub. 5-12-70. Filed 3-24-69.
- 895,426. SOFTPROTECT. Adidas-Fabrique de Chaussures de Sport. SN 329,322. Pub. 5-12-70. Filed 6-6-69.
- 895,427. GLITTER GULCH. Creative Development Company. SN 329,342. Pub. 5-12-70. Filed 6-6-69.
- 895,428. D AND DESIGN. Dunlop Tire and Rubber Corporation. SN 331,033. Pub. 5-12-70. Filed 6-26-69.
- 895,429. SCOOP-A-LOOP. Romper Room Enterprises, Inc., assignee of Hasbro Industries, Inc. SN 334,324. Pub. 5-12-70. Filed 8-4-69.
- 895,430. NAN 'N FRAN. Mattel, Inc. SN 334,521. Pub. 5-12-70. Filed 8-6-69.
- 895,431. PEP TALK. Mattel, Inc. SN 334,523. Pub. 5-12-70. Filed 8-6-69.
- 895,432. ELESFLOOSHER. Mattel, Inc. SN 334,936. Pub. 5-12-70. Filed 8-11-69.
- 895,433. CLIPPITY SNIPPITY. Mattel, Inc. SN 334,938. Pub. 5-12-70. Filed 8-11-69.
- 895,434. FINGER DINGER. Mattel, Inc. SN 338,852. Pub. 5-12-70. Filed 9-25-69.
- 895,435. RACING WORLD. Mattel, Inc. SN 339,100. Pub. 5-12-70. Filed 9-29-69.
- 895,436. ON GUARD. Parker Brothers, Inc. SN 340,332. Pub. 5-12-70. Filed 10-10-69.
- 895,437. GAF AND DESIGN. GAF Corporation. SN 340,708. Pub. 5-12-70. Filed 10-15-69.
- 895,438. TRINA 'N TRIKI. Mattel, Inc. SN 341,751. Pub. 5-12-70. Filed 10-27-69.
- 895,439. SILHOUETTE WHEEL. Dynamic Classics, Ltd. SN 342,701. Pub. 5-12-70. Filed 11-5-69.
- 895,440. BIG BELTER. Mattel, Inc. SN 345,761. Pub. 5-12-70. Filed 12-10-69.
- 895,441. POWER PIT. Mattel, Inc. SN 345,762. Pub. 5-12-70. Filed 12-10-69.
- 895,442. HOT STREAKS. Mattel, Inc. SN 346,182. Pub. 5-12-70. Filed 12-15-69.
- 895,443. SURFSIDER. Mattel, Inc. SN 346,184. Pub. 5-12-70. Filed 12-15-69.

**Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof**

- 895,281. (See Class 2 for this trademark.)
- 895,294. (See Class 5 for this trademark.)
- 895,310. (See Class 11 for this trademark.)
- 895,311. (See Class 11 for this trademark.)
- 895,351. (See Class 19 for this trademark.)
- 895,444. QUICK-TRIM. J. Wiss and Sons Co. SN 224,679. Pub. 3-8-66. Filed 7-30-65.
- 895,445. AUTOSTILL. Howe-Baker Engineers, Inc. SN 278,102. Pub. 5-12-70. Filed 8-11-67.
- 895,446. SAN-DEL. M. P. Odell Company. MULTIPLE CLASS (Classes 23, 34, and 52). SN 292,316. Pub. 5-12-70. Filed 3-4-68.
- 895,447. POLYBEAMER. Leeson Limited. SN 293,630. Pub. 5-12-70. Filed 3-19-68.
- 895,448. PMB. Pioneer Motor Bearing Co. SN 295,554. Pub. 5-12-70. Filed 4-12-68.
- 895,449. ULTRAD-ION. Ultradynamics Corp. SN 301,475. Pub. 5-12-70. Filed 6-26-68.
- 895,450. FRESCO. The French Oil Mill Machinery Company. SN 303,048. Pub. 5-21-70. Filed 7-16-68.
- 895,451. HYDRA-DYNE. Brewer Corporation. SN 306,332. Pub. 5-12-70. Filed 8-30-68.
- 895,452. SINKMASTER. M-P Corporation. SN 314,978. Pub. 2-17-70. Filed 12-20-68.
- 895,453. LITTLE MULE. Aluminum Products, Inc. SN 315,807. Pub. 5-12-70. Filed 12-31-68.
- 895,454. GILDEMEISTER G AND DESIGN. Gildemeister & Comp. Akt.-Ges. SN 318,541. Pub. 5-12-70. Filed 2-6-69.
- 895,455. LUNDA. Elektriska Eltelko Aktiebolag. SN 319,148. Pub. 5-12-70. Filed 2-14-69.
- 895,456. D WITHIN A CHECKERBOARD DESIGN. Boise Cascade Corporation. SN 320,421. Pub. 5-12-70. Filed 3-3-69.
- 895,457. ASR. Process Control Corporation. SN 321,727. Pub. 5-12-70. Filed 3-14-69.
- 895,458. GUST-AIRE. Gustone Products, Inc. SN 322,291. Pub. 5-12-70. Filed 3-20-69.
- 895,459. LUBRASTART. Lubrastart Company. SN 322,602. Pub. 5-12-70. Filed 3-24-69.
- 895,460. THE LITHOPLATER. Western Litho Plate & Supply Co. SN 323,980. Pub. 5-12-70. Filed 4-8-69.
- 895,461. SABRE 3X. CF & I Steel Corporation. SN 325,003. Pub. 5-12-70. Filed 4-21-69.
- 895,462. KG DESIGN. Berwind Corporation. SN 326,657. Pub. 5-12-70. Filed 5-7-69.
- 895,463. NAGLE. Nagle Pumps, Inc. SN 327,040. Pub. 5-12-70. Filed 5-12-69.
- 895,464. COUVENIT. Edouard Dubied & Cie Societe Anonyme. SN 327,368. Pub. 5-12-70. Filed 5-15-69.
- 895,465. POWER TIP. Textron Inc. SN 328,603. Pub. 5-12-70. Filed 5-28-69.
- 895,466. VAUGHAN. Vaughan & Bushnell Mfg. Co. SN 331,080. Pub. 5-12-70. Filed 6-26-69.
- 895,467. KITCHEN-PROOF. Gerber Legendary Blades. SN 331,183. Pub. 5-12-70. Filed 6-27-69.
- 895,468. STAKHAND. Hesston Corporation. SN 332,481. Pub. 5-12-70. Filed 7-14-69.
- 895,469. ROTO-JET. Purex Corporation, Ltd., d.b.a. Turco Products, Inc. SN 334,027. Pub. 3-17-70. Filed 7-31-69.
- 895,470. VYKAN. Monsanto Company. SN 334,860. Pub. 5-12-70. Filed 8-4-69.

- 895,471. GARLITE. Garlock Inc. SN 337,088. Pub. 5-12-70. Filed 9-4-69.
- 895,472. BLUE SWINGER. Tenneco Inc., assignee of Walker Manufacturing Company. SN 338,944. Pub. 5-12-70. Filed 9-25-69.
- 895,473. GROTESQUE OF SMALL GIRL. Homestead Industries, Inc. SN 339,432. Pub. 5-12-70. Filed 10-1-69.
- 895,474. AIRSTROKE. The Firestone Tire & Rubber Company. SN 340,540. Pub. 5-12-70. Filed 10-13-69.
- 895,475. IBP. IBP Equipment Corporation. SN 341,075. Pub. 5-12-70. Filed 10-16-69.
- 895,476. METRO-OFFSET. North American Rockwell Corporation, Pittsburgh, Pa., assignee of Miehl-Goss-Dexter, Inc. SN 341,675. Pub. 5-12-70. Filed 10-24-69.
- 895,477. AMP-PAK. AMP Incorporated. SN 342,711. Pub. 5-12-70. Filed 11-5-69.
- 895,478. INDEPENDENCE. Oneida Ltd. SN 342,994. Pub. 5-12-70. Filed 11-7-69.
- 895,479. DUALFLO. Artisan Industries, Inc. SN 347,855. Pub. 5-12-70. Filed 1-7-70.
- 895,480. TRU-NIP. Rodney Hunt Company. SN 348,216. Pub. 5-12-70. Filed 1-12-70.
- 895,494. THERMY AND DESIGN. Mura Corporation. SN 316,329. Pub. 5-12-70. Filed 1-10-69.
- 895,495. SCORULE. The Shuford-Massengill Corporation. SN 322,192. Pub. 5-12-70. Filed 3-19-69.
- 895,496. BLACK DIAMOND AND DESIGN. Rite Electronics Corporation. SN 322,339. Pub. 5-12-70. Filed 3-20-69.
- 895,497. EXTRAVAC. Societe Generale du Vide (SOGEV). SN 322,355. Pub. 5-12-70. Filed 3-20-69.
- 895,498. ACCU-TRACK. Hayssen Manufacturing Company. SN 324,290. Pub. 5-12-70. Filed 4-11-69.
- 895,499. TRI-TACH. Sun Electric Corporation. SN 324,849. Pub. 5-12-70. Filed 4-17-69.
- 895,500. VII. Visual Information Institute, Inc. SN 325,909. Pub. 5-12-70. Filed 4-29-69.
- 895,501. PLASTISAFE. American Optical Corporation. SN 329,676. Pub. 5-12-70. Filed 6-11-69.
- 895,502. FROSTGARD. Gulton Industries, Inc. SN 329,855. Pub. 5-12-70. Filed 6-12-69.
- 895,503. INFO-SCOPE. McBain Instruments, Inc. SN 329,998. Pub. 5-12-70. Filed 6-13-69.
- 895,504. TELL-OK. Engelhard Minerals & Chemicals Corporation. SN 331,736. Pub. 5-12-70. Filed 7-3-69.
- 895,505. RETAILER. Reliance Electric Company. SN 338,433. Pub. 5-12-70. Filed 9-19-69.
- 895,506. RAC COMPETITION AND DESIGN. Rite Electronics Corporation. SN 341,851. Pub. 5-12-70. Filed 10-27-69.
- 895,507. TEMPTRAK. Sloan Instruments Corporation. SN 342,326. Pub. 5-12-70. Filed 10-31-69.
- 895,508. FFI. Cambridge Research and Development Group. SN 345,303. Pub. 5-12-70. Filed 12-4-69.
- 895,509. CANARY. Ambac Industries, Inc. SN 346,200. Pub. 5-12-70. Filed 12-15-69.
- 895,510. VISTA. Infoton, Incorporated. SN 346,811. Pub. 5-12-70. Filed 12-22-69.
- 895,511. DACOTEX. Diamond Shamrock Corporation. SN 348,728. Pub. 5-12-70. Filed 1-16-70.

**Class 24 — Laundry Appliances and Machines**

- 895,481. DONINI AND DESIGN. F.M. Donini S.a.S. Officine Elettromeccaniche. SN 312,579. Pub. 5-12-70. Filed 11-19-68.

**Class 25 — Locks and Safes**

- 895,310. (See Class 11 for this trademark.)
- 895,311. (See Class 11 for this trademark.)
- 895,482. MAXI-BAR. Security Research and Development, Inc. SN 331,245. Pub. 5-12-70. Filed 6-27-69.

**Class 26 — Measuring and Scientific Appliances**

- 895,310. (See Class 11 for this trademark.)
- 895,311. (See Class 11 for this trademark.)
- 895,390. (See Class 21 for this trademark.)
- 895,483. MIDLAND. Midland International Corporation, by change of name from Custom Importing Company. SN 156,089. Pub. 9-1-64. Filed 10-29-62.
- 895,484. "F." Ultra Carbon Corporation. MULTIPLE CLASS (Classes 26 and 34). SN 270,308. Pub. 5-12-70. Filed 5-1-67.
- 895,485. MICROFLEX. Nippon Kogaku Kabushiki Kaisha. SN 292,002. Pub. 5-20-69. Filed 2-27-68.
- 895,486. KEYSAP. Honeywell Inc. SN 306,489. Pub. 8-26-69. Filed 9-3-68.
- 895,487. ELECTRON SYMBOL. Data Pacific Corporation. SN 306,850. Pub. 5-12-70. Filed 9-5-68.
- 895,488. EXERPACER. Fitness, Inc. SN 308,612. Pub. 2-10-70. Filed 10-1-68.
- 895,489. IN-CONTROL. UMC Electronics Co. SN 313,362. Pub. 1-20-70. Filed 11-29-68.
- 895,490. TERRAILLON. Terrailon S.A. SN 314,632. Pub. 5-12-70. Filed 12-16-68.
- 895,491. THERMOSEL AND DESIGN. Brookfield Engineering Laboratories, Inc. SN 316,178. Pub. 5-12-70. Filed 1-9-69.
- 895,492. IODISC. Iomec, Inc. SN 316,312. Pub. 5-12-70. Filed 1-10-69.
- 895,493. IOMEC INC AND DESIGN. Iomec, Inc. SN 316,313. Pub. 5-12-70. Filed 1-10-69.

**Class 27 — Horological Instruments**

- 895,512. AUDIGUET. Societe Anonyme de la Manufacture d'Horlogerie Audemars, Piguet et Co. SN 305,687. Pub. 5-12-70. Filed 8-21-68.
- 895,513. L AND DESIGN. Regency Creations, Inc. SN 330,198. Pub. 5-12-70. Filed 6-16-69.

**Class 28 — Jewelry and Precious-Metal Ware**

- 895,514. AUTUMN GOLD. Textron Inc. SN 331,443. Pub. 5-12-70. Filed 6-30-69.

**Class 29 — Brooms, Brushes, and Dusters**

- 895,294. (See Class 5 for this trademark.)
- 895,515. DURAFAB AND DESIGN. Durafab Disposables, Inc. MULTIPLE CLASS (Classes 29, 37, 42, and 44). SN 322,276. Pub. 5-12-70. Filed 8-20-69.

**Class 31 — Filters and Refrigerators**

- 895,516. THE SERVISOFT TOUCH AND DESIGN. Water Treatment Corporation. MULTIPLE CLASS (Classes 31 and 106). SN 306,004. Pub. 2-24-70. Filed 8-26-68.



**Class 32 — Furniture and Upholstery**

- 895,294. (See Class 5 for this trademark.)  
 895,310. (See Class 11 for this trademark.)  
 895,311. (See Class 11 for this trademark.)  
 895,517. GAF AND DESIGN. GAF Corporation. SN 325,302. Pub. 5-12-70. Filed 4-23-69.  
 895,518. BOMEX. Bomex Products Co., Inc. SN 336,737. Pub. 5-12-70. Filed 9-2-69.  
 895,519. ONEIDA TABLE TOP FASHION SHOP. Oneida Ltd. SN 340,452. Pub. 5-12-70. Filed 12-5-69.  
 895,520. CON-VEX-O. Con-Vex-O Chair & Lounge Co., Inc. SN 346,456. Pub. 5-12-70. Filed 12-17-69.  
 895,521. MAGIC TREE. Tri-State Displays, Inc. SN 346,530. Pub. 5-12-70. Filed 12-17-69.  
 895,522. FRINGEMASTER. Clapay Corporation. SN 346,727. Pub. 5-12-70. Filed 12-19-69.

**Class 34 — Heating, Lighting, and Ventilating Apparatus**

- 895,281. (See Class 2 for this trademark.)  
 895,378. (See Class 21 for this trademark.)  
 895,385. (See Class 21 for this trademark.)  
 895,446. (See Class 23 for this trademark.)  
 895,484. (See Class 26 for this trademark.)  
 895,523. POMONAIR AND DESIGN. Pomona Air, Inc., d.b.a. Allied Air Conditioning. SN 291,423. Pub. 9-6-69. Filed 2-19-68.  
 895,524. FIRST MATE. Thermal Engineering & Design Co. SN 293,958. Pub. 5-12-70. Filed 3-22-68.  
 895,525. TENSIL-COR. Air Reduction Company, Incorporated. SN 317,297. Pub. 5-12-70. Filed 1-23-69.  
 895,526. FANCIFUL HEN (DESIGN). Little Red Hen Country Chicken, Inc., assignee, by mesne assignment, of Little Red Hen Country Chicken, Inc. MULTIPLE CLASS (Classes 34, 46, 100, and 101). SN 326,025. Pub. 5-12-70. Filed 5-1-69.  
 895,527. I INTERTHERM. Interttherm, Inc. SN 333,797. Pub. 5-12-70. Filed 7-29-69.  
 895,528. SOLDER-ETTE. Fedtro, Inc. SN 335,164. Pub. 5-12-70. Filed 8-13-69.

**Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires**

- 895,529. ASSOCIATED TIRE CENTERS AND DESIGN. Associated Tire Centers, Inc. SN 328,802. Pub. 5-12-70. Filed 6-2-69.

**Class 36 — Musical Instruments and Supplies**

- 895,403. (See Class 21 for this trademark.)  
 895,530. SPRINGBOARD. Springboard International Records, Inc. SN 326,803. Pub. 5-12-70. Filed 5-8-69.  
 895,531. NOW RECORDS ETC. Arthur Egnolan, d.b.a. Now Records. SN 327,245. Pub. 5-12-70. Filed 5-14-69.  
 895,532. MUSICLAND. J. L. Marsh, Inc. SN 327,393. Pub. 5-12-70. Filed 5-15-69.  
 895,533. SUPREME. Supreme Musical Instrument Co. SN 327,520. Pub. 5-12-70. Filed 5-16-69.  
 895,534. EVENT. Event Records, Inc. SN 334,923. Pub. 5-12-70. Filed 8-11-69.  
 895,535. J-45 AND DESIGN. Gibson, Inc. SN 347,604. Pub. 5-12-70. Filed 1-2-70.

- 895,536. J-50 AND DESIGN. Gibson, Inc. SN 347,605. Pub. 5-12-70. Filed 1-2-70.

**Class 37 — Paper and Stationery**

- 895,294. (See Class 5 for this trademark.)  
 895,310. (See Class 11 for this trademark.)  
 895,311. (See Class 11 for this trademark.)  
 895,515. (See Class 29 for this trademark.)  
 895,537. T-O-F TEL-ORDER-FLOW SYSTEM. William Harrison. SN 227,500. Pub. 4-25-67. Filed 9-9-65.  
 895,538. LETH-R-WOOD. Ad-A-Day Company, Inc. SN 294,565. Pub. 5-12-70. Filed 4-1-68.  
 895,539. GEMTERTAINMENT. Paul S. Heitman, d.b.a. Gem-Mounts and Gem-Masks Co. SN 319,885. Pub. 5-12-70. Filed 2-24-69.  
 895,540. GEMINI. Paul S. Heitman, d.b.a. Gem-Mounts and Gem-Masks Co. SN 319,887. Pub. 5-12-70. Filed 2-24-69.  
 895,541. GEMMY. Paul S. Heitman, d.b.a. Gem-Mounts and Gem-Masks Co. SN 319,888. Pub. 5-12-70. Filed 2-24-69.  
 895,542. FUN-ONE'S. Paul S. Heitman, d.b.a. Gem-Mounts and Gem-Masks Co. SN 319,889. Pub. 5-12-70. Filed 2-24-69.

**Class 38 — Prints and Publications**

- 895,277. (See Class 1 for this trademark.)  
 895,310. (See Class 11 for this trademark.)  
 895,311. (See Class 11 for this trademark.)  
 895,543. TRUSTGRAM. The Florida National Bank and Trust Company at Miami. SN 291,058. Pub. 5-12-70. Filed 2-14-68.  
 895,544. PHOTO MEDIA. Photo Media Ltd. MULTIPLE CLASS (Classes 38, 100, and 107). SN 331,800. Pub. 5-12-70. Filed 7-7-69.  
 895,545. YOUR UNITOLOGY FORECAST. Alan McConnell & Son, Inc. SN 332,667. Pub. 5-12-70. Filed 7-16-69.  
 895,546. NATIONAL JOURNAL. Center for Political Research. SN 337,402. Pub. 5-12-70. Filed 9-9-69.  
 895,547. CIVIL WAR TIMES ILLUSTRATED. Historical Times, Inc. SN 337,548. Pub. 5-12-70. Filed 9-10-69.  
 895,548. PACKAGING DESIGN. RC Publications, Inc. SN 341,598. Pub. 5-12-70. Filed 10-24-69.  
 895,549. KALAMAZOO LABEL COMPANY K AND DESIGN. Kalamazoo Label Company. SN 346,641. Pub. 5-12-70. Filed 12-8-69.  
 895,550. BUSINESS ORBIT. Orbit Publishing S.A. SN 345,668. Pub. 5-12-70. Filed 12-8-69.

**Class 39 — Clothing**

- 895,551. ALICE POLYNESIAN FASHIONS. Alice Frock Company. SN 301,896. Pub. 5-12-70. Filed 7-8-68.  
 895,552. DURA VENT AND DESIGN. The Bentley Engineering Company Limited. SN 303,499. Pub. 5-12-70. Filed 7-24-68.  
 895,553. ALPI PEARLSILK. Alpi Seidenwebereien und Krawattenfabrik Albrecht Pick K.G. SN 318,616. Pub. 5-12-70. Filed 2-7-69.  
 895,554. NUDNIX. Little Topsy's, Incorporated. SN 321,516. Pub. 5-12-70. Filed 3-12-69.  
 895,555. SEAHORSE ETC. AND DESIGN. Koninklijke Weefgoederenfabriek C.T. Stork & Co., N.V. SN 322,451. Pub. 5-12-70. Filed 3-21-69.  
 895,556. MISCELLANEOUS DESIGN. Maybro Sportwear Co. Inc. SN 325,370. Pub. 5-12-70. Filed 4-23-69.

- 895,557. EXI. E. G. Selzer Erzeugung Von Sportbekleidung Gesellschaft m.b.H. SN 327,753. Pub. 5-12-70. Filed 5-20-69.  
 895,558. GRAFFITI. Little Jo Designs. SN 329,250. Pub. 5-12-70. Filed 6-5-69.  
 895,559. BABY DOLL AND DESIGN. Baby Doll Industries, Inc. SN 329,430. Pub. 5-12-70. Filed 6-9-69.  
 895,560. BIG JOHN. Sunbeam Shoes Limited. SN 330,571. Pub. 5-12-70. Filed 6-20-69.  
 895,561. HOM. Charles Belpaume. SN 330,898. Pub. 5-12-70. Filed 6-25-69.  
 895,562. STAYOUNG. Puritan Fashions Corporation, assignee of Joseph Bancroft & Sons Company. SN 331,714. Pub. 1-6-70. Filed 7-3-69.  
 895,563. HIPPOS. Melville Shoe Corporation. SN 332,664. Pub. 5-12-70. Filed 7-16-69.  
 895,564. QUINTS AND DESIGN. Blue Bell, Inc. SN 332,792. Pub. 5-12-70. Filed 7-17-69.  
 895,565. ESTUPENDO. Manhattan Industries, Inc. SN 332,837. Pub. 5-12-70. Filed 7-17-69.  
 895,566. BLUE DOT. Fendrich Industries, Inc. SN 333,260. Pub. 5-12-70. Filed 7-23-69.  
 895,567. REPELAGERM. Fendrich Industries, Inc. SN 333,262. Pub. 5-12-70. Filed 7-23-69.  
 895,568. KILA KILA. Tex Manufacturing Co., Inc. SN 335,383. Pub. 5-12-70. Filed 8-14-69.  
 895,569. KIMBERLY AND DESIGN. Kimberly Knitwear, Inc. SN 335,724. Pub. 5-12-70. Filed 8-20-69.  
 895,570. SWEATER LEGS. Medici Industries, Ltd. SN 336,585. Pub. 5-12-70. Filed 8-28-69.  
 895,571. KELITA AND CAT DESIGN. Majestic Specialties, Inc. SN 336,826. Pub. 5-12-70. Filed 9-2-69.  
 895,572. THE BRACELET. Rudin & Roth, Inc. SN 337,357. Pub. 5-12-70. Filed 9-8-69.  
 895,573. LA BOUTTICA. La Boutticia Pappagallo, Inc. SN 337,487. Pub. 5-12-70. Filed 9-10-69.  
 895,574. CURL KEEPER. Burton G. Feldman. SN 337,917. Pub. 5-12-70. Filed 9-15-69.  
 895,575. PIPEDREAMS. Evan Stephens. SN 338,624. Pub. 5-12-70. Filed 9-22-69.  
 895,576. THE PATRIOT AND DESIGN. Block-Southland Sportswear, Inc. SN 339,835. Pub. 5-12-70. Filed 10-6-69.  
 895,577. BELOW THE BOTTOM. The James Textile Corp. SN 339,897. Pub. 5-12-70. Filed 10-6-69.  
 895,578. STRETCH-TALK. Jeff Richard, Inc. SN 340,103. Pub. 5-12-70. Filed 10-8-69.  
 895,579. COLFAX. Colfax Industries. SN 340,126. Pub. 5-12-70. Filed 10-8-69.  
 895,580. FAYVA. Morse Shoe, Inc. SN 348,083. Pub. 5-12-70. Filed 1-9-70.  
 895,581. PEANUTS AND DESIGN. Miss Melinda of California. SN 348,845. Pub. 5-12-70. Filed 1-19-70.  
 895,582. 40 EAST. Camp and McInnes, Inc. SN 349,204. Pub. 5-12-70. Filed 1-22-70.  
 895,583. TONE N TONE. Camp and McInnes, Inc. SN 349,265. Pub. 5-12-70. Filed 1-22-70.

**Class 40 — Fancy Goods, Furnishings, and Notions**

- 895,584. KEMPTREX. Tape-Craft Corporation. SN 346,042. Pub. 5-12-70. Filed 12-12-69.

**Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor**

- 895,515. (See Class 29 for this trademark.)  
 895,585. PERFECTION Fieldcrest Mills, Inc. SN 314,059. Pub. 5-12-70. Filed 12-10-68.

- 895,586. AZUREE. Estee Lauder Inc. SN 380,052. Pub. 5-12-70. Filed 6-16-69.  
 895,587. NOR-EAST. B. Priestley & Co., Inc. SN 380,979. Pub. 5-12-70. Filed 6-24-69.  
 895,588. THREE GROTESQUE FIGURES (DESIGN). M. Lowenstein & Sons, Inc. SN 337,814. Pub. 5-12-70. Filed 9-12-69.  
 895,589. BEAUVAIS. Bigelow-Sanford, Inc. SN 338,748. Pub. 5-12-70. Filed 9-24-69.  
 895,590. KANEBO NYLON AND DESIGN. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd. SN 339,325. Pub. 5-12-70. Filed 9-30-69.  
 895,591. TIC-TOC. Thompson of California, Inc. SN 346,988. Pub. 5-12-70. Filed 12-22-69.

**Class 44 — Dental, Medical, and Surgical Appliances**

- 895,515. (See Class 29 for this trademark.)  
 895,592. ROBERTS. Clive E. Roberts, d.b.a. Roberts Orthodontic Laboratory. SN 291,638. Pub. 5-12-70. Filed 2-21-68.  
 895,593. POSTURE MASSAGE AND DESIGN. A & T Engineering, Inc. SN 299,077. Pub. 5-12-70. Filed 5-27-68.  
 895,594. POLYURE ETC. AND DESIGN. Frederick B. Anthon, d.b.a. Frederick B. Anthon Enterprises Polysand-Division. SN 308,068. Pub. 5-12-70. Filed 9-20-68.  
 895,595. BY NATURELLE. Helene Curtis Industries, Inc. SN 308,107. Pub. 5-12-70. Filed 9-24-68.  
 895,596. TRAVEL KIT. Johnson & Johnson. SN 316,274. Pub. 5-12-70. Filed 1-10-69.  
 895,597. AIR-FOIL. Dentsply International Inc., assignee of The Dentists' Supply Company of New York. SN 316,887. Pub. 5-12-70. Filed 1-17-69.  
 895,598. CURL'N GO. Revel Distributors Limited. SN 317,617. Pub. 5-12-70. Filed 1-27-69.  
 895,599. AIRCORD. Alrcord Signal, Inc. SN 323,069. Pub. 5-12-70. Filed 3-28-69.  
 895,600. FIXONET. Nederlands Amerikaanse Brel Maatschappij N.V. SN 324,928. Pub. 5-12-70. Filed 4-18-69.  
 895,601. READIJET. Parke, Davis & Company. SN 327,213. Pub. 5-12-70. Filed 5-14-69.  
 895,602. FEVA-GARD. Popper & Sons, Inc. SN 332,135. Pub. 5-12-70. Filed 7-9-69.  
 895,603. PROPPER PLUS +. Propper Manufacturing Company, Inc. SN 347,559. Pub. 5-12-70. Filed 1-2-70.  
 895,604. FREDDIE THE FROG. Richards Manufacturing Company. SN 347,560. Pub. 5-12-70. Filed 1-2-70.

**Class 45 — Soft Drinks and Carbonated Waters**

- 895,605. PINA PAYA. Castle & Cooke, Inc., d.b.a. Dole Company. SN 320,771. Pub. 5-12-70. Filed 3-5-69.

**Class 46 — Foods and Ingredients of Foods**

- 895,526. (See Class 34 for this trademark.)  
 895,606. MAGI-CAL. Lever Brothers Company. SN 222,038. Pub. 5-12-70. Filed 6-25-65.  
 895,607. ROLLER COASTERS. American Home Products Corporation. SN 286,989. Pub. 5-12-70. Filed 12-15-67.  
 895,608. VALLEY GOLD. Valley View Packing Co., Inc. SN 288,897. Pub. 4-30-68. Filed 1-15-68.  
 895,609. ALBA. Weldon Farm Products, Inc., assignee of Weldon Foods, Inc. SN 306,605. Pub. 5-12-70. Filed 9-4-68.



- 895,610. BORINCANO. R. S. Toro, d.b.a. C.P.A. Importers and Caribbean Pacific Atlantic Importers. SN 314,739. Pub. 5-12-70. Filed 12-17-68.
- 895,611. DAIRY QUEEN. American Dairy Queen Corporation. SN 321,587. Pub. 5-12-70. Filed 4-14-69.
- 895,612. VANTAGE. General Foods Corporation. SN 327,485. Pub. 5-12-70. Filed 5-16-69.
- 895,613. WENDY'S THE GOOD LITTLE WITCH AND DESIGN. Harvey Famous Cartoons. SN 327,490. Pub. 5-12-70. Filed 5-16-69.
- 895,614. PARLOR CAR SUPREME AND DESIGN. Sundae Junction, Inc. SN 328,460. Pub. 5-12-70. Filed 5-27-69.
- 895,615. CONTE VERDE BRAND AND DESIGN. Rosalie Paris. SN 332,893. Pub. 5-12-70. Filed 7-18-69.
- 895,616. KARUMBA. Craig, Mostyn & Co. Pty. Limited. SN 334,430. Pub. 5-12-70. Filed 8-5-69.
- 895,617. BIG TOOTH. Topps Chewing Gum, Incorporated. SN 336,354. Pub. 5-12-70. Filed 8-26-69.
- 895,618. EMULSO. McCormick & Company, Incorporated. SN 336,943. Pub. 5-12-70. Filed 9-3-69.
- 895,619. SPICE-CAP. McCormick & Company, Incorporated. SN 336,944. Pub. 5-12-70. Filed 9-3-69.
- 895,620. FLAVOR-CAP. McCormick & Company, Incorporated. SN 336,945. Pub. 5-12-70. Filed 9-3-69.
- 895,621. ALPHA BLOX. General Foods Corporation. SN 337,537. Pub. 5-12-70. Filed 9-10-69.
- 895,622. DESIRE. General Foods Corporation. SN 337,538. Pub. 5-12-70. Filed 9-10-69.
- 895,623. MISS CHIC AND DESIGN. Arkansas Valley Industries, Inc. SN 337,879. Pub. 5-12-70. Filed 9-15-69.
- 895,624. NITTY GRITTY. Philadelphia Chewing Gum Corporation. SN 338,430. Pub. 5-12-70. Filed 9-19-69.
- 895,625. BIPPIES. Mason, Au & Megenhelmer Confy. Mfg. Co., Inc. SN 338,798. Pub. 5-12-70. Filed 9-24-69.
- 895,626. SUSY'S. Tropical Banana, Inc. SN 338,824. Pub. 5-12-70. Filed 9-24-69.
- 895,627. STEAK MATE. Rockdale Corporation. SN 339,044. Pub. 5-12-70. Filed 9-26-69.
- 895,628. 100 PLUS. Malt-O-Meal Company. SN 339,803. Pub. 5-12-70. Filed 10-6-69.
- 895,629. CITRUS WORLD. Citrus World, Inc. SN 341,082. Pub. 5-12-70. Filed 9-19-69.
- 895,630. STEER'S HORN (DESIGN). Doughboy Industries, Inc. SN 344,777. Pub. 5-12-70. Filed 11-28-69.

### Class 49 — Distilled Alcoholic Liquors

- 895,631. GOLDEN CANADIAN. Norman Williams Co., assignee of E. Martinoli Company. SN 219,019. Pub. 6-28-66. Filed 5-17-65.
- 895,632. CANADIAN GOLD. Barrister Liquors Corp., Ltd. SN 273,025. Pub. 12-31-68. Filed 6-5-67.

### Class 50 — Merchandise Not Otherwise Classified

- 895,633. SATELLITES AND PRIZES. The Franklin Mint, Inc. SN 320,512. Pub. 5-12-70. Filed 3-3-69.
- 895,634. SHOWER BOOT. Ivan M. Holt, d.b.a. Shower Boot Company. SN 328,054. Pub. 5-12-70. Filed 5-22-69.
- 895,635. CLOVER CLOSURES. GTI Corporation. SN 333,816. Pub. 5-12-70. Filed 7-29-69.

### Class 51 — Cosmetics and Toilet Preparations

- 895,636. MIMI. Miriam Collins Palm Beach Laboratories Co. SN 283,916. Pub. 5-12-70. Filed 11-1-67.

- 895,637. GERI LOTION. Geri Creme, Inc. SN 305,448. Pub. 8-26-69. Filed 8-19-68.
- 895,638. GOTAS DE ORO. Ray Sebastian. SN 315,501. Pub. 5-12-70. Filed 12-31-68.
- 895,639. EUROPEAN NATURALS. Alberto-Culver Company. SN 316,282. Pub. 5-12-70. Filed 1-10-69.
- 895,640. AMICA. R. H. Cosmetics Corp., d.b.a. Amica. SN 330,085. Pub. 5-12-70. Filed 6-16-69.
- 895,641. SEBOSTIL. Perma. SN 332,138. Pub. 5-12-70. Filed 7-9-69.
- 895,642. EXCITE. Alberto-Culver Company. SN 338,291. Pub. 5-12-70. Filed 9-19-69.
- 895,643. QUIET HAVEN. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 342,575. Pub. 5-12-70. Filed 11-4-69.
- 895,644. TRANQUILITY. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 342,576. Pub. 5-12-70. Filed 11-4-69.
- 895,645. PUFF AND GO. Avon Products, Inc. SN 342,614. Pub. 5-12-70. Filed 11-4-69.
- 895,646. THE INNOVATORS. Avon Products, Inc. SN 342,615. Pub. 5-12-70. Filed 11-4-69.
- 895,647. PENEDRY. Carter-Wallace, Inc. SN 348,608. Pub. 5-12-70. Filed 1-15-70.
- 895,648. FINISHED BEAUTY. Warner-Lambert Pharmaceutical Company. SN 346,189. Pub. 5-12-70. Filed 12-15-69.
- 895,649. TREASURED LOOK. Warner-Lambert Pharmaceutical Company. SN 346,194. Pub. 5-12-70. Filed 12-15-69.

### Class 52 — Detergents and Soaps

- 895,646. (See Class 23 for this trademark.)
- 895,643. (See Class 51 for this trademark.)
- 895,644. (See Class 51 for this trademark.)
- 895,650. T. Master Chemical Corporation. SN 323,581. Pub. 5-12-70. Filed 4-3-69.
- 895,651. T AND DESIGN. Master Chemical Corporation. SN 323,583. Pub. 5-12-70. Filed 4-3-69.
- 895,652. S.A.B. Colgate-Palmolive Company. SN 338,298. Pub. 5-12-70. Filed 9-19-69.
- 895,653. MISS BRECK. John H. Breck, Inc. SN 342,199. Pub. 5-12-70. Filed 10-9-69.
- 895,654. K W I K S O L V. Colgate-Palmolive Company. SN 344,774. Pub. 5-12-70. Filed 11-28-69.

### Service Marks

### Class 100 — Miscellaneous

- 895,526. (See Class 34 for this trademark.)
- 895,544. (See Class 38 for this trademark.)
- 895,655. MISCELLANEOUS DESIGN. Human Dynamics, Inc. SN 302,418. Pub. 5-12-70. Filed 7-10-68.
- 895,656. FLUME STABILIZATION SYSTEM AND DESIGN. Flume Stabilization Systems, Inc. SN 309,761. Pub. 5-12-70. Filed 10-16-68.
- 895,657. SMOKE WATCHERS INTERNATIONAL AND DESIGN. Smoke Watchers International Inc. SN 309,914. Pub. 5-12-70. Filed 10-17-68.
- 895,658. REGA-CUT. Rega-Cut Franchise Technique, Inc. SN 312,499. Pub. 5-12-70. Filed 11-18-68.
- 895,659. TASK. Task Corporation. MULTIPLE CLASS (Classes 100 and 103). SN 312,508. Pub. 5-12-70. Filed 11-18-68.
- 895,660. CHARACTER DESIGN OF A MALE AND FEMALE. Computer Matching International, Inc. SN 315,699. Pub. 5-12-70. Filed 10-31-68.
- 895,661. LIKA KISSNER. The McLendon Corporation. SN 322,175. Pub. 5-12-70. Filed 3-19-69.

- 895,662. M MEDIMATION AND DESIGN. Medimation, Inc. SN 323,060. Pub. 5-12-70. Filed 3-28-69.
- 895,663. VISION CENTER. Will Ross, Inc. SN 327,416. Pub. 5-12-70. Filed 5-15-69.
- 895,664. ARTHUR TREACHER'S. Arthur Treacher's Fish & Chips, Inc. SN 331,809. Pub. 5-12-70. Filed 7-7-69.
- 895,665. ARTHUR TREACHER'S FISH & CHIPS AND DESIGN. Arthur Treacher's Fish & Chips, Inc. SN 331,811. Pub. 5-12-70. Filed 7-7-69.
- 895,666. A AND STAR DESIGN. Astrological Research Corporation. SN 336,735. Pub. 5-12-70. Filed 9-2-69.
- 895,667. CAMELBACK INN. Marriott Corporation. SN 338,088. Pub. 5-12-70. Filed 9-17-69.
- 895,668. UNCLE JOHN'S. Envirofood, Inc. SN 345,145. Pub. 5-12-70. Filed 12-3-69.
- 895,669. JONATHAN'S. Interstate United Corporation. SN 347,376. Pub. 5-12-70. Filed 12-30-69.

### Class 101 — Advertising and Business

- 895,526. (See Class 34 for this trademark.)
- 895,670. OPEN PANTRY FOOD MART ETC. AND DESIGN. Open Pantry Food Marts, Inc. SN 288,403. Pub. 5-12-70. Filed 1-5-68.
- 895,671. ALWAYS IN SEASON AND SEASONED TO PLEASE. Taco Tico, Inc. SN 294,690. Pub. 5-12-70. Filed 4-1-68.
- 895,672. BAMBERGER'S NEW JERSEY ONE OF AMERICA'S GREAT STORES. R. H. Macy & Co., Inc. SN 299,686. Pub. 5-12-70. Filed 6-4-68.
- 895,673. BAMBERGER'S NEW JERSEY NEW JERSEY'S GREATEST STORE, ONE OF AMERICA'S FINEST. R. H. Macy & Co., Inc. SN 299,687. Pub. 5-12-70. Filed 6-4-68.
- 895,674. AOK AND DESIGN. Harley V. Dee, d.b.a. A-OK Creative Media Markets. SN 302,056. Pub. 5-12-70. Filed 7-5-68.
- 895,675. BOY DESIGN. Pizza Hut, Inc., assignee of Taco, Inc. SN 304,989. Pub. 5-12-70. Filed 8-12-68.
- 895,676. CHARLESPRINT. Charles Offset Co., Inc. SN 308,223. Pub. 5-12-70. Filed 8-29-68.
- 895,677. SID CORLIN INDUSTRIAL DESIGNER-FIV-O-5 ETC. AND DESIGN. Sid Corlin. SN 310,069. Pub. 5-12-70. Filed 10-21-68.
- 895,678. INTER G. La Societe O.C.C.R., Organisation, Conception, Controle, Realisation. SN 310,109. Pub. 5-12-70. Filed 10-21-68.
- 895,679. DANIEL BOONE CHICKEN 'N BEEF. Daniel Boone Fried Chicken, Inc. SN 312,288. Pub. 5-12-70. Filed 11-15-68.
- 895,680. WW DESIGN. Wax & Wicker Works, Inc. SN 316,265. Pub. 5-12-70. Filed 1-9-69.
- 895,681. TESTPAK. Computer Methods Corporation. SN 316,997. Pub. 5-12-70. Filed 1-21-69.
- 895,682. PATHMARKING. Supermarkets General Corporation. SN 317,770. Pub. 5-12-70. Filed 1-28-69.
- 895,683. RAPIC AND MECHANICAL MAN DESIGN. The Reynolds and Reynolds Company. SN 320,878. Pub. 5-12-70. Filed 2-23-69.
- 895,684. ADSCRIP. GAF Corporation. SN 321,789. Pub. 5-12-70. Filed 3-14-69.
- 895,685. TAXON. Taxon Corporation. SN 322,008. Pub. 5-12-70. Filed 3-17-69.
- 895,686. SHOETIQUE. Wohl Shoe Company. SN 322,207. Pub. 5-12-70. Filed 3-19-69.
- 895,687. BEAT THE LINE. Promotivation Inc. SN 323,014. Pub. 5-12-70. Filed 3-27-69.
- 895,688. WALTER DRAKE. Walter Drake and Sons, Inc. SN 323,946. Pub. 5-12-70. Filed 4-8-69.
- 895,689. TEL SEC AND DESIGN. Telephone Secretaries, Inc. SN 324,314. Pub. 5-12-70. Filed 4-11-69.
- 895,690. MAR-TEC AND DESIGN. Statistical Tabulating Corporation. SN 324,523. Pub. 5-12-70. Filed 4-14-69.

- 895,691. WRANGLER WROOST. Blue Bell, Inc. SN 324,559. Pub. 5-12-70. Filed 4-15-69.
- 895,692. BASE EXCHANGE. The Army and Air Force Exchange Service. SN 325,453. Pub. 5-12-70. Filed 4-24-69.
- 895,693. BX. The Army and Air Force Exchange Service. SN 325,454. Pub. 5-12-70. Filed, Apr. 24, 1969.
- 895,694. ADVENTURES IN FLIGHT. Glendinning Companies, Inc. SN 331,189. Pub. 5-12-70. Filed 6-27-69.
- 895,695. MILESTONES OF MANNED FLIGHT. Glendinning Companies, Inc. SN 331,190. Pub. 5-12-70. Filed 6-27-69.
- 895,696. BEAT THE BUDGET. Glendinning Companies, Inc. SN 333,397. Pub. 5-12-70. Filed 7-24-69.
- 895,697. PAYRITE. Payrite Pharmacy, Inc. SN 339,957. Pub. 5-12-70. Filed 10-7-69.
- 895,698. DYN-ECON AND DESIGN. Ocean Garden Products, Inc. SN 349,552. Pub. 5-12-70. Filed 1-26-70.

### Class 102 — Insurance and Financial

- 895,699. THE ARIZONA BANK AND DESIGN. The Arizona Bank. SN 323,898. Pub. 5-12-70. Filed 4-1-69.
- 895,700. EURO BEN. Employee Benefit Consultants, AG. SN 329,346. Pub. 5-12-70. Filed 6-6-69.
- 895,701. WHEELWAYS. Maguire Insurance Agency of Pennsylvania, Inc. SN 335,105. Pub. 5-12-70. Filed 8-12-69.

### Class 103 — Construction and Repair

- 895,321. (See Class 13 for this trademark.)
- 895,659. (See Class 100 for this trademark.)
- 895,702. "CHEM-BLANKS." H. Braun Tool & Instrument Co., Inc. SN 298,103. Pub. 5-12-70. Filed 5-14-68.
- 895,703. RAIN FOR RENT AND DESIGN. Rain for Rent, Inc. SN 325,076. Pub. 5-12-70. Filed 4-21-69.
- 895,704. MISSION LINEN SUPPLY AND BUILDING AND TREES DESIGN. Montecito Manufacturing Company. SN 327,660. Pub. 5-12-70. Filed 5-19-69.
- 895,705. I INTERNATIONAL THERMAL AND DESIGN. Intertherm, Inc. SN 333,716. Pub. 5-12-70. Filed 7-28-69.
- 895,706. THE MONSTER FIGHTERS! E. L. Bruce Co., Inc., assignee of Cook Industries, Inc., d.b.a. Bruce-Terminix, Bruce-Terminix Co., and Terminix Division, E. L. Bruce Co. SN 341,242. Pub. 3-17-70. Filed 10-21-69.

### Class 105 — Transportation and Storage

- 895,707. ORIENT ADVENTURE. International Travel Advisors Incorporated. SN 287,787. Pub. 5-12-70. Filed 12-28-67.
- 895,708. BURLINGTON EMBLEM. Burlington Northern Inc., by merger and change of name from Chicago, Burlington & Quincy Railroad Company. SN 297,765. Pub. 4-7-70. Filed 5-8-68.
- 895,709. THE JOURNEYMASTERS. Robert J. Guerriero, d.b.a. The Journeymasters. SN 310,324. Pub. 5-12-70. Filed 10-23-68.
- 895,710. WIDE WORLD OF GOLF TOURS. Michael C. Roseto. SN 317,385. Pub. 5-12-70. Filed 1-28-69.
- 895,711. PRINCESS CRUISES. Boise Cascade Corporation. SN 319,575. Pub. 5-12-70. Filed 2-19-69.
- 895,712. PRINCESS CRUISES AND DESIGN. Boise Cascade Corporation. SN 320,423. Pub. 5-12-70. Filed 3-3-69.
- 895,713. COMSTOL AND DOTS DESIGN. Comstol Air Transit, Inc. SN 320,127. Pub. 5-12-70. Filed 2-26-69.
- 895,714. ALLEGHENY AIR SYSTEM. Allegheny Airlines, Inc. SN 323,218. Pub. 5-12-70. Filed 4-1-69.
- 895,715. SEPTA AND DESIGN. Southeastern Pennsylvania Transportation Authority. SN 338,247. Pub. 5-12-70. Filed 9-18-69.



**Class 106—Material Treatment**

895,516. (See Class 31 for this trademark.)

**Class 107—Education and Entertainment**

895,544. (See Class 38 for this trademark.)

895,716. THE JUDGE. Wilbur A. Heinemann, Jr. SN 319,600. Pub. 5-12-70. Filed 2-19-69.

895,717. AMERICAN TWIRLING ACADEMY ATA AND DESIGN. William L. Horan, d.b.a. American Twirling Academy. SN 325,361. Pub. 5-12-70. Filed 4-23-69.

895,718. TIFS. Tifs, Inc. SN 332,898. Pub. 5-12-70. Filed 7-18-69.

895,719. MATTSON. George E. Mattson Enterprises, Inc. SN 336,066. Pub. 5-12-70. Filed 8-25-69.

895,720. THE HUMMINGBIRDS. Voss Enterprises, Inc. SN 342,603. Pub. 5-12-70. Filed 11-4-69.

895,721. SEWTIQUE. Doris Marco, d.b.a. Sewtique Fashion Studio. SN 348,482. Pub. 5-12-70. Filed 1-14-70.

895,722. TOMORROWLAND. Walt Disney Productions. SN 349,794. Pub. 5-12-70. Filed 1-28-70.

**Collective Membership Mark****Class 200**

895,723. SPRINGFIELD AND DESIGN. Springfield Revolver Club Inc. SN 319,386. Pub. 5-12-70. Filed 2-17-69.

**Certification Mark****Class A—Goods**

895,724. SAN LUIS AND DESIGN. San Luis Valley Administrative Committee. SN 309,624. Pub. 5-12-70. Filed 10-14-68.

**SUPPLEMENTAL REGISTER**

These registrations are not subject to opposition.

**SECTION 1**

(Combined Certificates)

895,753. Mountain States Wholesale Company, Boise, Idaho. SN 300,391. Filed P.R. 6-14-68; Am. S.R. 4-27-70.

895,775. The Campbell Group, Detroit, Mich., assignee of Campbell Group, Detroit, Mich. SN 280,390. Filed P.R. 9-15-67; Am. S.R. 4-13-70.

*Tres Bon*

The translation of the mark is "very good." Stippling appearing on the drawing is for purposes of shading only and is not intended to indicate color.

**Class 51—Cosmetics and Toilet Preparations**

For Hand Lotion, Nail Polish Remover, and Hair Rinse (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Hair Shampoo (Int. Cl. 3).

First use Mar. 15, 1966.

**CAMPBELL GROUP****Class 100—Miscellaneous**

For Site Selection, Facility Planning and Design, and Plant Layout for Industrial Plants (Int. Cl. 42).

**Class 102—Insurance and Financial**

For Financing Industrial Plants and Arranging for the Financing Thereof (Int. Cl. 36).

**Class 103—Construction and Repair**

For Construction of Industrial Plants and Installation of Equipment Therein (Int. Cl. 37).

First use Aug. 22, 1967.

**SECTION 2****Class 1—Raw or Partly Prepared Materials**

895,725. Hewett P. Mulford &amp; Company, Lebanon, Ohio. SN 295,363. Filed P.R. 4-10-68; Am. S.R. 4-1-70.

**MUMDECOR**For Chrysanthemum Plants (Int. Cl. 31).  
First use Feb. 12, 1968.**TOUCH OF VELVET**For Velvet Mutation Chinchillas of Various Colors (Int. Cl. 31).  
First use Mar. 7, 1969.

895,727. International Commodities Corporation, Amarillo, Tex. SN 326,102. Filed P.R. 5-1-69; Am. S.R. 4-24-70.

For Grain Seeds (Int. Cl. 31).  
First use Feb. 28, 1968.**Class 6—Chemicals and Chemical Compositions**

895,728. Chemical Insecticide Corporation, Edison, N.J. SN 312,563. Filed P.R. 11-19-68; Am. S.R. 1-16-70.

**PRE-PLANT**For Herbicides (Int. Cl. 5).  
First use July 15, 1968.

895,729. The Dow Chemical Company, Midland, Mich. SN 323,274. Filed P.R. 4-1-69; Am. S.R. 5-4-70.

**LIQUID TIRE GRIP**For Chemical Composition for Improving Traction for Tires (Int. Cl. 1).  
First use Oct. 6, 1967.**Class 12—Construction Materials**

895,730. Pluswood Industries, Oshkosh, Wis. SN 318,808. Filed P.R. 2-10-69; Am. S.R. 10-9-69.

**VINYLFACE**For Plywood (Int. Cl. 19).  
First use Aug. 26, 1968.**Class 15—Oils and Greases**

895,731. Wynn Oil Company, Azusa, Calif. SN 303,462. Filed P.R. 7-23-68; Am. S.R. 4-20-70.

**ICE PROOF**For Engine Fuel Additives (Int. Cl. 1).  
First use August 1963.**Class 18—Medicines and Pharmaceutical Preparations**

895,732. Alcon Laboratories, Inc., Fort Worth, Tex. SN 324,379. Filed P.R. 4-14-69; Am. S.R. 4-15-70.

**SOAK-TABS**For Preparation for Use in the Soaking of Contact Lenses (Int. Cl. 5).  
First use Feb. 21, 1969.**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

895,733. Pitney-Bowes, Inc., Stamford, Conn. SN 300,964. Filed P.R. 6-20-68; Am. S.R. 3-18-70.

**ROTOMAILER**For Sheet Collating and Envelope Stuffing Machines (Int. Cl. 7).  
First use on or about April 1965.**Class 24—Laundry Appliances and Machines**

895,734. General Electric Company, Louisville, Ky. SN 319,047. Filed P.R. 2-13-69; Am. S.R. 3-28-70.

**DUO-LOAD**For Clothes Washing Machines Primarily for Domestic Use (Int. Cl. 7).  
First use on or about Oct. 30, 1968.**Class 38—Prints and Publications**

895,735. Fuller &amp; Dees, Incorporated, Montgomery, Ala. SN 333,266. Filed P.R. 7-23-69; Am. S.R. 5-7-70.

**OUTSTANDING TEENAGERS OF AMERICA**For Annual Biographical Compilation (Int. Cl. 16).  
First use on or about Sept. 1, 1967.

895,736. Department of the Interior, Washington, D.C. SN 340,256. Filed 10-9-69.

**SELECTED  
WATER  
RESOURCES  
ABSTRACTS**For Periodically Issued Bulletins Containing Bibliographic Information and Abstracts of Literature (Int. Cl. 16).  
First use Jan. 30, 1968.

895,737. Family Health Magazine, Inc., New York, N.Y. SN 340,913. Filed P.R. 10-16-69; Am. S.R. 5-6-70.

**FAMILY HEALTH**For Magazine (Int. Cl. 16).  
First use Apr 9, 1969.**Class 39—Clothing**

895,738. Radley Furs, Incorporated, New York, N.Y. SN 304,120. Filed P.R. 8-1-68; Am. S.R. 3-20-70.

**MR. GREGORY**For Fur Pieces and Fur Garments (Int. Cl. 25).  
First use July 23, 1968.



895,789. Penn-Carol Hosiery Mills, Inc., Mount Pleasant, N.C. SN 318,917. Filed P.R. 2-11-69; Am. S.R. 4-18-70.

### STOCKINGS PLUS

For Ladies' Hosiery (Int. Cl. 25).  
First use Dec. 5, 1968.

895,740. Penn-Carol Hosiery Mills, Inc., Mount Pleasant, N.C. SN 318,918. Filed P.R. 2-11-69; Am. S.R. 4-17-70.

### PANTIES PLUS

For Ladies' Hosiery (Int. Cl. 25).  
First use Dec. 5, 1968.

### Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

895,741. Aladdin Mills, Inc., Dalton, Ga. SN 331,478. Filed P.R. 7-1-69; Am. S.R. 4-24-70.

**Kwik-Stik**

For Carpet Tiles (Int. Cl. 27).  
First use Apr. 4, 1969.

### Class 44—Dental, Medical, and Surgical Appliances

895,742. Pyramid International, Inc., Ravenna, Ohio. SN 324,753. Filed P.R. 4-16-69; Am. S.R. 4-22-70.

### EVENFLO—A GOOD NAME TO START LIFE WITH

For Nurser Sets Including Bottle Holders, Disposable Bottles, Caps, Nipples, Nipple Covers, and Retaining Rings (Int. Cl. 10).  
First use Dec. 17, 1968.

### Class 46—Foods and Ingredients of Foods

895,743. Fish 'N Seafood, Inc., Elkins Park, Pa. SN 286,423. Filed P.R. 12-7-67; Am. S.R. 5-11-70.



For Frozen Packaged Seafood (Int. Cl. 29).  
First use Oct. 17, 1967.

895,744. Zatarain's, Inc., Gretna, La. SN 317,417. Filed P.R. 1-23-69; Am. S.R. 5-12-70.

### CHICK-FRI

For Corn Flour Coating for Use in Frying Food, Particularly Chicken (Int. Cl. 30).  
First use Oct. 17, 1968.

895,745. Spread Eagle Farm Foods, Inc., Klingerstown, Pa. SN 325,086. Filed P.R. 4-21-69; Am. S.R. 4-29-70.

### FRESH'N READY

For Fresh Frozen Liquid Egg Products for Use in Making Omelets, Scrambled Eggs, and Egg Sandwiches and the Like (Int. Cl. 29).  
First use Mar. 31, 1969.

895,746. Van Loan & Co., Inc., New York, N.Y. SN 326,157. Filed P.R. 5-1-69; Am. S.R. 4-6-70.

### MICRA-MILL'D

For Ground Spices (Int. Cl. 30).  
First use Dec. 19, 1968.

895,747. The Harlee Company, Chicago, Ill. SN 327,544. Filed P.R. 5-19-69; Am. S.R. 4-22-70.

**TASTE CRISP**

For Fried Chicken (Int. Cl. 29).  
First use in or about March 1968.

895,748. The Great Western Foods Company, Knoxville, Tenn. SN 329,712. Filed P.R. 6-11-69; Am. S.R. 4-20-70.

*For  
blooming good  
baking*

For Flour, Self-Rising Flour, Corn Meal Mix, Biscuit Mix, Pancake Mix, and Corn Muffin Mix (Int. Cl. 30).  
First use June 10, 1968.

895,749. Mama Cookie Bakeries, Inc., Chicago, Ill. SN 343,143. Filed P.R. 11-10-69; Am. S.R. 3-11-70.

**Mama's  
Dent's Food  
Rings**

For Cookies (Int. Cl. 30).  
First use 1946.

895,750. Mama Cookie Bakeries, Inc., Chicago, Ill. SN 343,145. Filed P.R. 11-10-69; Am. S.R. 3-11-70.

**Sugar Rings**

For Cookies (Int. Cl. 30).  
First use 1946.

### Class 47—Wines

895,751. London Winery Limited, London, Ontario, Canada. SN 316,319. Filed 1-10-69.

*The Wine  
in The  
Basket!*

For Wines (Int. Cl. 33).  
First use October 1965.

### Class 48—Malt Beverages and Liquors

895,752. Jos. Schlitz Brewing Company, d.b.a. Muehlebach Brewing Company, Milwaukee, Wis. SN 338,329. Filed P.R. 9-19-69; Am. S.R. 4-27-70.

### MUEHLEBACH

For Beer (Int. Cl. 32).  
First use Dec. 12, 1968.

### Class 51—Cosmetics and Toilet Preparations

895,753. See Section 1 (Combined Certificate).

895,754. Demert & Dougherty, Inc., Chicago, Ill. SN 315,890. Filed P.R. 1-6-69; Am. S.R. 5-6-70.

### LATHER DELUXE

For Pressurized Shaving Cream (Int. Cl. 3).  
First use on or about Nov. 8, 1968.

895,755. Johnson & Johnson, New Brunswick, N.J. SN 316,651. Filed P.R. 1-15-69; Am. S.R. 5-6-70.

### NO MORE TANGLES

For Creme Rinses (Int. Cl. 3).  
First use Nov. 6, 1968.

895,756. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. SN 325,323. Filed P.R. 4-28-69; Am. S.R. 4-27-70.

**L'Oceans  
of ALO**

For Moisturizing Lotion (Int. Cl. 3).  
First use Apr. 14, 1969.

895,757. Zsa Zsa Limited, New York, N.Y. SN 328,220. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### NEW WINE

For Eyeshadow (Int. Cl. 3).  
First use Apr. 28, 1969.

895,758. Zsa Zsa Limited, New York, N.Y. SN 328,221. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### PINK CHABLIS

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,759. Zsa Zsa Limited, New York, N.Y. SN 328,222. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### CHAMBERTINE PINK

For Make-Up Base (Int. Cl. 3).  
First use May 2, 1969.

895,760. Zsa Zsa Limited, New York, N.Y. SN 328,223. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### PINK CLARET

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,761. Zsa Zsa Limited, New York, N.Y. SN 328,224. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### MAYWINE

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,762. Zsa Zsa Limited, New York, N.Y. SN 328,225. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### ORANGE JULEP

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,763. Zsa Zsa Limited, New York, N.Y. SN 328,226. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### PEACH CORDIAL

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,764. Zsa Zsa Limited, New York, N.Y. SN 328,227. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### RASPBERRY CORDIAL

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,765. Zsa Zsa Limited, New York, N.Y. SN 328,228. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### RED BÉAUJOLAIS

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,766. Zsa Zsa Limited, New York, N.Y. SN 328,229. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

### SWEET VERMOUTH

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.



895,767. Zsa Zsa Limited, New York, N.Y. SN 328,280. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

**SANGRIA**

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,768. Zsa Zsa Limited, New York, N.Y. SN 328,281. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

**PINK DAIQUIRI**

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,769. Zsa Zsa Limited, New York, N.Y. SN 328,282. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

**PEACH DAIQUIRI**

For Make-Up Base (Int. Cl. 3).  
First use Apr. 28, 1969.

895,770. Zsa Zsa Limited, New York, N.Y. SN 328,283. Filed P.R. 5-23-69; Am. S.R. 5-4-70.

**CHAMBERTINE CORAL**

For Make-Up Base (Int. Cl. 3).  
First use Apr. 14, 1969.

895,771. Zsa Zsa Limited, New York, N.Y. SN 329,150. Filed P.R. 6-4-69; Am. S.R. 4-23-70.

**SOFT FINISH**

For Make-Up Base and Powder (Int. Cl. 3).  
First use Apr. 17, 1969.

895,772. Merle Norman Cosmetics, Inc., Los Angeles, Calif. SN 331,635. Filed P.R. 7-2-69; Am. S.R. 8-18-70.

**GENTLE GRAY**

For Creme Eye Shadow (Int. Cl. 3).  
First use Mar. 5, 1969.

**Class 52—Detergents and Soaps**

895,753. See Section 1 (Combined Certificate).

895,778. The Mitchum Company, Paris, Tenn. SN 295,248. Filed P.R. 4-9-68; Am. S.R. 4-8-70.

**Guest Superbe**

For Bath and Toilet Soap (Int. Cl. 3).  
First use June 1934.

**TRADEMARK REGISTRATIONS RENEWED**

34,645. ARROW AND DESIGN. Cl. 39 (Int. Cl. 25). 5-15-1900.	267,316. LIMITORQUE. Cl. 23 (Int. Cl. 7). 2-18-30.
77,084. MEADOW. Cl. 46 (Int. Cl. 29). 3-8-10.	269,495. FLINTKOTE. Cl. 12 (Int. Cl. 19). 4-8-30.
77,930. IREX. Cl. 51 (Int. Cl. 5). 5-17-10.	270,124. LEG-O-MATIC. Cl. 32 (Int. Cl. 20). 4-29-30.
78,055. DUNDEE. Cl. 37 (Int. Cl. 16). 5-31-10.	270,295. SHARPLES SUPER-CENTRIFUGE. Cl. 23 (Int. Cls. 7 and 11). 4-29-30.
78,677. "APOLLO." Cl. 37 (Int. Cl. 16). 7-5-10.	270,485. REINE. Cl. 52 (Int. Cl. 3). 5-6-30.
79,422. GOLDEN WEST. Cl. 46 (Int. Cl. 30). 9-6-10.	270,511. DOUSAN. Cl. 18 (Int. Cl. 5). 5-6-30.
256,886. "RED SPOT" AND CIRCULAR DESIGN. Cl. 12 (Int. Cl. 19). 5-28-29.	270,580. DIAMOND. Cl. 24 (Int. Cl. 20). 5-6-30.
266,908. AIRWHEEL. Cl. 35 (Int. Cl. 12). 2-11-30.	270,677. REFLECTA. Cl. 12 (Int. Cl. 19). 5-13-30.
	270,793. EXALTOLIDE. Cl. 51 (Int. Cl. 3). 5-13-30.

For Toilet and Shaving Soap (Int. Cl. 3).  
First use June 21, 1968.

**WASH-'N-SHAVE 2 IN 1****Class 100—Miscellaneous**

895,775. See Section 1 (Combined Certificate).

**Class 101—Advertising and Business**

895,776. Nelson Auction Service, Inc., Amarillo, Tex. SN 263,843. Filed P.R. 2-2-67; Am. S.R. 9-15-69.

**THE SELLIN'EST TEAM  
IN THE NATION**

For Auctioneering Services (Int. Cl. 35).  
First use January 1962.

895,777. Gift Cheks, Inc., Cleveland, Ohio. SN 308,487. Filed P.R. 9-30-68; Am. S.R. 5-8-70.

**GIFT CHEK**

For Promoting the Sale of Goods of Others Through the Distribution of Gift Redemption Certificates (Int. Cl. 35).  
First use at least as early as Sept. 30, 1968.

**Class 102—Insurance and Financial**

895,775. See Section 1 (Combined Certificate).

**Class 103—Construction and Repair**

895,775. See Section 1 (Combined Certificate).

270,864. "TRUMP" AND DESIGN. Cl. 23 (Int. Cl. 8). 5-13-30.	528,140. FASHION PLATE. Cl. 32 (Int. Cl. 16). 7-25-50.
271,090. "TEX JOY." Cl. 46 (Int. Cl. 30). 5-27-30.	528,268. CRONAME. Cl. 21 (Int. Cl. 9). 8-1-50.
271,389. ELJER. Cl. 13 (Int. Cls. 6 and 11). 6-3-30.	528,271. CRO-ART. Cl. 21 (Int. Cl. 9). 8-1-50.
271,554. ONCO. Cl. 50 (Int. Cl. 18). 6-10-30.	528,284. SCRUPPELLER. Cl. 23 (Int. Cl. 7). 8-1-50.
271,570. STANCO INCORPORATED. Cl. 18 (Int. Cl. 5). 6-10-30.	528,313. TORNADO. Cl. 21 (Int. Cl. 7). 8-1-50.
271,944. GLOBE AND DESIGN. Cl. 21 (Int. Cl. 9). 6-17-30.	528,336. MAYVAT. Cl. 6 (Int. Cl. 2). 8-1-50.
272,013. STANCO INCORPORATED. Cl. 23 (Int. Cl. 7). 6-24-30.	528,440. DUROBRITE. Cl. 6 (Int. Cl. 1). 8-1-50.
272,182. ENDURA. Cl. 37 (Int. Cl. 16). 7-1-30.	528,594. CHANCE. Cl. 13 (Int. Cl. 6). 8-8-50.
272,556. PULVEX. Cl. 6 (Int. Cl. 5). 7-8-30.	528,761. SMALL BOY AND BOAT DESIGN. Cl. 19 (Int. Cl. 12). 8-8-50.
273,481. DELNA. Cl. 42 (Int. Cl. 24). 8-5-30.	528,774. SKIPPER. Cl. 39 (Int. Cl. 12). 8-8-50.
274,159. COLES. Cl. 18 (Int. Cl. 5). 8-19-30.	528,830. SICLE. Cl. 13 (Int. Cl. 20). 8-8-50.
275,062. ARLTON. Cl. 40 (Int. Cl. 21). 9-16-30.	528,869. TECO AND DESIGN. Cl. 100 (Int. Cl. 42). 8-8-50.
275,065. TIGER. Cl. 13 (Int. Cl. 6). 9-16-30.	529,007. GROVE. Cl. 26 (Int. Cl. 9). 8-15-50.
275,073. HNS AND DESIGN. Cl. 38 (Int. Cl. 16). 9-16-30.	529,080. ORLON. Cl. 1 (Int. Cls. 1 and 22). 8-15-50.
275,444. "ALPHA" ETC. AND DESIGN. Cl. 13 (Int. Cl. 21). 9-23-30.	529,202. B-VELOCITY. Cl. 37 (Int. Cl. 16). 8-15-50.
276,417. "THE ROYAL STUART" AND DESIGN. Cl. 8 (Int. Cl. 34). 10-21-30.	529,203. VELOCITY. Cl. 37 (Int. Cl. 16). 8-15-50.
276,691. PATERSON. Cl. 37 (Int. Cl. 16). 10-28-30.	529,370. SEABROOK FARMS. Cl. 46 (Int. Cl. 29). 8-22-50.
443,973. AESOL. Cl. 15 (Int. Cl. 4). 5-9-50.	529,842. CIRCUIT RIDER AND DESIGN. Cl. 38 (Int. Cl. 16). 8-29-50.
443,976. PANELYTE. Cl. 31 (Int. Cl. 11). 5-9-50.	530,124. STURDY OAK. Cl. 1 (Int. Cl. 18). 9-5-50.
444,048. CHAMPION. Cl. 37 (Int. Cl. 16). 6-20-50.	530,208. PET. Cl. 22 (Int. Cl. 28). 9-5-50.
444,293. RAILITE. Cl. 1 (Int. Cl. 19). 10-31-50.	530,212. VITRENAMER. Cl. 14 (Int. Cl. 6). 9-5-50.
511,023. THE AMERICAN PRESS AND DESIGN. Cl. 38 (Int. Cl. 16). 6-14-49.	530,238. UNIVERSAL. Cl. 23 (Int. Cl. 7). 9-5-50.
511,701. GERM-O-THANE. Cl. 6 (Int. Cl. 5). 6-28-49.	530,254. GRIPBELT. Cl. 35 (Int. Cl. 7). 9-5-50.
515,699. SWAX. Cl. 16 (Int. Cl. 3). 9-27-49.	530,277. STAY-RITE. Cl. 39 (Int. Cl. 25). 9-5-50.
516,290. VALJEAN. Cl. 28 (Int. Cl. 14). 10-11-49.	530,286. WEBFOOT AND DESIGN. Cl. 10 (Int. Cl. 1). 9-5-50.
519,770. EUTEC-SILVER-WELD. Cl. 14 (Int. Cl. 6). 1-10-50.	530,438. RHODY. Cl. 16 (Int. Cl. 2). 9-5-50.
520,676. NULON. Cl. 16 (Int. Cl. 2). 2-7-50.	530,450. LIME CREST. Cls. 1, 6, and 10 (Int. Cl. 31). 9-12-50.
520,715. LUCAS. Cl. 23 (Int. Cl. 7). 2-7-50.	530,558. NRA. Cl. 22 (Int. Cl. 28). 9-12-50.
522,372. GUY'S. Cl. 46 (Int. Cls. 29 and 30). 3-14-50.	530,597. MARK-TIME AND DESIGN. Cl. 21 (Int. Cl. 9). 9-12-50.
523,074. THERMO-TAINER. Cl. 44 (Int. Cl. 10). 3-28-50.	530,624. D-A EXTRA-TREATED AND DESIGN. Cl. 15 (Int. Cl. 4). 9-12-50.
523,728. IT. Cl. 46 (Int. Cl. 30). 4-11-50.	530,645. GIRL (DESIGN). Cl. 46 (Int. Cl. 30). 9-12-50.
524,688. ANDOVER BOND. Cl. 37 (Int. Cl. 16). 5-2-50.	530,674. WHITCO. Cl. 13 (Int. Cl. 6). 9-12-50.
524,743. THE RAILROAD SOCK AND DESIGN. Cl. 39 (Int. Cl. 25). 5-2-50.	530,677. SULKLEER. Cl. 15 (Int. Cl. 4). 9-12-50.
524,896. DOLORO. Cl. 6 (Int. Cl. 5). 5-9-50.	530,752. BOSTWICK. Cl. 6 (Int. Cls. 1 and 5). 9-12-50.
524,982. NINOL. Cl. 6 (Int. Cl. 1). 5-9-50.	530,795. PRINCE CHARLES EDWARD'S LIQUEUR. Cl. 49 (Int. Cl. 33). 9-19-50.
524,986. SILVER GULL AND DESIGN. Cl. 15 (Int. Cl. 4). 5-9-50.	530,797. SHORTBACK. Cl. 39 (Int. Cl. 25). 9-19-50.
525,116. CELLO GARD. Cl. 6 (Int. Cl. 2). 5-9-50.	530,804. ALROSOL. Cl. 52 (Int. Cls. 1 and 3). 9-19-50.
525,155. WEL-MADE AND DESIGN. Cl. 32 (Int. Cl. 20). 5-9-50.	530,820. NICHOLS. Cl. 49 (Int. Cl. 33). 9-19-50.
525,173. PURE-O-FLAME. Cl. 6 (Int. Cl. 4). 5-9-50.	530,912. SUNNY RIDGE. Cl. 49 (Int. Cl. 33). 9-19-50.
525,251. EMPIRE STATE AND DESIGN. Cl. 17 (Int. Cl. 34). 5-16-50.	531,387. KNICK-A-SOCK. Cl. 39 (Int. Cl. 25). 9-26-50.
525,399. ROYAL ROSE. Cl. 34 (Int. Cl. 11). 5-23-50.	531,402. ELMWOOD. Cl. 46 (Int. Cl. 31). 10-3-50.
525,469. CLINTON. Cl. 27 (Int. Cl. 14). 5-23-50.	531,448. REDSKIN. Cl. 16 (Int. Cl. 2). 10-3-50.
525,492. SILVESTRE. Cl. 51 (Int. Cl. 3). 5-23-50.	531,515. ROSE-X. Cl. 6 (Int. Cl. 3). 10-3-50.
525,626. PEERLESS. Cl. 23 (Int. Cl. 8). 5-30-50.	531,563. HYTROL. Cl. 6 (Int. Cl. 1). 10-3-50.
525,640. PUNJAB. Cl. 39 (Int. Cl. 25). 7-28-70.	531,644. DELSTEEL. Cl. 23 (Int. Cls. 7 and 8). 10-10-50.
525,683. STREAMLINER. Cl. 32 (Int. Cls. 16 and 20). 5-30-50.	531,780. MERRY MAKER AND DESIGN. Cl. 46 (Int. Cl. 31). 10-10-50.
525,887. CANADA. Cl. 46 (Int. Cl. 30). 6-6-50.	532,025. PENNZOIL KNOTAX SYSTEM AND DESIGN. Cl. 37 (Int. Cl. 16). 10-17-50.
525,907. TITRALAC. Cl. 6 (Int. Cl. 5). 6-6-50.	532,144. DAZZLE. Cl. 46 (Int. Cl. 30). 10-17-50.
526,355. OLD STONEGATE. Cl. 49 (Int. Cl. 33). 6-13-50.	532,201. BOWDIL. Cl. 23 (Int. Cl. 7). 10-17-50.
526,421. BRIETLING. Cl. 27 (Int. Cl. 14). 6-13-50.	532,237. LYNDIS. Cl. 6 (Int. Cl. 5). 10-17-50.
526,626. HY-LO. Cl. 13 (Int. Cl. 7). 6-20-50.	532,295. KENNEDY KITS AND DESIGN. Cl. 2 (Int. Cl. 6). 10-24-50.
526,956. KAUKIT. Cl. 12 (Int. Cl. 17). 6-27-50.	532,296. KENNEDY. Cl. 2 (Int. Cl. 6). 10-24-50.
527,335. FORBIDDEN FRUIT. Cl. 49 (Int. Cl. 33). 4-4-50.	532,340. USES UNLIMITED. Cl. 38 (Int. Cl. 16). 10-24-50.
527,438. APFFELS. Cl. 46 (Int. Cl. 30). 7-11-50.	532,403. DUCHESS. Cl. 28 (Int. Cl. 14). 10-24-50.
527,495. SANALAC BRAND. Cl. 46 (Int. Cl. 29). 7-11-50.	532,446. BELKNAP. Cl. 2 (Int. Cl. 21). 10-24-50.
527,500. MALLORY MIDGETROL AND DESIGN. Cl. 21 (Int. Cl. 9). 7-11-50.	532,465. CHEMICAL ENGINEERING ETC. Cl. 38 (Int. Cl. 16). 10-24-50.
527,725. MO DESIGN. Cl. 22 (Int. Cl. 12). 7-18-50.	532,494. ADDRESSOGRAPH. Cl. 26 (Int. Cl. 9). 10-24-50.
527,770. HOME CREST. Cl. 29 (Int. Cl. 21). 7-18-50.	532,495. CONSTRUCTION METHODS & EQUIP. Cl. 38 (Int. Cl. 16). 10-24-50.
527,906. HIDDEN TREASURE. Cl. 39 (Int. Cl. 25). 7-18-50.	532,499. PLASTICHROME. Cl. 38 (Int. Cl. 16). 10-24-50.
528,018. CACTUS PETE. Cl. 46 (Int. Cl. 31). 7-25-50.	532,615. HANDI-WOOL. Cl. 43 (Int. Cl. 23). 10-24-50.
528,028. HOLLYWOOD HOSE. Cl. 39 (Int. Cl. 25). 7-25-50.	532,777. PORTA PAK. Cl. 23 (Int. Cl. 16). 10-31-50.
528,052. KWIK-MEAL. Cl. 46 (Int. Cl. 31). 7-25-50.	532,861. WESTFIELD. Cl. 39 (Int. Cl. 25). 10-31-50.



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- 791,812. THE FILEX LINE AND DESIGN. Cl. 32. 6-29-65.  
791,849. THE FILEX LINE AND DESIGN. Cl. 37. 6-29-65.  
791,850. FILEX. Cl. 37. 6-29-65.

### Section 8

- 764,225. TAY-LOC. Cl. 21. 2-4-64.  
770,902. REJUVENATOR. Cl. 44 6-2-64.

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770,963. VBR. Cl. 1.  
770,968. VULCALITE. Cl. 1.  
770,970. EARLYBIRD. Cl. 1.  
770,972. HONEST JOHN. Cl. 1.  
770,978. DIXIE GEM. Cl. 1.  
770,979. MILE-LONG BAG. Cl. 2.  
770,987. BONNIE. Cl. 4.  
770,991. DEFENDER. Cl. 5.  
770,996. MICROGARD. Cl. 6.  
771,002. OH DEAR! Cl. 6.  
771,004. PANODRIN. Cl. 6.  
771,010. KOMPAK! Cl. 6.  
771,020. AEROPREEN. Cl. 12.  
771,021. LACESTONE. Cl. 12.  
771,027. JUS-TIK-IT-ON. Cl. 13.  
771,028. LINEGUARD. Cl. 13.  
771,032. HOECHST BRIDGE AND TOWER DESIGN. Cl. 14.  
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771,038. PIPETELLA. Cl. 17.  
771,039. PIPEROMA. Cl. 17.  
771,040. PIPERETTE. Cl. 17.  
771,041. CIGA PIPE. Cl. 17.  
771,048. PLANTASAN. Cl. 18.  
771,049. ARTOLIN. Cl. 18.  
771,050. BASATONE. Cl. 18.  
771,055. BIO-NICATROL. Cl. 18.  
771,067. A.F. Cl. 18.  
771,075. STEREO-CAPTOR. Cl. 21.  
771,077. FANCIFUL DESIGN OF THE LETTER B WITH A DESIGN THEREIN. Cl. 21.  
771,081. PBS AND DESIGN. Cl. 22.  
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771,086. TABLE-SOK. Cl. 22.  
771,087. GO-GO BALLS. Cl. 22.  
771,088. PRO 100. Cl. 22.  
771,090. MACARONI PONY AND DESIGN. Cl. 22.  
771,091. CHIPPOT. Cl. 22.  
771,092. HOMER AND DESIGN. Cl. 22.  
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771,094. SILVER DOLLAR. Cl. 22.  
771,095. MR. LUCKY. Cl. 22.  
771,097. MARSHMALLOW BABY. Cl. 22.  
771,098. STRING-A-RING-CONE. Cl. 22.  
771,099. PEG TIME. Cl. 22.  
771,100. SAV-A-PAC. Cl. 22.  
771,101. COMMAND CANNON. Cl. 22.  
771,106. BOKO. Cl. 23.  
771,107. ANTARES AND DESIGN. Cl. 23.  
771,108. HANSEL. Cl. 23.  
771,110. DOUBLEBOLD. Cl. 23.  
771,114. FORMLINE. Cl. 23.  
771,115. FCC AND DESIGN. Cl. 23.  
771,117. DIAMOND. Cl. 23.  
771,119. MOTION. Cl. 23.  
771,124. PROJECT-ALL. Cls. 26 and 44.  
771,133. ROSECRAFT. Cl. 28.  
771,134. ROSE (DESIGN). Cl. 28.  
771,140. CONTINENTAL AIRLINES AND DESIGN. Cl. 33.  
771,144. MAGIC-GRID. Cl. 34.  
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771,146. SUPER SIX. Cl. 37.  
771,147. THINTEXT. Cl. 37.  
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771,160. COAL-TODAY AND TOMORROW. Cl. 38.  
771,161. MG. ETC. AND DESIGN. Cl. 38.  
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771,163. COL-COR-A-GRAMS AND DESIGN. Cl. 38.  
771,170. BREEZETTE. Cl. 39.  
771,172. LIFE TOUCH. Cl. 39.  
771,173. HAPPINESS IS A DARLENE SWEATER. Cl. 39.  
771,181. PLAY MONEY. Cl. 46.  
771,185. BAIRD'S BLUE RIBBON DOG FOOD AND DESIGN. Cl. 46.  
771,186. ATLANTOR BRAND AND DESIGN. Cl. 46.  
771,188. C-P COLOMBIA PHILADELPHIA AND DESIGN. Cl. 46.  
771,192. PROVIKALF. Cl. 46.  
771,193. PROVILAT. Cl. 46.  
771,196. AUTUMN HARVEST. Cl. 46.  
771,198. LA VIE. Cl. 46.  
771,199. NAPIANA. Cl. 46.  
771,202. POPS. Cl. 46.  
771,203. BANANZA. Cl. 46.  
771,204. PEANUE POP. Cl. 46.  
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771,222. HOTCAKE. Cl. 46.  
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771,228. VIGNETTES. Cl. 46.  
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771,243. PURS-FULL. Cl. 50.  
771,256. PATTI-KATE. Cl. 51.  
771,260. REACH FOR ME. Cl. 51.  
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771,269. NUTERGENT AND DESIGN. Cl. 52.  
771,282. LAWSTAFF. Cl. 101.  
771,296. COMMUNITRON. Cl. 104.  
771,297. KINGTAINER. Cl. 105.  
771,298. ALLSTATE MOTOR CLUB TOURS. Cl. 105.  
771,299. FIESTAVAL. Cl. 105.  
771,301. TEK WORLD WIDE MOVING AND DESIGN. Cl. 105.  
771,308. RADIO A LA CARTE. Cl. 107.  
771,309. MISTER TIM, THE OLD TIMER. Cl. 107.  
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771,318. BURRIS-3-WHEELER. Cl. 19.  
771,319. SERVOR. Cl. 21.  
771,320. FISHERMAN'S CADDY. Cl. 22.  
771,321. NAIL-ON. Cl. 22.  
771,324. INSTANT PAY-OFF WORDS. Cl. 26.  
771,326. HEALTH INDUSTRY. Cl. 38.  
771,330. MICHAELS-STERN. Cl. 39.  
771,331. HEATH ENGLISH TOFFEE ETC. AND DESIGN. Cl. 39.  
696,886. NAVEE '42. Cl. 52. 4-26-60.  
772,229. DYNA DRIVE. Cl. 23. 6-30-64.  
839,567. CORNETS. Cl. 46. 11-28-67.  
840,096. 12 O'CLOCK. Cl. 46. 12-5-67.  
841,617. STALOK. Cl. 25. 1-2-68.  
853,466. SOLO. Cl. 6. 7-30-68.

### Section 18

## TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

125,799. DESIGN OF 3 WAVY LINES. Cl. 30. 6-17-19. Den Kongelige Porcelainsfabrik. Den Kongelige Porcelainsfabrik A/S, Copenhagen, Denmark. Amended: In the certificate, lines 6 and 21, in the heading, signature and in the statement, column 1, line 2, after "Porcelainsfabrik" A/S, also doing business as Royal Copenhagen Porcelain Manufactory Ltd. is inserted.

444,048. CHAMPION. Cl. 37. 6-20-50. The Champion and Fibre Company. U.S. Plywood-Champion Papers Inc., Hamilton, Ohio. Amended: In the statement, column 1, lines 8 and 9, "coated paper suitable for printing" is deleted and printing paper is inserted.

513,368. BALLOU. Cl. 28. 8-9-49. B. A. Ballou & Co. Incorporated, East Providence, R.I. Amended: In the statement, column 1, line 9, "—namely, anklets, brace—" is deleted, lines 10 through 16 are deleted, and in line 17, "claps, and money clips—" is deleted.

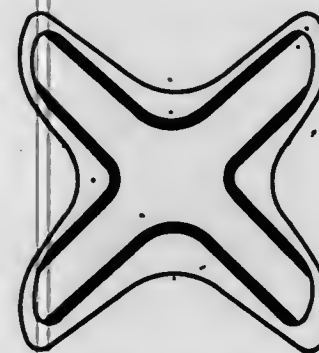
522,798. PLENTY COPY AND DESIGN. Cl. 11. 3-21-50. Mittag & Volger, Incorporated, Burroughs Corporation, Detroit, Mich. Amended to appear:

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577,876. S & C. Cl. 21. 7-28-53. S & C Electric Company, Chicago, Ill. Amended to appear:

S & C

533,165. CROSS NECK LABEL WITH BARS. Cl. 48. 11-7-50. Miller Brewing Company, Milwaukee, Wis. Amended to appear:



623,294. GRAVER AND DESIGN. Cls. 2 and 23. 3-20-56. Graver Tank & Mfg. Co. Inc., Union Tank Car Company, East Chicago, Ind. Amended: In the statement, column 2, lines 1 through 8 are deleted.

697,844. SIGNET CLASSIC AND DESIGN. Cl. 38. 5-17-60. The New American Library of World Literature, Inc., New York, N.Y. Amended to appear:



SIGNET CLASSIC

TM 876 O.G.—11

741,047. RAMADA INN AND DESIGN. Cl. 100. 11-20-62. Ramada Inn, Inc. Ramada Inns, Inc., Phoenix, Ariz. Amended to appear:



791,989. GRAVER. Cl. 103. 6-29-65. Union Tank Car Company, Chicago, Ill. Amended: In the statement, column 2, lines 1 and 2, "or processing" is deleted.

800,845. GRAVER. Cl. 2. 12-28-65. Union Tank Car Company, Chicago, Ill. Amended: In the statement, column 2, line 1, "and processing" is deleted.

870,475. ROYAL COPENHAGEN DENMARK AND DESIGN. Cl. 30. 6-3-69. Den Kongelige Porcelainsfabrik A/S, Copenhagen, Denmark. Amended: In the statement, column 1, line 1, after "A/S", also doing business as Royal Copenhagen Porcelain Manufactory Ltd. is inserted.

875,299. THE MORTON GIRL AND UMBRELLA GIRL DESIGN. Cl. 46. 8-19-69. Morton International, Inc., Chicago, Ill. Amended to appear:



890,003. ACCULINK. Cl. 21. 4-28-70. Buckbee-Mears Company, St. Paul, Minn. Corrected: In the statement, column 1, line 1, "Minneapolis" should be deleted and Minnesota should be inserted.

891,977. KOCO. Cl. 23. 6-2-70. Kousel Industrial Co., Ltd., Tokyo, Japan. Corrected: In the statement, column 1, line 1, "Kousel" should be deleted and Kousel should be inserted.

893,655. SHINE BOY. Cl. 23. 6-30-70. Shine Boy, Inc., Rock Island, Ill. Corrected: In the statement, column 1, line 1, "Delaware" should be deleted and Illinois should be inserted.

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JULY 28, 1970

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- AMP Inc., Harrisburg, Pa. 895,477, pub. 5-12-70. Cl. 23.
- A & T Engineering, Inc., Laurel, Miss. 895,593, pub. 5-12-70. Cl. 44.
- Accetta, Tony, & Son, Inc., Riviera Beach, Fla. 530,208, ren. 7-28-70. Cl. 22.
- Ad-A-Day Co., Inc., Taunton, Mass. 895,538, pub. 5-12-70. Cl. 37.
- Addressograph-Multigraph Corp., Cleveland, Ohio. 532,494, ren. 7-28-70. Cl. 28.
- Adidas-Fabrique de Chaussures de Sport, Landersheim, France. 895,426, pub. 5-12-70. Cl. 22.
- Air Reduction Co., Inc., New York, N.Y. 895,525, pub. 5-12-70. Cl. 34.
- Aircord Signal, Inc., Cincinnati, Ohio. 895,599, pub. 5-12-70. Cl. 44.
- Aladdin Mills, Inc., Dalton, Ga. 895,741. Cl. 42.
- Alberto-Culver Co., Melrose Park, Ill. 895,639, pub. 5-12-70. Cl. 51.
- Alberto-Culver Co., Melrose Park, Ill. 895,642, pub. 5-12-70. Cl. 51.
- Alcon Laboratories, Inc., Fort Worth, Tex. 895,732. Cl. 18.
- Allegheny Airlines, Inc., Washington, D.C. 895,714, pub. 5-12-70. Cl. 105.
- All-Fun Co., Denver, Colo. 771,086, can. Cl. 22.
- Allstate Enterprises, Inc., Skokie, Ill. 771,293, can. Cl. 105.
- Alpha Tank & Metals Mfg. Co., St. Louis, Mo. 275,444, ren. 7-28-70. Cl. 13.
- Alpi Seldewebereien und Krawattenfabrik Albrecht Pick K.G., Krefeld, Germany. 895,553. Cl. 39.
- Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. 895,756. Cl. 51.
- Aluminum Products, Inc., Fort Lauderdale, Fla. 895,453, pub. 5-12-70. Cl. 23.
- Ambac Industries, Inc., Pittsburgh, Pa. 895,509, pub. 5-12-70. Cl. 28.
- American Cement Corp., Los Angeles, Calif. 771,021, can. Cl. 12.
- American Clean Tile Co., Inc., Lansdale, Pa. 270,677, ren. 7-28-70. Cl. 12.
- American Cyanamid Co., Wayne, N.J. 771,067, can. Cl. 18.
- American Cyanamid Co., Wayne, N.J. 895,296, pub. 5-12-70. Cl. 6.
- American Dairy Queen Corp., Minneapolis, Minn. 895,611, pub. 5-12-70. Cl. 46.
- American Forest Products Corp., San Francisco, Calif. 895,289, pub. 5-12-70. Cl. 2.
- American Home Products Corp., New York, N.Y. 771,204, can. Cl. 46.
- American Home Products Corp., New York, N.Y. 895,607, pub. 5-12-70. Cl. 46.
- American Optical Corp., Southbridge, Mass. 895,501, pub. 5-12-70. Cl. 26.
- American Plasticraft Co., Chicago, Ill. 895,389, pub. 5-12-70. Cl. 21.
- American Rice Growers Co-Operative Association, Holmwood Division, Inc., Lake Charles, La. ren. 7-28-70. Cl. 46.
- American Standard Inc., New York, N.Y. 895,328, pub. 5-12-70. Cl. 13.
- Anaconda Co., The, New York, N.Y. 895,317, pub. 5-12-70. Multiple Class (Classes 13 and 21).
- Anderson Bait Distributors, Inc., Lonoke, Ark. 895,417, pub. 5-12-70. Cl. 22.
- Anheuser-Busch, Inc., St. Louis, Mo. 771,050, can. Cl. 18.
- Antares S.p.A., Milan, Italy. 771,107, can. Cl. 23.
- Anthony, Frederick B., d.b.a. Frederick B. Anthony Enterprises Polysand-Division, Beverly Hills, Calif. 895,594, pub. 5-12-70. Cl. 44.
- Appel, Edw., Co., Los Angeles, Calif. 527,438, ren. 7-28-70. Cl. 46.
- Arizona Bank, The, Phoenix, Ariz. 895,699, pub. 5-12-70. Cl. 102.
- Arkansas Valley Industries, Inc., Little Rock, Ark. 895,623, pub. 5-12-70. Cl. 46.
- Armstrong Cork Co., Lancaster, Pa. 895,376, pub. 5-12-70. Cl. 20.
- Army & Air Force Exchange Service, The, Dallas, Tex. 895,892-93, pub. 5-12-70. Cl. 101.
- Arnco Mfg. Corp., d.b.a. Arnold Health Equipment Co., Knox, Ind. 770,902, can. Cl. 44.
- Arrow International Ltd., d.b.a. Complex Japanese Corp., Fukui-ku, Kobe, Japan. 895,416, pub. 5-12-70. Cl. 22.
- Artisan Industries, Inc., Waltham, Mass. 895,479, pub. 5-12-70. Cl. 23.
- Associated Tire Centers, Inc., Portland, Ore. 895,529, pub. 5-12-70. Cl. 35.
- Astrological Research Corp., New York, N.Y. 895,666, pub. 5-12-70. Cl. 100.
- Atlantic Forest Products Ltd., Toronto, Ontario, Canada. 895,278, pub. 5-12-70. Cl. 1.
- Atlantor, H. F., Reykjavik, Iceland. 771,186, can. Cl. 46.
- Audio Designs & Mfg., Inc., Roseville, Mich. 895,391, pub. 2-10-70. Cl. 21.
- Austin, Nichols, & Co., Inc., Maspeth, N.Y. 530,820, ren. 7-28-70. Cl. 49.
- Autonumerics, Inc., Westbury, N.Y. 895,886, pub. 5-12-70. Cl. 21.
- Avco Corp., Tulsa, Okla. 895,368, pub. 5-12-70. Cl. 19.
- Avon Products, Inc., New York, N.Y. 895,643-46, pub. 5-12-70. Multiple Class (Classes 51 and 52).
- Babbitt Products, Inc., Lakeville, Conn. 530,752, ren. 7-28-70. Cl. 6.
- Baby Doll Industries, Inc., Malabon, Rizal, Philippines. 895,559, pub. 5-12-70. Cl. 39.
- Baird, Charles L., d.b.a. Baird Milling Co., Maryville, Mo. 771,185, can. Cl. 46.
- Baldt Corp., New York, from Universal Marion Corp., New York, N.Y. 895,332, pub. 5-12-70. Cl. 14.
- Ballou, B. A., & Co., Inc., East Providence, R.I. 513,368. Am. 7(d). Cl. 23.
- Bar Mountain Ranch, West Linn, Ore. 895,726. Cl. 1.
- Barrister Liquors Corp., Ltd., Philadelphia, Pa. 895,632, pub. 12-31-68. Cl. 49.
- Bayuk Cigars Inc., Philadelphia, Pa. 525,251, ren. 7-28-70. Cl. 17.
- Bayuk Cigars Inc., Philadelphia, Pa. 895,339, pub. 5-12-70. Cl. 17.
- Belknap, Inc., Louisville, Ky. 532,446, ren. 7-28-70. Cl. 2.
- Belpaume, Charles, Bouches-Du-Rhone, France. 895,561, pub. 5-12-70. Cl. 89.
- Bentley Engineering Co. Ltd., The, Leicester, England. 895,552, pub. 5-12-70. Cl. 39.
- Berry's Farm & Home, Inc., Clarinda, Iowa. 770,972, can. Cl. 1.
- Berwind Corp., Rosemont, Ill. 895,462, pub. 5-12-70. Cl. 23.
- Betan Co., Inc., Knoxville, Tenn. 895,345, pub. 5-12-70. Cl. 18.
- Bigelow-Sanford, Inc., New York, N.Y. 895,589, pub. 5-12-70. Cl. 42.
- Biometrics Instrument Corp., Dallas, Tex. 771,077, can. Cl. 21.
- Blotest Serum-Institut GmbH, Frankfurt/Main-Niederrad, Germany. 895,343, pub. 5-12-70. Cl. 18.
- Bird Plastics, Inc., Salt Lake City, Utah. 895,287, pub. 5-12-70. Cl. 2.
- Black, James, Santa Barbara, Calif. 771,075, can. Cl. 21.
- Bloch Bros. Tobacco Co., The, d.b.a. Mail Pouch Tobacco Co., Wheeling, W. Va. 771,038-41, can. Cl. 17.
- Block, Fred B., d.b.a. The Olifactory, Santa Monica, Calif. 895,301, pub. 5-12-70. Cl. 6.
- Block-Southland Sportswear, Inc., Wilmington, N.C. 895,576, pub. 5-12-70. Cl. 39.
- Blue Anchor, Inc., Sacramento, Calif. 531,402, ren. 7-28-70. Cl. 46.
- Blue Anchor, Inc., Sacramento, Calif. 531,780, ren. 7-28-70. Cl. 46.
- Blue Bell, Inc., Greensboro, N.C. 895,564, pub. 5-12-70. Cl. 39.
- Blue Bell, Inc., Greensboro, N.C. 895,691, pub. 5-12-70. Cl. 101.
- Board of Publication of The Methodist Church, Inc., Nashville, Tenn. 529,842, ren. 7-28-70. Cl. 38.
- Boise Cascade Corp., Boise, Idaho. 895,456, pub. 5-12-70. Cl. 23.
- Boise Cascade Corp., Boise, Idaho. 895,711-12, pub. 5-12-70. Cl. 105.
- Bomex Products Co., Inc., Kennedale, Tex. 895,518, pub. 5-12-70. Cl. 32.
- Bonda's Veevoederfabriek "Provimi" N.V., Rotterdam, Netherlands. 771,192-3, can. Cl. 46.
- Boone Bait Co., Inc., Winter Park, Fla. 771,100, can. Cl. 22.
- Boone, Daniel, Fried Chicken Inc., Lexington, Ky. 895,679, pub. 5-12-70. Cl. 101.
- Borden, Inc., New York, N.Y. 77,084, ren. 7-28-70. Cl. 46.
- Bowdell Co., The, Canton, Ohio. 532,201, ren. 7-28-70. Cl. 23.
- Bradberry Briar Pipe Corp., New York, N.Y. 895,337, pub. 5-12-70. Cl. 17.
- Bradley, Milton, Co., Springfield, Mass. 531,448, ren. 7-28-70. Cl. 16.
- Bradner Central Co., Chicago, Ill. 272,182, ren. 7-28-70. Cl. 37.
- Brandt Chem. Co., Inc., Pleasant Plains, Ill. 895,309, pub. 5-12-70. Cl. 10.
- Braun, H., Tool & Instrument Co., Inc., Hawthorne, N.J. 895,702, pub. 5-12-70. Cl. 103.
- Breck, John H., Inc., Wayne, N.J. 895,653, pub. 5-12-70. Cl. 52.
- Breitling Watch Corp. of America, New York, N.Y. 526,421, ren. 7-28-70. Cl. 27.
- Breuer Electric Mfg. Co., Chicago, Ill. 528,313, ren. 7-28-70. Cl. 27.
- Brewer Corp., Arlington, Tex. 895,451, pub. 5-12-70. Cl. 23.
- Brookfield Engineering Laboratories, Inc., Stoughton, Mass. 895,491, pub. 5-12-70. Cl. 26.
- Brooks Oil Co., The, Cleveland, Ohio. 895,302, pub. 5-12-70. Cl. 6.
- Brown Co., New York, N.Y. 78,055, ren. 7-28-70. Cl. 37.
- Brown Co., New York, N.Y. 271,554, ren. 7-28-70. Cl. 50.
- Bruce, E. L., Co., Inc., from Cook Industries, Inc., d.b.a. Bruce Terminix, Memphis, Tenn. 895,706, pub. 5-12-70. Cl. 103.
- Buckbee-Mears Co., St. Paul, Minn. 890,003, cor. Cl. 21.
- Bulova Watch Co., Inc., Flushing, N.Y. 532,403, ren. 7-28-70. Cl. 28.



Burlington Northern Inc., from Chicago, Burlington & Quincy Railroad Co., Chicago, Ill. 895,708, pub. 5-12-70. Cl. 105.  
 Burris, Charles E., d.b.a. Charlie's Bike & Hobby Shop, Sunnyvale, Calif. 771,318, cancl. Cl. 19.  
 CF & I Steel Corp., Denver, Colo. 895,461, pub. 5-12-70. Cl. 23.  
 Cambridge Research & Development Group, Westport, Conn. 895,508, pub. 5-12-70. Cl. 26.  
 Camp & McInnes, Inc., Reading, Pa. 895,582-3, pub. 5-12-70. Cl. 39.  
 Campbell Group, The, from Campbell Group, Detroit, Mich. 895,775. Multiple Class (Classes 100, 102, and 103).  
 Carella, Richard F., d.b.a. Range-O-Matic Sight Co., Mount Clemens, Mich. 895,411, pub. 5-12-70. Cl. 22.  
 Carnation Co., Los Angeles, Calif. 840,098, cancl. Cl. 46.  
 Carroll, P. J., & Co. Ltd., Dublin, Ireland. 895,336, pub. 5-12-70. Cl. 17.  
 Carter-Wallace, Inc., New York, N.Y. 895,047, pub. 5-12-70. Cl. 51.  
 Castle & Cooke, Inc., d.b.a. Dole Co., Honolulu, Hawaii. 895,605, pub. 5-12-70. Cl. 45.  
 Caveman Campers, Inc.: See—  
 Di Giorgio Leisure Products, Inc.  
 Center for Political Research, Washington, D.C. 895,546, pub. 5-12-70. Cl. 38.  
 Central Citrus Co., Tempe, Ariz. 528,018, ren. 7-28-70. Cl. 46.  
 Central Laboratories, Inc., Lincoln, Nebr. 771,124, cancl. Multiple Class (Classes 26 and 44).  
 Champion & Fibre Co., The, to U.S. Plywood-Champion Papers Inc., Hamilton, Ohio. 444,048, Am. 7(d). Cl. 37.  
 Chance, A. B., Co., Centralia, Mo. 528,594, ren. 7-28-70. Cl. 13.  
 Charles Offset Co., Inc., New York, N.Y. 895,676, pub. 5-12-70. Cl. 101.  
 Chemical Insecticide Corp., Edison, N.J. 895,728, Cl. 6.  
 Chemtrust Industries Corp., Maywood, Ill. 515,699, ren. 7-28-70. Cl. 16.  
 Chemtrust Industries Corp., Maywood, Ill. 511,701, ren. 7-28-70. Cl. 6.  
 Chicago Bell Limited Co., Morton Grove, Ill. 895,394, pub. 5-12-70. Cl. 21.  
 Chicago, Burlington & Quincy Railroad Co.: See—  
 Burlington Northern Inc.  
 Choo-Zee Jewelry, Inc., Atlanta, Ga. 771,318, cancl. Cl. 3.  
 Chromalloy American Corp., West Nyack, N.Y. 895,393, pub. 5-12-70. Cl. 21.  
 Citrus World, Inc., Lake Wales, Fla. 895,629, pub. 5-12-70. Cl. 46.  
 City Products Corp., Chicago, Ill. 527,770, ren. 7-28-70. Cl. 29.  
 Clinton Watch Co., Chicago, Ill. 525,469, ren. 7-28-70. Cl. 27.  
 Clopay Corp., Cincinnati, Ohio. 895,522, pub. 5-12-70. Cl. 32.  
 Clover Farm Stores Corp., Cleveland, Ohio. 528,052, ren. 7-28-70. Cl. 46.  
 Cluett, Peabody, & Co., Inc., Troy, N.Y. 34,645, ren. 7-28-70. Cl. 39.  
 Cluett, Peabody, & Co., Inc., Troy, N.Y. 525,640, ren. 7-28-70. Cl. 38.  
 Cole Pharmaceutical Co., Inc., St. Louis, Mo. 274,159, ren. 7-28-70. Cl. 15.  
 Colfax Industries, Clifton, N.J. 895,579, pub. 5-12-70. Cl. 39.  
 Colgate-Palmolive Co., New York, N.Y. 895,652, pub. 5-12-70. Cl. 52.  
 Colgate-Palmolive Co., New York, N.Y. 895,654, pub. 5-12-70. Cl. 52.  
 Collins, Miriam, Palm Beach Laboratories Co., Minneapolis, Minn. 895,636, pub. 5-12-70. Cl. 51.  
 Colonial Publishing Corp., Wayne, Pa. 771,326, cancl. Cl. 38.  
 Color Corp. of America, Tampa, Fla. 771,162-63, cancl. Cl. 38.  
 Colorado Potato Growers' Exchange, Denver, Colo. 771,207, cancl. Cl. 46.  
 Colorforms, Norwood, N.J. 771,321, cancl. Cl. 22.  
 Colourpicture Publishers, Inc., Jamaica Plain, Mass. 532,499, ren. 7-28-70. Cl. 38.  
 Communatron Inc., New York, N.Y. 771,296, cancl. Cl. 104.  
 Computer Matching International, Inc., Olive Branch, Miss. 895,660, pub. 5-12-70. Cl. 100.  
 Computer Methods Corp., White Plains, N.Y. 895,681, pub. 5-12-70. Cl. 101.  
 Comstol Air Transit, Inc., Oakland, Calif. 895,713, pub. 5-12-70. Cl. 105.  
 Consolidated Foods Corporation, d.b.a. Popsicle Industries, Englewood, N.J. 528,830, ren. 7-28-70. Cl. 13.  
 Consolidated Foods Corporation, d.b.a. Joe Lowe Co., Englewood, N.J. 532,144, ren. 7-28-70. Cl. 46.  
 Continental Air Lines, Inc., Denver, Colo. 771,140, cancl. Cl. 33.  
 Con-Vex-O Chair & Lounge Co., Inc., St. Louis, Mo. 895,520, pub. 5-12-70. Cl. 32.  
 Cook Industries, Inc., d.b.a. Gruce Terminix: See—  
 Bruce, E. L., Co., The.  
 Cooper, William, & Nephews, Inc., Chicago, Ill. 272,556, ren. 7-28-70. Cl. 6.  
 Corlin, Sid, Honolulu, Hawaii. 895,677, pub. 5-12-70. Cl. 101.  
 Cosmetics, R. H., Corp., d.b.a. Amica, Brooklyn, N.Y. 895,640, pub. 5-12-70. Cl. 51.  
 Craig, Mostyn, & Co. Pty. Ltd., Sydney, New South Wales, Australia. 895,616, pub. 5-12-70. Cl. 46.  
 Crane Co., Chicago, Ill. 771,028, cancl. Cl. 13.  
 Crane Co., New York, N.Y. 895,329, pub. 5-12-70. Cl. 13.  
 Crane Packing Co., Morton Grove, Ill. 895,380, pub. 5-12-70. Cl. 21.  
 Creative Development Co., Santa Fe, N. Mex. 895,427, pub. 5-12-70. Cl. 22.  
 Crisold Plastics Inc., Providence, R.I. 771,093-95, cancl. Cl. 22.  
 Croname, Inc., Chicago, Ill. 528,268, ren. 7-28-70. Cl. 21.  
 Croname, Inc., Chicago, Ill. 528,271, Cl. 21.  
 Crystal-X Corp., Darby, Pa. 895,288, pub. 5-12-70. Cl. 2.  
 Curtis, Helene, Industries, Inc., Chicago, Ill. 895,595, pub. 5-12-70. Cl. 44.  
 Cushionlight Corp., Sunnymead, Calif. 895,362, pub. 5-12-70. Cl. 19.  
 D-A Lubricant Co., Inc., Indianapolis, Ind. 530,624, ren. 7-28-70. Cl. 15.  
 D-P Corp., The, Bethesda, Md. 771,160, cancl. Cl. 38.  
 Dana Corporation, Toledo, Ohio. 895,351, pub. 5-12-70. Multiple Class (Classes 19 and 23).  
 Data Pacific Corp., Portland, Ore. 895,487, pub. 5-12-70. Cl. 26.  
 Davies, Victor N., Leigh-on-Sea, Essex, England. 895,361, pub. 5-12-70. Cl. 19.  
 Dee, Harley V., d.b.a. A-Ok Creative, Hollywood, Fla. 895,674, pub. 5-12-70. Cl. 101.  
 Dee & Vee Sales, Plum Island, Mass. 771,320, cancl. Cl. 22.  
 Delsteel, Inc., Wilmington, Del. 531,644, ren. 7-28-70. Cl. 23.  
 Demert & Dougherty, Inc., Chicago, Ill. 895,754, Cl. 51.  
 Den Klongelge Porcelainsfabrik, Den Klongelge Porcelainsfabrik A/S, Copenhagen, Denmark. 125,798, Am. 7(d). Cl. 30.  
 Den Klongelge Porcelainsfabrik A/S, Copenhagen, Denmark. 870,475, Am. 7(d). Cl. 30.  
 Dentists' Supply Co. of New York, The: See—  
 Dentaply International Inc.  
 Dentaply International Inc., from The Dentists' Supply Co. of New York, York, Pa. 895,597, pub. 5-12-70. Cl. 44.  
 Department of the Interior, Washington, D.C. 895,736, Cl. 38.  
 Derosé Industries, Inc., Indianapolis, Ind. 895,375, pub. 5-12-70. Cl. 19.  
 De Soto, Inc., Des Plaines, Ill. 526,956, ren. 7-28-70. Cl. 12.  
 Diamond International Corp., New York, N.Y. 270,580, ren. 7-28-70. Cl. 24.  
 Diamond National Corp., New York, N.Y. 771,117, cancl. Cl. 23.  
 Diamond Shamrock Corp., Cleveland, Ohio. 895,511, pub. 5-12-70. Cl. 26.  
 Di Giorgio Leisure Products, Inc., San Francisco, Calif., from Caveman Campers, Inc., Grants Pass, Ore. 895,350, pub. 5-12-70. Cl. 19.  
 Disney, Walt, Productions, Burbank, Calif. 895,722, pub. 5-12-70. Cl. 107.  
 Dixistell Buildings, Inc., Atlanta, Ga. 895,312, pub. 5-12-70. Cl. 12.  
 Doughboy Industries, Inc., New Richmond, Wis. 895,630, pub. 5-12-70. Cl. 46.  
 Dow Chemical Co., The, Midland, Mich. 895,729, Cl. 6.  
 Drake, Walter, & Sons, Inc., Colorado Springs, Colo. 895,688, pub. 5-12-70. Cl. 101.  
 Drumbuts Liqueur Co. Ltd., The, Edinburgh, Scotland. 530,795, ren. 7-28-70. Cl. 49.  
 Dreher Leather Mfg. Corp., New York, N.Y. 770,955, cancl. Cl. 1.  
 Dubled, Edouard, & Cie Societe Anonyme, Couvet, Switzerland. 895,464, pub. 5-12-70. Cl. 23.  
 Dunlop Tire and Rubber Corp., Buffalo, N.Y. 895,428, pub. 5-12-70. Cl. 22.  
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 275,062, ren. 7-28-70. Cl. 40.  
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 528,440, ren. 7-28-70. Cl. 6.  
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 529,080, ren. 7-28-70. Cl. 1.  
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 531,563, ren. 7-28-70. Cl. 6.  
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 895,306, pub. 5-12-70. Cl. 6.  
 Durafab Disposables, Inc., Cleburne, Tex. 895,515, pub. 5-12-70. Multiple Class (Classes 29, 37, 42, and 44).  
 Durst, S. F., & Co., Inc., Maryland Heights, Mo. 524,896, ren. 7-28-70. Cl. 6.  
 Dyna Corp., Dayton, Ohio. 772,229, cancl. Cl. 23.  
 Dynamic Classics, Ltd., New York, N.Y. 895,439, pub. 5-12-70. Cl. 22.  
 Earlybird Bedding & Bait Co., Boise, Idaho. 770,970, cancl. Cl. 1.  
 Eberle Tanning Co., Westfield, Pa. 530,124, ren. 7-28-70. Cl. 1.  
 Egnolan, Arthur, d.b.a. Now Records, Los Angeles, Calif. 895,531, pub. 5-12-70. Cl. 36.  
 Electronics Corp. of America, Las Vegas, Nev. 771,282, cancl. Cl. 101.  
 Elektriska Eleiko Aktiebolag, Halmstad, Sweden. 895,455, pub. 5-12-70. Cl. 28.  
 Emerson Electric Co., St. Louis, Mo. 530,254, ren. 7-28-70. Cl. 36.  
 Employee Benefit Consultants, AG, Zurich, Switzerland. 895,700, pub. 5-12-70. Cl. 102.  
 Encoder Products Co., Costa Mesa, Calif. 895,400, pub. 5-12-70. Cl. 21.  
 Endo Laboratories, Inc., from Endo Laboratories, Inc., Garden City, N.Y. 895,344, pub. 5-12-70. Cl. 18.  
 Engelhard Minerals & Chemicals Corp., Newark, N.J. 895,504, pub. 5-12-70. Cl. 26.  
 Envirofood, Inc., Orange, Calif. 895,668, pub. 5-12-70. Cl. 100.  
 Erben, Adolf Schmidts, A.G., Berne, Switzerland. 443,973, ren. 7-28-70. Cl. 15.  
 Esabco Distilling Corp., Stamford, Conn. 530,912, ren. 7-28-70. Cl. 49.  
 Estee Lauder Inc., New York, N.Y. 895,586, pub. 5-12-70. Cl. 42.  
 Ethyl Corp., Richmond, Va. 895,285, pub. 5-12-70. Cl. 2.  
 Eutectic Corp., Flushing, N.Y. 519,770, ren. 7-28-70. Cl. 14.  
 Event Records, Inc., New York, N.Y. 895,534, pub. 5-12-70. Cl. 36.

F.I.I.I. Donini S.A.S. Officine Elettromeccaniche, Bologna, Italy. 895,481, pub. 5-12-70. Cl. 24.  
 FMC Corp., Chicago, Ill. 528,284, ren. 7-28-70. Cl. 23.  
 Faber-Castell, A. W., Nuremberg, Germany. 78,677, ren. 7-28-70. Cl. 37.  
 Fairchild Hiller Corp., Germantown, Md. 895,370-1, pub. 5-12-70. Cl. 19.  
 Family Health Magazine, Inc., New York, N.Y. 895,737, Cl. 38.  
 Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 895,297, pub. 5-12-70. Cl. 6.  
 Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Brüning, Frankfurt/Main, Germany. 771,032, cancl. Cl. 14.  
 Farmers Co-Operative Commission Co., Hutchinson, Kans. 771,229, cancl. Cl. 46.  
 Fashioncraft-Excella, Brooklyn, N.Y. 523,074, ren. 7-28-70. Cl. 44.  
 Federal Chemical Co., Inc., d.b.a. Indy Chemical Co., Indianapolis, Ind. 895,293, pub. 5-12-70. Cl. 6.  
 Fedtro, Inc., Rockville Centre, N.Y. 895,528, pub. 5-12-70. Cl. 34.  
 Feldman, Burton G., Chicago, Ill. 895,574, pub. 5-12-70. Cl. 39.  
 Fendrich Industries, Inc., Evansville, Ind. 895,566-7, pub. 5-12-70. Cl. 39.  
 Fiberglass Resources Corp., Farmingdale, N.Y. 895,316, pub. 5-12-70. Cl. 12.  
 Field Enterprises, Inc., Chicago, Ill. 771,090, cancl. Cl. 22.  
 Fieldcrest Mills, Inc., Eden, N.C. 895,585, cancl. Cl. 42.  
 Firestone Tire & Rubber Co., The, Akron, Ohio. 895,474, pub. 5-12-70. Cl. 23.  
 Firmenich, Inc., New York, N.Y. 270,793, ren. 7-28-70. Cl. 51.  
 Fish 'N Seafood, Inc., Elkins Park, Pa. 895,743, Cl. 46.  
 Fitness, Inc., Washington, D.C. 895,488, pub. 2-10-70. Cl. 26.  
 Flintkote Co., The, White Plains, N.Y. 269,495, ren. 7-28-70. Cl. 12.  
 Florida National Bank & Trust Co. at Miami, The, Miami, Fla. 895,543, pub. 5-12-70. Cl. 38.  
 Flume Stabilization Systems, Inc., Hoboken, N.J. 895,656, pub. 5-12-70. Cl. 100.  
 Foote Mineral Co., Exton, Pa. 895,333, pub. 5-12-70. Cl. 14.  
 Ford Motor Co. Ltd., London W. 1, England. 895,352, pub. 11-11-69. Cl. 19.  
 Foremost Dairies, Inc., San Francisco, Calif. 771,196, cancl. Cl. 46.  
 Formed Container Corp., Orangeburg, N.Y. 771,114-15, cancl. Cl. 23.  
 Franklin Mint, Inc., The, Yeadon, Pa. 895,418-24, pub. 5-12-70. Cl. 22.  
 Franklin Mint, Inc., The, Yeadon, Pa. 895,633, pub. 5-12-70. Cl. 50.  
 Fraser's, Inc., New York, N.Y. 771,119, cancl. Cl. 23.  
 French Oil Mill Machinery Co., The, Piqua, Ohio. 895,450, pub. 5-12-70. Cl. 23.  
 Fritzmeier Georg, Kg., Grobhefeldorf, near Munich, Germany. 895,354, pub. 5-12-70. Cl. 19.  
 Frock, Alice Co., San Francisco, Calif. 895,551, pub. 5-12-70. Cl. 39.  
 Fuller & Dees, Inc., Montgomery, Ala. 895,735, Cl. 38.  
 Furane Plastics, Inc., Los Angeles, Calif. 895,269, pub. 5-12-70. Cl. 1.  
 GAF Corp., New York, N.Y. 895,437, pub. 5-12-70. Cl. 22.  
 GAF Corp., New York, N.Y. 895,517, pub. 5-12-70. Cl. 32.  
 GAF Corp., New York, N.Y. 895,684, pub. 5-12-70. Cl. 101.  
 GTI Corp., Tonawanda, N.Y. 895,635, pub. 5-12-70. Cl. 50.  
 Garlock Inc., Palmyra, N.Y. 895,471, pub. 5-12-70. Cl. 23.  
 Gas Processors, Inc., Brea, Calif. 895,281, pub. 5-12-70. Multiple Class (Classes 2, 23, and 34).  
 Gely Chemical Corp., Ardsley, N.Y. 530,804, ren. 7-28-70. Cl. 52.  
 General Electric Co., Pittsfield, Mass. 895,383, pub. 5-12-70. Cl. 21.  
 General Electric Co., Louisville, Ky. 895,734, Cl. 24.  
 General Foods Corp., White Plains, N.Y. 895,612, pub. 5-12-70. Cl. 46.  
 General Foods Corp., White Plains, N.Y. 895,621-22, pub. 5-12-70. Cl. 46.  
 General Mills, Inc., Minneapolis, Minn. 839,657, cancl. Cl. 46.  
 Genesco Inc., Nashville, Tenn. 771,172, cancl. Cl. 39.  
 Gerber Legendary Blades, Portland, Ore. 895,467, pub. 5-12-70. Cl. 23.  
 Gerl Creme, Inc., New York, N.Y. 895,637, pub. 8-26-69. Cl. 51.  
 Gibson, Inc., Kalamazoo, Mich. 895,535-36, pub. 5-12-70. Cl. 36.  
 Gift Cheks, Inc., Cleveland, Ohio. 895,777, Cl. 101.  
 Gildemeister & Comp., Bielefeld, Germany. 895,454, pub. 5-12-70. Cl. 23.  
 Gillespie & Co., of New York, Inc., New York, N.Y. 771,088, cancl. Cl. 22.  
 Gladding Corp., South Otselic, N.Y. 895,409, pub. 5-12-70. Cl. 22.  
 Gladwin Industries, Inc., Atlanta, from Sepsco Inc., Atlanta, Ga. 895,268, pub. 10-24-67. Cl. 1.  
 Glendinning Companies, Inc., Westport, Conn. 895,694-96, pub. 5-12-70. Cl. 101.  
 Globestar Industries, Inc., Elkhart, Ind. 895,356, pub. 5-12-70. Cl. 19.  
 Globe-Union Inc., Milwaukee, Wis. 271,944, ren. 7-28-70. Cl. 21.  
 Go-Go Research & Development, Inc., St. Louis, Mo. 771,087, cancl. Cl. 22.  
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 266,908, ren. 7-28-70. Cl. 35.  
 Grauer, Dean I., Jr., d.b.a. Nutergent Products Co., Allen Park, Mich. 771,269, cancl. Cl. 52.  
 Graver Tank & Mfg. Co. Inc., to Union Tank Car Co., East Chicago, Ind. 623,294, Am. 7(d). Multiple Class (Classes 2 and 23).  
 Great Western Foods Co., The, Knoxville, Tenn. 895,748, Cl. 46.  
 Great Western Sugar Co., The, Denver, Colo. 895,314, pub. 5-12-70. Cl. 12.  
 Green & Green, Inc., Houston, Tex. 771,157, cancl. Cl. 38.  
 Greene's Material Handling Equipment & Supply, South El Monte, Calif. 895,355, pub. 5-12-70. Cl. 19.  
 Grove Valve and Regulator Co., Oakland, Calif. 529,007, ren. 7-28-70. Cl. 26.  
 Gruppo Industriale Guiseppe Visconti Di Modrone S.p.A., Milan, Italy. 525,492, ren. 7-28-70. Cl. 51.  
 Guerriero, Robert J., d.b.a. The Journeymasters, Peabody, Mass. 895,709, pub. 5-12-70. Cl. 105.  
 Gulfstream Boats, Inc., Salt Lake City, Utah. 895,363, pub. 5-12-70. Cl. 19.  
 Gulton Industries, Inc., Metuchen, N.J. 895,502, pub. 5-12-70. Cl. 26.  
 Gustone Products, Inc., Long Island City, N.Y. 895,458, pub. 5-12-70. Cl. 23.  
 Guy's Foods, Inc., Kansas City, Mo. 522,372, ren. 7-28-70. Cl. 46.  
 Harlee Co., The, Chicago, Ill. 895,747, Cl. 46.  
 Harrison, William, New York, N.Y. 895,537, pub. 4-25-67. Cl. 37.  
 Hartshorn, Frances R. and Arthur E., d.b.a. Edfran Mfg. Co. and Edfran Manufacturing Co., Portland, Ore. 895,286, pub. 5-12-70. Cl. 2.  
 Harvey Famous Cartoons, New York, N.Y. 895,613, pub. 5-12-70. Cl. 46.  
 Hasbro Industries, Inc.: See—  
 Romper Room Enterprises, Inc.  
 Hassenfeld Bros., Inc., Central Falls, R.I. 771,101, cancl. Cl. 22.  
 Hayssen Mfg. Co., Sheboygan, Wis. 895,498, pub. 5-12-70. Cl. 26.  
 Heath, L. S., & Sons, Inc., Robinson, Ill. 771,331, cancl. Cl. 46.  
 Heinemann, Wilbur A., Jr., Milwaukee, Wis. 895,716, pub. 5-12-70. Cl. 107.  
 Heinn, Inc., Milwaukee, Wis. 529,202-3, ren. 7-28-70. Cl. 87.  
 Heitman, Paul S., d.b.a. Gem-Mounts and Gem-Masks Co., New York, N.Y. 895,539-42, pub. 5-12-70. Cl. 37.  
 Hercules Inc., Wilmington, Del. 895,303, pub. 5-12-70. Cl. 6.  
 Hesston Corp., Hesston, Kans. 895,468, pub. 5-12-70. Cl. 23.  
 Historical Times, Inc., Gettysburg, Pa. 895,547, pub. 5-12-70. Cl. 38.  
 Hoboken Paints, Inc., Lodi, N.J. 895,313, pub. 5-12-70. Cl. 12.  
 Hoffman Specialty Mfg. Corp., Indianapolis, Ind. 895,324, pub. 5-12-70. Cl. 13.  
 Hollywood Hose, Inc., New York, N.Y. 528,028, ren. 7-28-70. Cl. 39.  
 Holt, Ivan M., d.b.a. Shower Boot Co., Long Beach, Calif. 895,634, pub. 5-12-70. Cl. 50.  
 Holy Name Society, New York, N.Y. 275,073, ren. 7-28-70. Cl. 35.  
 Homestead Industries, Inc., Coraopolis, Pa. 895,478, pub. 5-12-70. Cl. 23.  
 Honeywell Inc., Minneapolis, Minn. 532,340, ren. 7-28-70. Cl. 38.  
 Honeywell Inc., Minneapolis, Minn. 895,486, pub. 8-26-69. Cl. 26.  
 Hoover Ball & Bearing Co., Saline, Mich. 771,092, cancl. Cl. 22.  
 Horan, William L., d.b.a. American Twirling Academy, Leesburg, Fla. 895,717, pub. 5-12-70. Cl. 107.  
 Howe-Baker Engineers, Inc., Tyler, Tex. 895,445, pub. 5-12-70. Cl. 23.  
 Human Dynamics, Inc., Boston, Mass. 895,655, pub. 5-12-70. Cl. 100.  
 Humble Oil & Refining Co., Houston, Tex. 771,144, cancl. Cl. 34.  
 Hunt, Rodney, Co., Orange, Mass. 895,480, pub. 5-12-70. Cl. 23.  
 Hutton, Paul C., d.b.a. P. C. Hutton & Associates, Charlottesville, Va. 771,027, cancl. Cl. 18.  
 Hygrade Food Products Corp., Detroit, Mich. 771,222-3, cancl. Cl. 46.  
 Hyster Co., Portland, Ore. 528,774, ren. 7-28-70. Cl. 39.  
 IBP Equipment Corp., Lake City, Minn. 895,475, pub. 5-12-70. Cl. 23.  
 IPAC Group, Inc., The, Pittsburgh, Pa. 895,396, pub. 5-12-70. Cl. 21.  
 Ickes-Braun Glasshouses, Inc., Aptakisic, Ill. 895,277, pub. 5-12-70. Multiple Class (Classes 1 and 38).  
 Imperato, Joseph, Selden, N.Y. 895,414, pub. 5-12-70. Cl. 22.  
 Indian Head Inc., New York, N.Y. 532,615, ren. 7-28-70. Cl. 43.  
 Infoton, Inc., Burlington, Mass. 895,510, pub. 5-12-70. Cl. 26.  
 International Battery, Inc., Schiller Park, Ill. 895,404, pub. 5-12-70. Cl. 21.  
 International Commodities Corp., Amarillo, Tex. 895,727, Cl. 1.  
 International Mfg. Co., Inc., Benicia, Calif. 895,367, pub. 5-12-70. Cl. 19.  
 International Paper Co., New York, N.Y. 770,979, cancl. Cl. 2.  
 International Travel Advisors Inc., St. Louis, Mo. 895,707, pub. 5-12-70. Cl. 105.  
 Interstate United Corp., Chicago, Ill. 895,669, pub. 5-12-70. Cl. 100.  
 Intertherm, Inc., St. Louis, Mo. 895,527, pub. 5-12-70. Cl. 34.  
 Intertherm, Inc., St. Louis, Mo. 895,705, pub. 5-12-70. Cl. 103.  
 Iomec, Inc., San Jose, Calif. 895,492-3, pub. 5-12-70. Cl. 26.



Jacquelin, Charles, Et Cie, Inc., Philadelphia, Pa. 527,385, ren. 7-28-70. Cl. 49.  
 James Textile Corp., The, North Bergen, N.J. 895,577, pub. 5-12-70. Cl. 39.  
 Japan Food Corp., San Francisco, Calif. 771,209, can. Cl. 46.  
 Jenisch, Paul, d.b.a. Paul Jenisch Creations, Mount Vernon, N.Y. 771,084, can. Cl. 22.  
 Jenkins Bros., Bridgeport, Conn. 526,626, ren. 7-28-70. Cl. 13.  
 Johns-Manville Corp., New York, N.Y. 770,991, can. Cl. 5.  
 Johns-Manville Corp., New York, N.Y. 895,274-5, pub. 5-12-70. Cl. 1.  
 Johnson, Morgan A., d.b.a. Chippit Mfg. Co., Linwood, N.J. 771,091, can. Cl. 22.  
 Johnson & Johnson, New Brunswick, N.J. 895,349-50, pub. 5-12-70. Cl. 18.  
 Johnson & Johnson, New Brunswick, N.J. 895,596, pub. 5-12-70. Cl. 44.  
 Johnson & Johnson, New Brunswick, N.J. 895,755, can. Cl. 51.  
 Julian & Kokenge Co., The, Columbus, Ohio. 530,797, ren. 7-28-70. Cl. 39.  
 KTVB, Inc., Boise, Idaho. 771,309, can. Cl. 107.  
 Kalamazoo Label Co., Kalamazoo, Mich. 895,549, pub. 5-12-70. Cl. 38.  
 Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Osaka, Japan. 895,590, pub. 5-12-70. Cl. 42.  
 Kar/Products of the Greater Southwest, Inc., Dallas, Tex. 895,327, pub. 5-12-70. Cl. 13.  
 Karaway, Inc., New York, N.Y. 771,170, can. Cl. 39.  
 Kayser-Roth Corp., New York, N.Y. 530,277, ren. 7-28-70. Cl. 39.  
 Kayser-Roth Corp., New York, N.Y. 531,387, ren. 7-28-70. Cl. 39.  
 Kennedy Mfg. Co., Van Wert, Ohio. 532,295-96, ren. 7-28-70. Cl. 2.  
 Kennedy Valve Mfg. Co., Inc., Elmira, N.Y. 895,330, pub. 5-12-70. Cl. 13.  
 Kimberly Knitwear, Inc., New York, N.Y. 895,569, pub. 5-12-70. Cl. 39.  
 Kings-Craft Corp., Louisville, Ky. 895,369, pub. 5-12-70. Cl. 19.  
 Kipper, F. W., Arosa, Switzerland. 771,261, can. Cl. 51.  
 Koninklijke Weefgoederenfabriek C.T. Stork & Co., N.V., Hengelo, Netherlands. 895,555, pub. 5-12-70. Cl. 39.  
 Kousei Industrial Co., Ltd., Tokyo, Japan. 891,977, cor. Cl. 23.  
 Krauth & Benninghofen, Inc., Hamilton, Ohio. 532,777, ren. 7-28-70. Cl. 23.  
 La Boutica Pappagallo, Inc., Greenwich, Conn. 895,573, pub. 5-12-70. Cl. 39.  
 La Marche, Austin W., Des Plaines, Ill. 895,382, pub. 5-12-70. Cl. 21.  
 Larson Industries, Inc., St. Paul, Minn. 895,353, pub. 5-12-70. Cl. 19.  
 La Societe O.C.C.R., Organisation, Conception, Controle, Realisation, Paris, France. 895,678, pub. 5-12-70. Cl. 101.  
 Lavarri, Inc., Fox Lake, Ill. 895,774, Cl. 52.  
 La vie Products, Inc., New York, N.Y. 771,198, can. Cl. 46.  
 Leeson Ltd., Heywood, England. 895,447, pub. 5-12-70. Cl. 23.  
 Leininger, Wm. G., Knitting Co., Mohnton, Pa. 524,743, ren. 7-28-70. Cl. 39.  
 Lesney Products & Co., Ltd., Hackney Wick, London E., England. 895,410, pub. 10-21-69. Cl. 22.  
 Lever Brothers Co., New York, N.Y. 895,305, pub. 5-12-70. Cl. 6.  
 Lever Brothers Co., New York, N.Y. 895,606, pub. 5-12-70. Cl. 46.  
 Levitt, H., d.b.a. Levitt Ventures, San Francisco, Calif. 895,381, pub. 5-12-70. Cl. 21.  
 Limestone Products Corp. of America, Newton, N.J. 530,450, ren. 7-28-70. Multiple Class (Classes 1, 6, and 10).  
 Limitorque Corp., Lynchburg, Va. 267,316, ren. 7-28-70. Cl. 23.  
 Lincoln Metal Products Corp., Brooklyn, N.Y. 895,282-84, pub. 5-12-70. Cl. 2.  
 Lincoln Metal Products Corp., Brooklyn, N.Y. 895,331, pub. 5-12-70. Cl. 13.  
 Lingner-Werke G.m.b.H., Duesseldorf, Germany. 77,930, ren. 7-28-70. Cl. 51.  
 Liquid Carbonic Corp., Chicago, Ill. 895,304, pub. 5-12-70. Cl. 6.  
 Little Jo Designs, New Paltz, N.Y. 895,558, pub. 5-12-70. Cl. 39.  
 Little Topsy's, Inc., New York, N.Y. 895,554, pub. 5-12-70. Cl. 39.  
 Little Red Hen Country Chicken, Inc., Chicago, from Little Red Hen Country Chicken, Inc., Northbrook, Ill. 895,526, pub. 5-12-70. Multiple Class (Classes 34, 46, 100, and 101).  
 London Winery Ltd., London, Ontario, Canada. 895,751, Cl. 47.  
 Lorenz, Staton D., Plymouth, Mich. 895,425, pub. 5-12-70. Cl. 22.  
 Lorillard Corp., New York, N.Y. 895,307, pub. 5-5-70. Cl. 8.  
 Lorraine Industries, Inc., Bridgeport, Conn. 270,124, ren. 7-28-70. Cl. 32.  
 Lott's Marine Interiors, Inc., Miami, Fla. 895,357, pub. 5-12-70. Cl. 19.  
 Loup-de-Mer Corp., New York, N.Y. 895,340-41, pub. 5-12-70. Cl. 17.  
 Lowenstein, M., & Sons, Inc., New York, N.Y. 895,588, pub. 5-12-70. Cl. 42.  
 Lubrastart Co., Los Angeles, Calif. 895,459, pub. 5-12-70. Cl. 23.  
 Lynwood Co., Inc., Chicago, Ill. 532,237, ren. 7-28-70. Cl. 6.

M.K.M. Knitting Mills, Inc., Manchester, N.H. 771,173, can. Cl. 39.  
 M-P Corp., Detroit, Mich. 895,452, pub. 2-17-70. Cl. 23.  
 MSL Industries, Inc., Chicago, Ill. 895,385, pub. 5-12-70. Multiple Class (Classes 21 and 34).  
 Macy, R. H., & Co., Inc., New York, N.Y. 895,672-73, pub. 5-12-70. Cl. 101.  
 Magnesium Association, The, Detroit, Mich. 771,161, can. Cl. 38.  
 Maguire Insurance Agency of Pennsylvania, Inc., Philadelphia, Pa. 895,701, pub. 5-12-70. Cl. 102.  
 Majestic Specialties, Inc., Nashville, Tenn. 895,571, pub. 5-12-70. Cl. 39.  
 Mallory, P. R., & Co., Inc., Indianapolis, Ind. 527,500, ren. 7-28-70. Cl. 21.  
 Malt-O-Meal Co., Minneapolis, Minn. 895,628, pub. 5-12-70. Cl. 46.  
 Mama Cookie Bakeries, Inc., Chicago, Ill. 895,749-50, Cl. 46.  
 Manasse-Block Tanning Co., Berkeley, Calif. 895,276, pub. 5-12-70. Cl. 1.  
 Manhattan Industries, Inc., New York, N.Y. 895,565, pub. 5-12-70. Cl. 39.  
 Marco, Doris, d.b.a. Sewtique Fashion Studio, Stamford, Conn. 895,721, pub. 5-12-70. Cl. 107.  
 Mark Centry Corp., New York, N.Y. 771,308, can. Cl. 107.  
 Marriott Corp., Washington, D.C. 895,667, pub. 5-12-70. Cl. 100.  
 Marsh, J. L., Inc., Minneapolis, Minn. 895,532, pub. 5-12-70. Cl. 36.  
 Martin, Jesse E., El Paso, Tex. 895,300, pub. 5-12-70. Cl. 6.  
 Martinoni, E., Co.: See—Williams, Norman, Co.  
 Marvelite, Inc., Baltimore, Md. 520,670, ren. 7-28-70. Cl. 16.  
 Mason, Au & Magenheimer Confy. Mfg. Co., Inc., Mineola, N.Y. 895,625, pub. 5-12-70. Cl. 46.  
 Master Chemical Corp., Perrysburg, Ohio. 895,050-1, pub. 5-12-70. Cl. 52.  
 Mattel, Inc., Hawthorne, Calif. 895,430-5, pub. 5-12-70. Cl. 22.  
 Mattel, Inc., Hawthorne, Calif. 895,438, pub. 5-12-70. Cl. 22.  
 Mattel, Inc., Hawthorne, Calif. 895,440-3, pub. 5-12-70. Cl. 22.  
 Mattson, George E., Enterprises, Inc., Boston, Mass. 895,719, pub. 5-12-70. Cl. 107.  
 May, Otto B., Inc., Newark, N.J. 528,336, ren. 7-28-70. Cl. 6.  
 Maybro Sportwear Co., Inc., New York, N.Y. 895,556, pub. 5-12-70. Cl. 39.  
 McBain Instruments, Inc., Van Nuys, Calif. 895,503, pub. 5-12-70. Cl. 26.  
 McConnell, Alan, & Son, Inc., Indianapolis, Ind. 895,545, pub. 5-12-70. Cl. 38.  
 McCormick & Co., Inc., Cockeysville, Md. 79,422, ren. 7-28-70. Cl. 46.  
 McCormick & Co., Inc., Cockeysville, Md. 895,618-20, pub. 5-12-70. Cl. 46.  
 McDonough Co., Parkersburg, W. Va. 525,626, ren. 7-28-70. Cl. 23.  
 McGraw-Hill, Inc., New York, N.Y. 532,465, ren. 7-28-70. Cl. 38.  
 McGraw-Hill, Inc., New York, N.Y. 532,495, ren. 7-28-70. Cl. 38.  
 McLendon Corp., The, Dallas, Tex. 895,661, pub. 5-12-70. Cl. 100.  
 Mead Corp., The, Dayton, Ohio. 771,146, can. Cl. 37.  
 Mechanical Enterprises, Inc., Alexandria, Va. 771,100, can. Cl. 23.  
 Medici Industries, Ltd., New York, N.Y. 895,570, pub. 5-12-70. Cl. 39.  
 Meditation, Inc., Fort Worth, Tex. 895,662, pub. 5-12-70. Cl. 100.  
 Melville Shoe Corp., New York, N.Y. 895,563, pub. 5-12-70. Cl. 39.  
 Metro Med, Inc., Houston, Tex. 895,347, pub. 5-12-70. Cl. 18.  
 Michael & Ginsberg Publishing Co., Wilmette, Ill. 511,023, ren. 7-28-70. Cl. 38.  
 Michaels of Oregon Co., Portland, Ore. 895,308, pub. 5-12-70. Cl. 9.  
 Michaels Stern & Co. Inc., Rochester, N.Y. 771,330, can. Cl. 39.  
 Micro-Biological Laboratories, Inc., New York, N.Y. 770,996, can. Cl. 6.  
 Mid-America Pipeline Co., Tulsa, Okla. 525,173, ren. 7-28-70. Cl. 8.  
 Midland International Corp., from Custom Importing Co., North Kansas City, Mo. 895,483, pub. 9-1-64. Cl. 26.  
 Miller Brewing Co., Milwaukee, Wis. 533,165, Am. 7(d). Cl. 48.  
 Minnesota Mining and Mfg. Co., St. Paul, Minn. 895,271-2, pub. 5-12-70. Cl. 1.  
 Miss Melinda of California, Los Angeles, Calif. 895,581, pub. 5-12-70. Cl. 39.  
 Mr. Twisters Bretzel Co., Inc., White Plains, N.Y. 771,224, can. Cl. 46.  
 Mitchum Co., The, Paris, Tenn. 895,773, Cl. 52.  
 Mittag & Volgar, Inc. Burroughs Corp., Detroit, Mich. 522,798, Am. 7(d). Cl. 11.  
 Monitor Coach Co., Inc., Wakarusa, Ind. 895,372, pub. 5-12-70. Cl. 19.  
 Monsanto Co., St. Louis, Mo. 895,470, pub. 5-12-70. Cl. 23.  
 Montecito Mfg. Co., Santa Barbara, Calif. 895,704, pub. 5-12-70. Cl. 103.  
 Morse Electro Products Corp., Ozone Park, N.Y. 895,403, pub. 5-12-70. Multiple Class (Classes 21 and 36).  
 Morse Shoe, Inc., Canton, Mass. 895,580, pub. 5-12-70. Cl. 39.  
 Morton International, Inc., Chicago, Ill. 875,299, Am. 7(d). Cl. 46.  
 Morton Salt Co., Chicago, Ill. 771,004, can. Cl. 6.

Mountain States Wholesale Co., Boise, Idaho. 895,753.  
 Multiple Class (Classes 51 and 52).  
 Mulford, Hewett P., & Co., Lebanon, Ohio. 895,725, Cl. 1.  
 Mura Corp., Great Neck, N.Y. 895,494, pub. 5-12-70. Cl. 26.  
 Murray Ohio Mfg. Co., The, Nashville, Tenn. 527,725, ren. 7-28-70. Cl. 22.  
 Nagle Pumps, Inc., Chicago Heights, Ill. 895,463, pub. 5-12-70. Cl. 23.  
 Nappanee Milling Co., Inc., Nappanee, Ind. 771,199, can. Cl. 46.  
 Nappanee Milling Co., Inc., Nappanee, Ind. 771,205, can. Cl. 46.  
 National Cooperatives, Inc., Albert Lea, Minn. 530,238, ren. 7-28-70. Cl. 23.  
 National Rifle Association of America, Washington, D.C. 530,558, ren. 7-28-70. Cl. 22.  
 Netherlands American Brei Maatschappij N.V., Amsterdam, Netherlands. 895,600, pub. 5-12-70. Cl. 44.  
 Neldinger, Floyd L., d.b.a. East Akron Tarpaulin, Akron, Ohio. 771,239, can. Cl. 50.  
 Nello Chemicals, Inc., Jacksonville, Fla. 770,963, can. Cl. 1.  
 Nelson Auction Service, Inc., Amarillo, Tex. 895,770, Cl. 101.  
 New American Library of World Literature, Inc., New York, N.Y. 697,844, Am. 7(d). Cl. 38.  
 New Britain Machine Co., Cleveland, Ohio. 520,715, ren. 7-28-70. Cl. 23.  
 New England Confectionery Co., Cambridge, Mass. 525,887, ren. 7-28-70. Cl. 46.  
 New England Lock & Hardware Co., South Norwalk, Conn. 841,617, can. Cl. 25.  
 Newberry, J. J., Co., New York, N.Y. 771,097, can. Cl. 22.  
 Nicholson Mfg. Co., Auburn, Wash. 771,108, can. Cl. 23.  
 Nippon Kokaku Kabushiki Kaisha, Tokyo, Japan. 895,485, pub. 5-20-70. Cl. 26.  
 Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 895,772, Cl. 51.  
 North American Rockwell Corp., Pittsburgh, Pa., from Miehle-Goss-Dexter, Inc., Chicago, Ill. 895,476, pub. 5-12-70. Cl. 23.  
 Northeast Airlines, Inc., East Boston, Mass. 771,299, can. Cl. 105.  
 Norwich Pharmacal Co., The, Norwich, from Norwich Pharmacal Co., The, Norwich, N.Y. 895,342, pub. 1-9-68. Cl. 18.  
 Nucleonic Products Co., Inc., Canoga Park, Calif. 895,401, pub. 5-12-70. Cl. 21.  
 Ocean Garden Products, Inc., d.b.a. Dyn-Econ, San Diego, Calif. 895,698, pub. 5-12-70. Cl. 101.  
 Odell, M. P., Co., Westlake, Ohio. 895,446, pub. 5-12-70. Multiple Class (Classes 23, 34, and 52).  
 Ob-Dear Laboratories, Inc., St. Paul, Minn. 771,002, can. Cl. 6.  
 Onelda Ltd., Onelda, N.Y. 895,478, pub. 5-12-70. Cl. 23.  
 Onelda Ltd., Onelda, N.Y. 895,519, pub. 5-12-70. Cl. 32.  
 Open Pantry Food Marts, Inc., Chicago, Ill. 895,670, pub. 5-12-70. Cl. 101.  
 Orbit Publishing S. A., Cologny, Switzerland. 895,550, pub. 5-12-70. Cl. 35.  
 Owens-Corning Fiberglas Corp., Toledo, Ohio. 895,273, pub. 5-12-70. Cl. 1.  
 P E M Corp., Tyler, Tex. 895,323, pub. 5-12-70. Cl. 13.  
 Pacific Candle Co., Hayward, Calif. 771,033, can. Cl. 15.  
 Pan American World Airways, Inc., New York, N.Y. 895,365, pub. 5-12-70. Cl. 19.  
 Paris, Rosalie, Chicago, Ill. 895,615, pub. 5-12-70. Cl. 46.  
 Parke, Davis & Co., Detroit, Mich. 895,346, pub. 5-12-70. Cl. 18.  
 Parke, Davis & Co., Detroit, Mich. 895,601, pub. 5-12-70. Cl. 44.  
 Parker Brothers, Inc., Salem, Mass. 895,436, pub. 5-12-70. Cl. 22.  
 Park-Ohio Industries, Inc., Cleveland, Ohio. 895,378, pub. 5-12-70. Multiple Class (Classes 21 and 34).  
 Paterson Parchment Paper Co., Bristol, Penn. 276,691, ren. 7-28-70. Cl. 37.  
 Payrite Pharmacy, Inc., Springfield, Mo. 895,697, pub. 5-12-70. Cl. 101.  
 Pamar Engineering, Inc., Hialeah, Fla. 895,280, pub. 5-12-70. Cl. 2.  
 Penetone Co., The, Tenafly, N.J. 696,886, can. Cl. 52.  
 Penn-Carl Hosiery Mills Inc., Mount Pleasant, N.C. 895,739-40, Cl. 39.  
 Pennwalt Corp., Philadelphia, Pa. 270,295, ren. 7-28-70. Cl. 23.  
 Pennzoll United, Inc., Oil City, Pa. 532,025, ren. 7-28-70. Cl. 37.  
 Perfection Spring & Stamping Corp., Mt. Prospect, Ill. 895,321, pub. 5-12-70. Multiple Class (Classes 13, 14, 21, and 103).  
 Perma, Paris, France. 895,641, pub. 5-12-70. Cl. 51.  
 Peter Pan International, Inc., New York, N.Y. 527,906, ren. 7-28-70. Cl. 39.  
 Petru, Frank J., Oak Park, Ill. 526,355, ren. 7-28-70. Cl. 49.  
 Philadelphia Chewing Gum Corp., Havertown, Pa. 895,624, pub. 5-12-70. Cl. 46.  
 Phoenix Candy Co., Inc., Brooklyn, N.Y. 771,228, can. Cl. 46.  
 Photo Media Ltd., New York, N.Y. 895,544, pub. 5-12-70. Multiple Class (Classes 38, 100, and 107).  
 Pioneer Motor Bearing Co., South San Francisco, Calif. 895,443, pub. 5-12-70. Cl. 23.  
 Pitney-Bowes, Inc., Stamford, Conn. 895,733, Cl. 23.  
 Pizza Hut, Inc., from Taco, Inc., Wichita, Kans. 895,675, pub. 5-12-70. Cl. 101.  
 Planta Laboratories, Inc., New York, N.Y. 771,048-49, can. Cl. 18.  
 Plantation House, London E. C. 3, England. 770,953, can. Cl. 1.  
 Plantation House, London E. C. 3, England. 771,020, can. Cl. 12.  
 Pluswood Industries, Oshkosh, Wis. 895,730, Cl. 12.

Polymer Industries, Inc., Springdale, Conn. 895,295, pub. 5-12-70. Cl. 5.  
 Pomona Air, Inc., d.b.a. Allied Air Conditioning, Pomona, Calif. 895,523, pub. 9-9-69. Cl. 34.  
 Popper & Sons, Inc., New York, N.Y. 895,602, pub. 5-12-70. Cl. 44.  
 Powderdyne Inc., Lake Oswego, Ore. 895,397, pub. 5-12-70. Cl. 21.  
 Preformed Line Products Co., Cleveland, Ohio. 895,392, pub. 5-12-70. Cl. 21.  
 Prescott, J. L., Co., Passaic, N.J. 531,515, ren. 7-28-70. Cl. 6.  
 Prescott, J. L., Co., Passaic, N.J. 770,987, can. Cl. 4.  
 Priestley, B., & Co., Inc., New York, N.Y. 895,587, pub. 5-12-70. Cl. 42.  
 Process Control Corp., Atlanta, Ga. 895,457, pub. 5-12-70. Cl. 23.  
 Proctor-Sillex Inc., Philadelphia, Pa. 895,395, pub. 5-12-70. Cl. 21.  
 Promotivation Inc., New York, N.Y. 895,687, pub. 5-12-70. Cl. 101.  
 Proper Mfg. Co., Inc., Long Island City, N.Y. 895,603, pub. 5-12-70. Cl. 44.  
 Pullman Inc., Chicago, Ill. 895,364, pub. 5-12-70. Cl. 19.  
 Pure Corp. Ltd., d.b.a. Turco Products, Lakewood, Calif. 895,469, pub. 3-17-70. Cl. 23.  
 Puritan Fashions Corp., from Joseph Bancroft & Sons Co., New York, N.Y. 895,562, pub. 1-6-70. Cl. 39.  
 Pursifull, Cedric N., d.b.a. Cedric Pursifull Sales & Service, Huntington, Ind. 771,243, can. Cl. 50.  
 Pyramid International, Inc., Ravenna, Ohio. 895,742, Cl. 44.  
 Quaker Oats Co., The, Chicago, Ill. 523,728, ren. 7-28-70. Cl. 46.  
 Quinn, David H., Washington, D.C. 771,324, can. Cl. 26.  
 RC Publications, Inc., Washington, D.C. 895,548, pub. 5-12-70. Cl. 38.  
 RFM Industries Corp., Farmingdale, N.J. 895,405, pub. 5-12-70. Cl. 21.  
 Radley Furs, Inc., New York, N.Y. 895,738, Cl. 39.  
 Rain for Rent, Inc., Bakersfield, Calif. 895,703, pub. 5-12-70. Cl. 103.  
 Rainbow Shops, Inc., Brooklyn, N.Y. 532,861, ren. 7-28-70. Cl. 39.  
 Ramada Inn, Inc. Ramada Inns, Inc., Phoenix, Ariz. 741,047, Am. 7(d). Cl. 100.  
 Ranco Industrial Products Corp., Cleveland, Ohio. 895,315, pub. 5-12-70. Cl. 12.  
 Rasler, Randolph F. and Lillian H., d.b.a. Peninsula Bowler's Supplies, Redwood City, Calif. 771,081, can. Cl. 22.  
 Reach, Patricia, Corp., Westfield, Mass. 771,260, can. Cl. 51.  
 Red Spot Paint & Varnish Co., Evansville, Ind. 256,886, ren. 7-28-70. Cl. 12.  
 Red Spot Paint and Varnish Co., Inc., Evansville, Ind. 895,299, pub. 5-12-70. Cl. 6.  
 Rega Cut Franchise Technique, Inc., Westerly, R.I. 895,658, pub. 5-12-70. Cl. 100.  
 Regency Creations, Inc., Greenvale, N.Y. 895,513, pub. 5-12-70. Cl. 27.  
 Reiss Associates, Inc., Lowell, Mass. 444,293, ren. 7-28-70. Cl. 1.  
 Reliance Electric Co., Toledo, Ohio. 895,505, pub. 5-12-70. Cl. 26.  
 Reliance Panelyte, Inc., Tupelo, Miss. 448,976, ren. 7-28-70. Cl. 31.  
 Revel Distributors Ltd., Richmond Hill, Ontario, Canada. 895,598, pub. 5-12-70. Cl. 44.  
 Rex Chainbelt Inc., West Milwaukee, Wis. 895,399, pub. 5-12-70. Cl. 21.  
 Reynolds & Reynolds Co., The, Dayton, Ohio. 895,683, pub. 5-12-70. Cl. 101.  
 Rhodes, M. H., Inc., Avon, Conn. 580,597, ren. 7-28-70. Cl. 21.  
 Richard, Jeff, Inc., Philadelphia, Pa. 895,578, pub. 5-12-70. Cl. 39.  
 Richards Mfg. Co., Memphis, Tenn. 895,604, pub. 5-12-70. Cl. 44.  
 Richardson-Merrell Inc., New York, N.Y. 270,511, ren. 7-28-70. Cl. 18.  
 Riker Laboratories, Inc., Northridge, Calif. 525,907, ren. 7-28-70. Cl. 6.  
 Riley, Stephen, Co., Los Angeles, Calif. 771,256, can. Cl. 51.  
 Rite Autotronics Corp., Los Angeles, Calif. 895,496, pub. 5-12-70. Cl. 26.  
 Rite Autotronics Corp., Los Angeles, Calif. 895,506, pub. 5-12-70. Cl. 28.  
 Roach, Cecile M., d.b.a. Rosecraft Studios, Chicago, Ill. 771,134, can. Cl. 28.  
 Roberts, Clive E., d.b.a. Roberts Orthodontic Laboratory, La Canada, Calif. 895,592, pub. 5-12-70. Cl. 44.  
 Rockdale Corp., Madison, Wis. 895,627, pub. 5-12-70. Cl. 46.  
 Rockwood Chocolate Co., Inc., Brooklyn, N.Y. 771,181, can. Cl. 46.  
 Romper Room Enterprises, Inc., Towson, Md., from Hasbro Industries, Inc., Pawtucket, R.I. 895,429, pub. 5-12-70. Cl. 22.  
 Roseto, Michael C., San Francisco, Calif. 895,710, pub. 5-12-70. Cl. 105.  
 Ross, Will, Inc., Milwaukee, Wis. 895,663, pub. 5-12-70. Cl. 100.  
 Rotork Controls Ltd., from Rotork Engineering Co., Ltd., Bath, Somerset, England. 895,318, pub. 5-12-70. Cl. 13.  
 Rotork Engineering Co., Ltd.: See—Rotork Controls Ltd.  
 Royal Rose Inc., Long Island City, N.Y. 525,399, ren. 7-28-70. Cl. 34.  
 Rudin & Roth, Inc., New York, N.Y. 895,572, pub. 5-12-70. Cl. 39.  
 S & C Electric Co., Chicago, Ill. 577,876, ren. 7-28-70. Cl. 21.  
 San Luis Valley Administrative Committee, Monte Vista, Colo. 895,724, pub. 5-12-70. Cl. A.



Sanna Inc., Madison, Wis. 527,495, ren. 7-28-70. Cl. 46.  
 Sasieni Ltd., London, England. 276,417, ren. 7-28-70. Cl. 8.  
 Scapegoat, Inc., Falmouth, Mass. 895,413, pub. 5-12-70. Cl. 22.  
 Schlatter, George, and Ed Friendly Productions and Romart, Inc., Burbank, Calif. 895,412, pub. 5-12-70. Cl. 22.  
 Schlegel Mfg. Co., The Rochester, N.Y. 895,293, pub. 5-12-70. Cl. 4.  
 Schlitz, Jos., Brewing Co., d.b.a. Muehlebach Brewing Co., Milwaukee, Wis. 895,752, Cl. 48.  
 Schoppenthau, Rudi, Atlanta, Ga. 895,358, pub. 5-12-70. Cl. 19.  
 Schuelein, Mimi L., d.b.a. Vegex Co., New York, N.Y. 771,203, can. Cl. 46.  
 Schwinn Bicycle Co., Chicago, Ill. 895,373-4, pub. 5-12-70. Cl. 19.  
 Scott Tobacco Co., Bowling Green, Ky. 895,338, pub. 5-12-70. Cl. 17.  
 Seabrook Farms Co., Inc., Seabrook, N.J. 529,370, ren. 7-28-70. Cl. 46.  
 Seaside Oil Co., Santa Barbara, Calif. 524,986, ren. 7-28-70. Cl. 15.  
 Sebastian, Ray, North Hollywood, Calif. 895,638, pub. 5-12-70. Cl. 51.  
 Security Research & Development, Inc., Washington, D.C. 895,482, pub. 5-12-70. Cl. 25.  
 Seiberling Rubber Co., Barberton, Ohio. 771,145, can. Cl. 35.  
 Selectrons, Ltd., New York, N.Y. 895,408, pub. 5-12-70. Cl. 21.  
 Selzer, E. G., Erzeugung Von Sportbekleidung Gesellschaft m.b.H., Vienna, Austria. 895,557, pub. 5-12-70. Cl. 39.  
 Sexauer, J. A., Mfg. Co., Inc., White Plains, N.Y. 895,334, pub. 5-12-70. Cl. 15.  
 Sheller-Globe Corp., Toledo, Ohio. 525,683, ren. 7-28-70. Cl. 32.  
 Shine Boy, Inc., Rock Island, Ill. 893,655, cor. Cl. 23.  
 Shuford-Massengill Corp., The, Lexington, Mass. 895,495, pub. 5-12-70. Cl. 26.  
 Sifo Co., St. Paul, Minn. 771,098-99, can. Cl. 22.  
 Siletti, Giuseppe, di Romeo Siletti, Milan, Italy. 895,290, pub. 5-12-70. Cl. 3.  
 Simpson Lee Paper Co., San Francisco, Calif. 524,688, ren. 7-28-70. Cl. 37.  
 Skyline Corp., Elkhart, Ind. 895,366, pub. 5-12-70. Cl. 19.  
 Sloan Instruments Corp., Santa Barbara, Calif. 895,507, pub. 5-12-70. Cl. 26.  
 Smead Mfg. Co., Hastings, Minn. 791,812, can. Cl. 32.  
 Smead Mfg. Co., Hastings, Minn. 791,849-50, can. Cl. 37.  
 Smith, Jay R., Mfg. Co., Piscataway, N.J. 895,326, pub. 5-12-70. Cl. 13.  
 Smoke Watchers International Inc., New York, N.Y. 895,657, pub. 5-12-70. Cl. 100.  
 Societe Anonyme de la Manufacture d'Horlogerie Audemars, Piguet et Co., Brassus, Switzerland. 895,512, pub. 5-12-70. Cl. 27.  
 Societe Generale Du Vide (Sogev), Paris, France. 895,497, pub. 5-12-70. Cl. 26.  
 Solar Light Mfg. Co., Chicago, Ill. 895,402, pub. 5-12-70. Cl. 21.  
 Solheim, Karsten, Phoenix, Ariz. 895,415, pub. 5-12-70. Cl. 22.  
 Solid Power Corp., Farmingdale, N.Y. 895,387-8, pub. 5-12-70. Cl. 21.  
 Southeastern Pennsylvania Transportation, Philadelphia, Pa. 895,715, pub. 5-12-70. Cl. 105.  
 Southern Coal & Coke Co., Inc., Tazewell, Va. 770,978, can. Cl. 1.  
 Sperry Rand Corp., New York, N.Y. 895,294, pub. 5-12-70. Multiple Class (Classes 5, 11, 14, 16, 23, 29, 32, and 37).  
 Sperry Rand Corp., New York, N.Y. 895,310-11, pub. 5-12-70. Multiple Class (Classes 4, 21, 23, 25, 26, 32, 37, and 38).  
 Spradling's, Inc., St. Louis, Mo. 528,761, ren. 7-28-70. Cl. 19.  
 Spread Eagle Farm Foods, Inc., Klingertown, Pa. 895,745, can. Cl. 46.  
 Springboard International Records, Inc., New York, N.Y. 895,530, pub. 5-12-70. Cl. 36.  
 Springfield Revolver Club Inc., Springfield, Mass. 895,723, pub. 5-12-70. Cl. 200.  
 Stamcarbon, N.V., Heerlen, Netherlands. 771,106, can. Cl. 23.  
 Standard Oil Company, New York, N.Y. 271,570, ren. 7-28-70. Cl. 18.  
 Standard Oil Co., New York, N.Y. 272,013, can. Cl. 23.  
 Standard Oil Co., The, Cleveland, Ohio. 530,677, ren. 7-28-70. Cl. 15.  
 Star Bronze Co., Alliance, Ohio. 895,335, pub. 5-12-70. Cl. 16.  
 Statistical Tabulating Corp., Chicago, Ill. 895,690, pub. 5-12-70. Cl. 101.  
 Stepan Chemical Co., Northfield, Ill. 524,982, ren. 7-28-70. Cl. 6.  
 Stephens, Evan, New York, N.Y. 895,575, pub. 5-12-70. Cl. 39.  
 Stevens, J. P., & Co., Inc., New York, N.Y. 273,481, ren. 7-28-70. Cl. 42.  
 Stewart-Warner Corp., Chicago, Ill. 895,384, pub. 5-12-70. Cl. 21.  
 Stiles-Kem Sales Corp., Waukegan, Ill. 853,466, can. Cl. 6.  
 Stires, John C., II, d.b.a. Stires, & Co., El Centro, Calif. 895,291, pub. 4-21-70. Cl. 3.  
 Stylecraft Hardware, Inc., Bellaire, Tex. 895,325, pub. 5-12-70. Cl. 13.  
 Sun Electric Corp., Chicago, Ill. 895,499, can. Cl. 26.  
 Sunbeam Shoes Ltd., Port Colborne, Ontario, Canada. 895,560, pub. 5-12-70. Cl. 39.  
 Sundae Junction, Inc., Richmond, Va. 895,614, pub. 5-12-70. Cl. 46.  
 Superior Continental Corp., Hickory, N.C. 895,407, pub. 5-12-70. Cl. 21.  
 Supermarkets General Corp., Cranford, N.J. 895,682, pub. 5-12-70. Cl. 101.  
 Supreme Musical Instrument Co., Newark, N.J. 895,533, pub. 5-12-70. Cl. 36.  
 Syntex Laboratories, Inc., Palo Alto, Calif. 895,348, pub. 5-12-70. Cl. 18.  
 T.E.K. Van Lines, Inc., South El Monte, Calif. 771,301, pub. 3-24-64. Cl. 105.  
 T. G. & Y. Stores Co., Oklahoma City, Okla. 895,379, pub. 5-12-70. Cl. 21.  
 Taco, Inc.: See—  
 Pizza Hut, Inc.  
 Taco Tico, Inc., Wichita, Kans. 895,671, pub. 5-12-70. Cl. 101.  
 Tape-Craft Corp., Anniston, Ala. 895,584, pub. 5-12-70. Cl. 40.  
 Task Corp., Anaheim, Calif. 895,659, pub. 5-12-70. Multiple Class (Classes 100 and 103).  
 Taxon Corp., Sunnyvale, Calif. 895,685, pub. 5-12-70. Cl. 101.  
 Taylor Plastics, Inc., d.b.a. Taylor Electric, Inc., Howell, Mich. 764,225, can. Cl. 21.  
 Telephone Secretaries, Inc., Appleton, Wis. 895,689, pub. 5-12-70. Cl. 101.  
 Telescences, Inc., Moorestown, N.J. 895,390, pub. 5-12-70. Multiple Class (Classes 21 and 26).  
 Tenneco Inc., Houston, Tex., from Walker Mfg. Co., Racine, Wis. 895,472, pub. 5-12-70. Cl. 23.  
 Teraillon S.A., Annemasse, Haute-Savoie, France. 895,490, pub. 5-12-70. Cl. 26.  
 Tex Mfg. Co., Inc., El Paso, Tex. 895,568, pub. 5-12-70. Cl. 38.  
 Texas Coffee Co., Beaumont, Tex. 271,090, ren. 7-28-70. Cl. 46.  
 Textron Inc., Providence, R.I. 895,465, pub. 5-12-70. Cl. 23.  
 Textron Inc., Providence, R.I. 895,514, pub. 5-12-70. Cl. 28.  
 Thermal Engineering & Design Co., Akron, Ohio. 895,524, pub. 5-12-70. Cl. 34.  
 Thompson of California, Inc., Hermosa Beach, Calif. 895,591, pub. 5-12-70. Cl. 42.  
 Thompson-Hayward Chemical Co., Kansas City, Kans. 525,116, ren. 7-28-70. Cl. 6.  
 TMs, Inc., Santa Barbara, Calif. 895,718, pub. 5-12-70. Cl. 107.  
 Tobacco Control Program, Inc., New York, N.Y. 771,055, can. Cl. 18.  
 Toledo Engineering Co., Inc., Toledo, Ohio. 528,869, ren. 7-28-70. Cl. 100.  
 Topps Chewing Gum, Inc., Brooklyn, N.Y. 895,617, pub. 5-12-70. Cl. 46.  
 Toro, R. S., d.b.a. C.P.A. Importers and Caribbean Pacific Atlantic Importers, Los Angeles, Calif. 895,610, pub. 5-12-70. Cl. 46.  
 Treacher's, Arthur, Fish & Chips, Inc., Columbus, Ohio. 895,664-5, pub. 5-12-70. Cl. 100.  
 Tri-Point Industries, Inc., Commack, N.Y. 895,270, pub. 5-12-70. Cl. 1.  
 Tri-State Displays, Inc., Minneapolis, Minn. 895,521, pub. 5-12-70. Cl. 32.  
 Tropical Banana, Inc., Miami, Fla. 895,626, pub. 5-12-70. Cl. 46.  
 Trostel, Albert, & Sons Co., Milwaukee, Wis. 770,968, can. Cl. 1.  
 Tsubame Radio Co., Ltd., Ota-ku, Tokyo, Japan. 895,377, pub. 4-11-67. Cl. 21.  
 Tucker Mfg. Corp., Leominster, Mass. 895,279, pub. 5-12-70. Cl. 2.  
 Turner Mfg. Co., Chicago, Ill. 528,140, ren. 7-28-70. Cl. 32.  
 Tussy Cosmetics, Inc., New York, N.Y. 270,485, ren. 7-28-70. Cl. 52.  
 UMC Electronics Co., North Haven, Conn. 895,489, pub. 1-20-70. Cl. 26.  
 Ultra Carbon Corp., Bay City, Mich. 895,484, pub. 5-12-70. Multiple Class (Classes 26 and 34).  
 Ultradynamics Corp., Paterson, N.J. 895,449, pub. 5-12-70. Cl. 23.  
 Union Carbide Corp., New York, N.Y. 895,398, pub. 5-12-70. Cl. 21.  
 Union Tank Car Co., Chicago, Ill. 800,845, Am. 7(d). Cl. 2.  
 Union Tank Car Co., Chicago, Ill. 791,989, Am. 7(d). Cl. 103.  
 U.S. Industries, Inc., New York, N.Y. 525,155, ren. 7-28-70. Cl. 32.  
 U.S. Plywood-Champion Papers Inc., Hamilton, Ohio. 444,048, ren. 7-28-70. Cl. 37.  
 United States Steel Corp., Pittsburgh, Pa. 275,065, ren. 7-28-70. Cl. 13.  
 United States Steel Corp., Pittsburgh, Pa. 530,212, ren. 7-28-70. Cl. 14.  
 Universal Marion Corp.: See—  
 Baldt Corp.  
 Universal Tool & Die Co., Milwaukee, Wis. 895,322, pub. 5-12-70. Cl. 13.  
 Utah-American Corp., Huntington, Ind. 895,406, pub. 5-12-70. Cl. 21.  
 Valjean Jewelry Corp., New York, N.Y. 516,290, ren. 7-28-70. Cl. 28.  
 Vallev View Packing Co., Inc., San Jose, Calif. 895,608, pub. 4-30-68. Cl. 46.  
 Van Loan & Co., Inc., New York, N.Y. 895,746, Cl. 46.  
 Vaughan & Bushnell Mfg. Co., Hebron, Ill. 895,466, pub. 5-12-70. Cl. 23.  
 Viking Freight Co., St. Louis, Mo. 771,297, can. Cl. 105.  
 Visual Information Institute, Inc., Xenia, Ohio. 895,500, pub. 5-12-70. Cl. 26.  
 Voss Enterprises, Inc., San Francisco, Calif. 895,720, pub. 5-12-70. Cl. 107.  
 Waldman Corp., Parsippany, N.J. 895,320, pub. 5-12-70. Cl. 13.  
 Wallace-Murray Corp., Pittsburgh, Pa. 271,389, ren. 7-28-70. Cl. 13.  
 Waring Products Corp., New York, N.Y. 771,319, can. Cl. 21.

Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 895,648-9, pub. 5-12-70. Cl. 51.  
 Warren, S. D., Co., Boston, Mass. 771,147, can. Cl. 37.  
 Water Treatment Corp., City of Industry, Calif. 895,516, pub. 2-24-70. Multiple Class (Classes 31 and 106).  
 Wax & Wicker Works, Inc., Raleigh, N.C. 895,680, pub. 5-12-70. Cl. 101.  
 Webfoot Fertilizer Co., Inc., Portland, Oreg. 530,286, ren. 7-28-70. Cl. 101.  
 Weiser, Aaron, d.b.a. Colombia Philadelphia Coffee Co., Philadelphia, Pa. 771,188, can. Cl. 46.  
 Weldon Farm Products, Inc., from Weldon Foods, Inc., New York, N.Y. 895,609, pub. 5-12-70. Cl. 46.  
 Weldon Foods, Inc.: See—  
 Weldon Farm Products, Inc.  
 Westcott, Slade & Balcom Co., Providence, R.I. 530,438, ren. 7-28-70. Cl. 16.  
 Western Drinking Fountains, Inc., Fremont, Calif. 895,319, pub. 5-12-70. Cl. 13.  
 Western Litho Plate & Supply Co., St. Louis, Mo. 895,460, pub. 5-12-70. Cl. 23.  
 White Motor Corp., Cleveland, Ohio. 895,359, pub. 5-12-70. Cl. 19.  
 Whitney, Vincent, Co., Sausalito, Calif. 530,674, ren. 7-28-70. Cl. 13.  
 Williams, Norman, Co., West Los Angeles, from E. Martinoni Co., San Francisco, Calif. 895,631, pub. 6-28-66. Cl. 49.  
 Wilson & Co. Inc., Chicago, Ill. 771,202, can. Cl. 46.  
 Wiss, J., & Sons Co., Newark, N.J. 895,444, pub. 3-8-66. Cl. 23.  
 Wohl Shoe Co., St. Louis, Mo. 895,686, pub. 5-12-70. Cl. 101.  
 Woodstream Corp., Lititz, Pa. 270,864, ren. 7-28-70. Cl. 23.  
 Wyandotte Chemicals Corp., Wyandotte, Mich. 895,292, pub. 5-12-70. Cl. 4.  
 Wynn Oil Co., Azusa, Calif. 895,731, Cl. 15.  
 Zatarain's, Inc., Gretna, La. 895,744, Cl. 46.  
 Zsa Zsa Ltd., New York, N.Y. 895,757-70. Cl. 51.  
 Zymak Blochemical Co., Long Beach, Calif. 771,010, can. Cl. 6.



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